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Understanding factors influencing men's  
readiness to accept IUD for contraception  
in rural Vietnam

Bui Thi Thu Ha  
University of Wollongong

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# **UNDERSTANDING FACTORS INFLUENCING MEN'S READINESS TO ACCEPT IUD FOR CONTRACEPTION IN RURAL VIETNAM**

A thesis submitted in partial fulfillment of the  
requirement for the award of the degree

Doctor of Philosophy

from

**UNIVERSITY OF WOLLONGONG**

by

**BUI THI THU HA, MD, MPH**

**GRADUATE SCHOOL OF PUBLIC HEALTH  
2002**

## **CERTIFICATION**

I, Bui Thi Thu Ha, declare that this thesis, submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy, in the Graduate School of Public Health, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Bui Thi Thu Ha

15 November 2002

## **PUBLICATIONS AND GRANTS RELEVANT TO THE STUDY**

### *Publication*

Ha, B. T. T., Jayasuriya, R. and Owen, N. (In press), Male involvement in family planning in rural Vietnam: an application of the transtheoretical model. *Health Education Research*.

### *Grants*

A grant from the China Medical Board of York was received by the Hanoi School of Public Health in the year 2000 to undertake this Ph.D study.

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## ABBREVIATIONS

AVSC	EngenderHealth International
CPR	Contraceptive Prevalence Rate
DHS	Demographic Health Survey
FGDs	Focus group discussions
FP	Family Planning
GTZ	Deutsche Gessellschaft Fur Technische Zusammenarbeit Gmbh
HBM	Health Belief Model
ICPD	International Conference on Population and Development
IUDs	Intrauterine Devices
MAP	Men as Partners
MCH	Maternal and Child Health
MOH	Ministry of Health
NCPFP	National Committee for Population and Family Planning
NGOs	Non-Profit Government Organization
PID	Pelvic Inflammatory Diseases
SCT	Social-Cognitive Theory
SOC	Stage of Change
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TTM	Transtheoretical Model
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund

## ABSTRACT

### *Background*

Research suggests that family planning acceptance is likely to be more effective when men are actively involved. The goal of the study was to identify methods in which targeted health behavioural change programs for increasing men's acceptance of modern contraception might be best developed and implemented. The Transtheoretical Model (TTM) of behaviour change was used to examine men's readiness to accept IUD for contraception in rural Vietnam.

The three research questions were (1) to identify measures of rural Vietnamese men's readiness to accept IUD for contraception; (2) to identify modifiable factors that characterise in each stage of men's readiness to accept the IUD for contraception; and (3) to test whether an intervention targeting each stage of motivational readiness will result in increasing men's readiness to accept the IUD for contraception.

### *Methods*

Following a pilot study of 201 men, a quasi-experimental pretest-posttest study was undertaken, between March 2001 and June 2002, using multistage cluster sampling of 651 married men, aged 19 to 45 years, in the two rural communes of Quoc Tuan and An Hong, in An Hai district, Hai Phong province, Vietnam.

Local health workers carried out the cross-sectional surveys by face-to-face interviews. The questionnaires consisted of reliable and valid measures. Two rounds of interventions with stage-targeted letters and interpersonal counselling were provided to men in the intervention group. The posttest survey to evaluate the intervention was carried out after 6 months follow-up.

### *Results*

At the baseline survey, the staging algorithm identified that 29.5 percent of men were in the precontemplation stage, 10.6 percent of men in the contemplation/preparation stages, and 59.5 percent of men in the

action/maintenance stage. Men in the precontemplation stage scored significantly higher cons for IUD use than those in the action/maintenance stages, while the reverse was reported for self-efficacy for convincing wives to use the IUD. The men's predictors at each stage of readiness to accept IUDs for contraception belonged to different categories. Two predictors were socio-demographic characteristics (having a son and wife's abortion history), one was contraceptive knowledge (spontaneous recall of traditional methods), one was communication (communication with wives on family planning) and two were TTM constructs (self-efficacy and cons for IUD use).

The results of posttest survey showed compelling evidences of intervention program on lowered cons for IUD use, an increased self-efficacy for IUD use, an increased recall of traditional contraceptive methods, improved communication between men and their wives on family planning, and an increased number of participants reported moving to the action/maintenance stage of change for IUD use.

### *Conclusions*

This is the first time that the TTM has been used as a theoretical framework for understanding men's contraceptive behaviour in Vietnam. Findings from the study provide evidence to support the claim that improving male involvement will increase contraceptive use. Targeting men with appropriate messages corresponding to their stage of readiness to accept the IUD for contraception increased their acceptance of the IUD and contraceptive prevalence in the two rural communes in Vietnam. Given the popularity of TTM in public health programs for reproductive health, findings of the study will hopefully contribute to an understanding of men's roles in acceptance of contraceptive methods in Vietnam.

**Key words:** intrauterine devices (IUD), male involvement, Transtheoretical Model (TTM), stages of change (SOC), decisional balance ('pros' and 'cons') and self-efficacy.



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## INTRODUCTION AND OVERVIEW

Family planning research, policy and programs in developing countries have traditionally given limited emphasis to men's role in family planning decision-making. However, most men generally approve of family planning (Drennan 1998) and the husband's approval is the most important predictor of contraceptive use in many setting (Joesoef et al. 1988; Lasee and Becker 1997; Kamal 2000). Recognizing the need and importance of men in family planning, the 1994 International Conference on Population and Development (ICPD) in Cairo called for men's increased participation in reproductive health matters (United Nations 1995).

Studies from several nations have shown that family planning programs are likely to be more effective for women when men are actively involved (Drennan 1998). Various studies have shown that providing men with information and involving them in counselling sessions can help them supportive of contraceptive use and more aware of the concept of sharing decision-making (Wells 1997). Terefe and Larson (1993) reported a study in Ethiopia that found an increase of contraceptive use among couples after one year of receiving husband-wife counselling, compared with use among couples who received wife-only counselling. Findings from a study in China suggest that the husband's involvement in the counselling process contributed to reduced rates of pregnancy and abortion among couples not using intrauterine devices (IUDs) (Wang et al. 1998).

Contraceptive use is an instance of healthy behaviour. A change in behaviour is required when one adopts the use of contraception. The Transtheoretical Model (TTM) has been presented as an integrative and comprehensive model of behaviour change. It has been shown to be generalizable across a broad range of behaviours, including contraceptive use (Prochaska et al. 1994). TTM is a model of intentional change that initially outlined the process of adopting new behaviour. Of late, it has incorporated variables from behaviour change theories to help understand the reasons people progress through the various stages of behaviour change.

Many studies have examined TTM in different fields. It is argued that the interventions targeted to a person's stage of change are more likely to be effective than those that are not (Prochaska et al. 1992). Interventions based on TTM have been able to combine good efficacy rates and good participation rates and can be disseminated to whole populations (Velicer et al. 2000). Studies that have used the TTM in family planning behaviour have mainly been on condom use, and respondents' behaviours may have been confounded by their perceptions on risk of HIV/AIDS (Grimley et al. 1995; Galavotti et al. 1995). In contrast, the IUD is used only as a contraceptive and is not confounded by the need for protection from HIV/AIDS.

Vietnam began its first population and family planning program in 1963 and has achieved a high contraceptive prevalence rate (CPR) of 73 percent (National Committee for Population and Family Planning (NCPFP) 2001). However, about one-fourth of couples use unreliable traditional methods such as periodic abstinence and withdrawal, even though many types of modern contraceptives have become available.

Men are often significantly involved in contraceptive decision – making and the degree to which they share in decision-making with their wives have a definite impact on contraceptive behaviour (Salway 1994; Biddlecom et al. 1996; Bankole and Singh 1998). In traditional societies like Vietnam, men are the main decision - makers in reproductive health matters, including family planning (Johansson et al. 1998b). Regardless of whether the method is one in which the man participates most actively in its use (such as the condom) or whether the wife participates most actively in its use (such as IUD), men can play an important role in the method's use and effectiveness. In spite of the absence of direct targeting of men by the national family planning program, a vast majority of men approve of family planning (Care International and Ministry of Health (MOH) 1997; Mai and Montague 1998; Mai et al. 2001).

The research to date in developing countries, including Vietnam has focused mainly on men's fertility preferences and has been descriptive in nature (Ezeh et al.1996; Bankole and Singh 1998; Johansson 1998; Mai and Montague 1998). Minimal

information is available on men's view of contraception and specific contraceptive methods. Men's views on the attributes of various contraceptive methods such as side effects, financial costs and effectiveness often are ignored, as is the weight men give each attribute in their readiness to accept a specific contraceptive method (Biddlecom et al. 1996).

Men's involvement in family planning does not only refer to use of male methods. It also means the effective communication between partners, fostering awareness of, and sharing their partner's contraceptive concerns (Green 1994). Male involvement, therefore, is about enabling women to practice contraception and increasing effective contraceptive use.

This thesis deals with some of the potential modifiable factors that are important for understanding and influencing men's acceptance of modern contraceptive methods in rural Vietnam. The IUD is chosen as the contraceptive method for the study due to its predominance to couples in Vietnam context, particularly in rural setting. TTM is the main conceptual model underpinning the study. The focus is on using well-developed measures to assess men's readiness to accept contraception. A series of studies described in this thesis to test the effect of a stage-targeted intervention promoting men's readiness to accept contraception.

The thesis is divided into eight chapters.

Chapter 1 and 2 comprises the literature review. Chapter 1 explores the key individual factors influencing contraceptive behaviour and emphasizes the significance of the husband's role in the family planning decision-making process. Couple communication and contraception decision-making is reviewed and the roles of socio-demographic factors are summarized. The chapter then reviews factors related to family planning services and concludes by looking strategies to increase male involvement in family planning. In Chapter 2, social cognitive factors from different behavioural theories applicable to the family planning field are discussed. Finally, the theoretical framework is presented with research goals, aims and questions.

Chapter 3 describes the research methods and the setting used for the study. Information on health, health services and the family planning program in Vietnam is presented.

Chapter 4 describes the pilot study, how the TTM measures were developed and validated in the context of rural Vietnam, and what changes were made before the implementation of the baseline study.

Chapter 5 describes the baseline study including research methods and findings on significant predictors of readiness at each stage for men to accept the IUD for contraception. These predictors served as the basis for designing the stage-targeted intervention for promoting men's acceptance of contraception in general and IUDs in particular.

Chapter 6 explains how the stage-targeted intervention program for promoting men's readiness to accept IUDs for contraception was developed and carried out, and presents the results of evaluation of the stage-targeted letters

Chapter 7 presents the impact of the stage-targeted intervention for promoting men's readiness to accept IUD for contraception after six months follow-up.

Chapter 8 presents the discussion of the findings of the intervention study. It contains a summary of research findings, a discussion of features and limitations, possible alternative explanations for the findings and implications for family planning program in Vietnam and further research.

# CHAPTER 1: MEN AND FAMILY PLANNING

## 1.1. Introduction

Over the past three decades, family planning programs have contributed significantly to fertility decline in developing countries (Bongaarts 1997). Overall fertility declined by approximately one-third from the 1960s through to the 1980s, from an average of six to an average of four children per woman, with dramatic decreases occurring in some parts of the world, e.g., 24 percent decline in fertility in Asia and Latin America, approximately 50 percent in Thailand, and 35 percent in Columbia, Jamaica and Mexico. The total fertility rate in Vietnam declined from over six children per women in the early 1970s to under four in the later 1980s, and to less than three in 1997 (Phai et al. 1996; NCPFP 1999).

For centuries, men exerted primary control over fertility by using traditional contraceptive methods such as withdrawal and periodic abstinence (Drennan 1998). The advent of the pill and IUDs in the 1960s changed the balance of power, since at least some women were able to control their fertility independently and covertly. Most family planning services are offered within maternal and child health (MCH) services and most research and information campaigns have focused on women. This focus has reinforced the beliefs that family planning is largely a women's issue with the men playing a very marginal role. In developing countries, however, men make most decisions that affect family life (Drennan 1998).

A review of literature on men's attitudes and behaviour towards family planning reveals that men play a significant role in family planning decision-making. This review draws on studies and programs to outline men's knowledge, attitudes and practice of contraceptive method, to highlight key factors influencing contraceptive acceptance in developing countries; and to draw lessons from men's involvement in selected initiatives and programs.

## **1.2. Limitation of past approaches**

In the past, it was assumed that men were barriers to contraceptive acceptance due to some programmatic and cultural factors that limited men's abilities to take an active role in family planning decision-making and practice. First, the social norm suggests that family planning is a female task. Second, family planning services are predominantly aimed at women. Research findings since the 1960s indicate that women are the major target of family planning programs. Over 90 percent of family planning users are women (Toure 1996; Wells 1997; Drennan 1998; Nhan et al. 2000). Many services are inconvenient for and unwelcoming to men. Providers also may not have the training or skills necessary to meet men's reproductive health needs. Many programs are reluctant to invest time and money to reach men with information and services. Third, there are limited numbers of male contraceptive methods compared to those available to women. New male methods are unlikely to be available in the next several years (Drennan 1998).

Some misinformation about male methods limits their adoption (Wells 1997). For example, men may not consider obtaining a vasectomy or using condoms in the belief that it leads to impotence, or reduces sexual satisfaction, respectively (Khan and Patel 1997; Mai and Montague 1998).

Recognizing the need and importance of men in family planning, the 1994 International Conference on Population and Development in Cairo called for men's involvement in reproductive health matters (United Nations 1995). Program planners are required to make an effort to understand men's points of view and to conduct more research on men's role in family planning (Toure 1996).

## **1.3. Gender roles in family planning**

Gender refers to the different roles that men and women play in society and to the different rights and responsibilities they have. The connection between gender role and reproductive health issues has been recognized (Green et al. 1995).

Traditionally, men are powerful in all areas of reproductive health despite the bias of family planning services towards women (Green et al. 1995; Drennan 1998). The majority of men consider themselves as the primary decision-makers regarding contraception (Green et al. 1995; Johansson et al. 1998b). In male dominant cultures, where women are not permitted to leave the home without male company, the opinion of the husband has greater weight in the decision-making process, in obtaining supplies and method to be used (Wells 1997). A study of fertility decisions of five generations of one South Indian family found that men tend to control contraceptive use and to make fertility decisions (Karra et al. 1997). The men in the older generations chose to limit their own fertility by having vasectomies without telling their wives.

Ezeh (1993) reported the same pattern in Ghana, where husbands exercised exclusive control over family planning. Men's contraceptive attitudes operated through their mate selection and cultural norms that subjugate women to men. Moreover, some men required their wives to obtain their consent before seeking any contraceptive method.

Among men who supported the contraception in Nigeria, a majority believed that responsibility for contraceptive use rests with women (Oni and McCarthy 1991; Obionu 1998). A similar situation was reported in Vietnam (Anh et al. 2002).

Ideally, a couple's decision about family size and contraceptive use should be made jointly, with equal consideration given to the concerns of the husband and wife. However, even within the same culture, different opinions exist with regard to responsibility ranging from total male domination to complete male indifference. Mason and Smith (2000) analysed data from five countries namely the Philippines, Thailand, Pakistan, Malaysia and India, and found that men in highly gender-stratified settings often control whether or not wives use contraception. In such communities, the husbands' preference on the use of contraceptive is more likely to prevail.

Men's role is dominant in strongly patriarchal societies, but tends to diminish or disappear in more egalitarian environments (Necchi 1999). In more egalitarian



societies, reproductive decisions tend to be made jointly by partners (Drennan 1998). Studies show that there is considerable sharing of information, including about costs and benefits, between spouses before they make a choice of contraceptive use (Miller and Pasta 1996). In certain cultures, however, females are more influential in contraceptive behaviour (Gerrard et al. 1990).

Vietnam has strong policies on gender equality. The Vietnam Women's Union is the most active mass organization in the country with the main function of assisting women with income generation, credit schemes and maternal and child health. The establishment of the National Committee for the Advancement of Women is at governmental response to the international action on population development (United Nations for Development Program (UNDP) 1995). However, most reproductive health and family planning services targets women and there are no plans for male involvement in services (Nhan et al. 2000).

#### **1.4. New perspectives on male involvement in family planning**

Both the 1994 International Conference on Population and Development in Cairo and the 1995 Fourth World Conference on Women in Beijing encouraged reproductive health programs to move away from considering men and women separately and to adopt a more holistic approach that includes men and focuses on couples (Wegner et al. 1998).

From an equity perspective, men and women should share the burdens of preventing diseases and health complications. The support of men throughout couples' reproductive lives is crucial for women and children, especially in male dominant cultures. Studies show that partners' support is a significant predictor of the likelihood that women will attempt to use contraception (Burwell et al. 1996). More recent studies report that substantially more men perceive that family planning is a joint responsibility and that men's high knowledge of contraceptive methods is high (Drennan 1998). Therefore, it is important that program planners and policy makers abandon stereotypes of men and learn more about their concerns and needs.

Two reasons make men's involvement in family planning important. First, it increases men's access to contraceptive methods, thereby expanding a couple's range of contraceptive options. Second, it improves men's support for women's use of contraception and their assumption of responsibility in contraceptive decision-making. Eventually, it helps to prevent sexually transmitted diseases (STD) including HIV/AIDS (Wells 1997).

Different terms have been used to refer to men's relationship to family planning: men's participation, men's responsibility, men's involvement and men as partners. There is no consensus about which term best describes the new perspective on men, what these terms mean and how men can be best involved in reproductive health activities.

The term 'responsibility' refers to men's responsibility for the consequences of their sexual and reproductive health behaviour, such as caring for their offspring, using contraception to take the burden off their partners and practicing safer sex (Green et al. 1995). Verme et al. (1996) criticizes that while noble in intent, the term suggests that men are irresponsible by character or that it is always an act of irresponsibility when they do not use contraception. The term rather emphasizes obligation, and does not speak to or ignite the interests of men in safeguarding their own or protecting their partner's reproductive health.

The term 'participation' describes men's active, positive involvement in achieving good reproductive health (Drennan 1998). Participation also suggests a more active role for men in both decision-making and behaviour such as contraceptive use and periodic abstinence (Green 1994). This term was chosen by the African International Conference in 1997, as the best term to promote the ideal of voluntary, equitable, cooperative collaboration between men and women (Johns Hopkins Centre for Communication Programs 1997).

Men as partners (MAP) has been used to evoke more balanced role and acknowledged that women's reproductive health is influenced by their partners (and vice versa) (Verme et al. 1997). This term is used by EngenderHealth (former AVSC International) to increase men's awareness and support of their partners'

reproductive health choices, to safeguard their partners' and their own reproductive health and to enhance couples' access to male contraceptive methods (Wegner et al. 1998).

The term 'involvement' connotes participation or engagement. Verme et al. (1997) posits term implies that men are uninvolved. Nevertheless, they are, arguably, already too involved in reproductive health as policy makers, service providers, or husbands. Men's involvement refers to any activity that seeks to expand the provision of reproductive health services and information, to include males of all ages, either individually or as part of sexually active couples (Danforth and Green 1997). Whatever the term used, the purpose is to describe a complex process of social and behavioural change that is needed for men to play more responsible role in reproductive health/family planning. Men's participation/involvement can be seen as a means to an end, rather than as a goal in itself (Drennan 1998).

Green (1994) defines several ways to get men involved in family planning services such as providing alternatives for couples dissatisfied with their current methods by increasing male contraceptive use; promoting greater discussion between partners; and changing male attitudes regarding contraception, thereby enabling women to practice contraception.

### **1.5. Key individual factors influencing contraceptive behaviour**

This literature review has identified several socio- demographic factors as well as the sorts of knowledge, attitudes and practices that influence men's contraceptive behaviour or family planning acceptance.

#### **1.5.1. Men's knowledge of contraceptive method**

Men's knowledge of contraceptive methods is high, but it varies by countries and regions. This finding is consistently reported in all Demographic Health Surveys (DHS) of Africa and Asia (Ezeh et al.1996; Drennan 1998; Bankole and Singh 1998). In almost all countries, surveyed men are more likely than women to know about contraception. In East Africa, North Africa and Asia, more than 90 percent of

men know at least one contraceptive method, with the exception of Pakistan and Tanzania where only 79 and 86 percent of men, respectively, know a method. Knowledge is lowest in West Africa. In Bangladesh, Brazil, Haiti and Pakistan, the knowledge level is quite similar among men and women (Ezeh et al. 1996; Ezeh and Mboup 1997; Drennan 1998; Bankole and Singh 1998).

The demographic health surveys, however, report only whether respondents have heard of the various contraceptive methods (obtaining spontaneous or prompted answers). They do not gauge the depth of knowledge, including whether respondents know how to use a method correctly (Ezeh et al. 1996). Bongaarts and Bruce (1995) propose a more comprehensive approach to measure knowledge of contraception. A person is considered to have an acceptable knowledge of a method if he/she can describe how it is used, its main side effects and where it can be obtained.

Information about the relationship between use of modern contraception and knowledge on contraception is available (National Research Council 1993). Analysis of the World Fertility Survey and DHS data for selected countries in sub-Saharan Africa indicates that where knowledge levels for the region are less than 80.0 percent, use of modern contraceptives is less than 10.0 percent among couples in union.

In Vietnam, the DHS surveys have not collected information from married men. Therefore, it is quite difficult to compare knowledge levels in Vietnam with other countries. However, a few non-DHS studies have shown the similar high knowledge levels for men (Care International and MOH 1997; Mai and Montague 1998; Mai et al. 2001).

In most countries, men are more likely to know of modern contraceptive methods than traditional methods (Ezeh et al. 1996; Ezeh and Mboup 1997; Mai and Montague 1998; Drennan 1998). Men are most likely to know the oral contraceptive pill (the pill), followed by condoms and female sterilization. Of the traditional methods, periodic abstinence is better known than withdrawal. Men are more likely to know about female sterilization than vasectomy. In Bangladesh,

where knowledge of all methods is widespread, 99 percent of men know of female sterilization, and only 90 percent of men know of male sterilization (Ezeh et al. 1996; Ezeh and Mboup 1997; Drennan 1998; Bankole and Singh 1998).

In comparison, the IUD, condom and female sterilization are the methods most widely known by married men in Vietnam (Care International and MOH 1997; Mai and Montague 1998; Mai et al. 2001). Those who know about these methods accounted for 80-90 percent, followed by those with knowledge of the pill (60 percent). Knowledge of traditional methods like abstinence or withdrawal is limited to 50 percent. Unmarried men are less informed about all contraceptive methods than married men. The high level of IUD awareness reflects the historical dominance of that method in the government program from which the vast majority of women obtain their contraceptives (Goodkind 1994; Knodel et al. 1995).

### **1.5.2. Approval of contraceptive use**

Men's support or opposition to their partners' practice of family planning has a strong impact on contraceptive use in many parts of the world. Within marriage in developing countries, men typically have more say than women in the decision to use contraception (Toure 1996).

Studies conducted in the early 1980s in India, some Caribbean countries, Latin America and the USA, suggested that in general men favoured family planning (Gallen and Liskin 1986). About 65 to over 90 percent of men expressed approval of family planning. The recent DHS surveys in 18 countries confirm the finding (Ezeh et al. 1996; Bankole and Singh 1998). At least 90 percent of men approve of contraception in seven countries, and approval is lowest in West Africa. Men's approval of contraception is high in North Africa and Asia, except Pakistan (Ezeh et al., 1996; Bankole and Singh 1998).

In India, Khan and Patel (1997) conducted a study in the Agra district and found that most of the men (85 percent) approved of family planning. However, the majority of them felt that contraception should be adopted only after having two children. The situation is more favourable in Bangladesh. Donahoe (1996) found

that more than 92 percent of husbands in Bangladesh approved of contraception. In Vietnam, more than 90 percent of men approve of family planning (Care International and MOH 1997; Mai and Montague 1998; Johansson et al. 1998b; Mai et al. 2001).

The husband's approval of contraception appears to be a major determinant of contraceptive use in developing countries (Bongaarts and Bruce 1995; Casterline et al. 1997; Kamal 2000). Many women do not practice contraception due to their husband's disapproval. In Bangladesh, while many men support contraception, contraceptive use among women whose husbands do not approve of family planning is still much lower (Kamal 2000). The same pattern has been reported in Pakistan, India, the Philippines and Palestine (Khan and Patel 1997; Casterline et al. 1997; Douthwaite 1998; Donatti et al. 2000). In Nigeria, women whose partners approve are two times more likely to use contraception than those whose husbands disapprove (Odimegwu 1999). Bongaarts and Bruce (1995) argue that husbands' disapproval leads to a reduction in contraceptive use by two-thirds. Therefore, gaining men's support will reduce unwanted pregnancy and unmet need for contraception.

### **1.5.3. Practice of contraception**

A majority of studies gather information about contraceptive use by asking respondents who know of a contraceptive method whether they have ever used that method (Ezeh et al. 1996). There is a large variation in the proportion of currently married men, who have ever used a contraceptive method. The rates of ever-use are lowest in West African and highest in Bangladesh.

The proportion of people who are currently using a contraceptive is often referred to as the contraceptive prevalence rate (CPR). This is an important demographic parameter, which strongly relates to fertility level. Information of CPR usually is collected by asking those respondents, who have reported ever-use of contraception whether they or their wives are currently using a method to prevent or delay pregnancy (NCPFP 1999).

More than half of all currently married men in Bangladesh, Egypt and Kenya currently use a contraceptive method (Ezeh et al. 1996; Drennan 1998). The lowest level is reported in West African countries. In most countries, the pill and condom are the most widely used methods, often accounting for more than 90 percent of all modern method use. However, there are variations among the regions and countries. In Cameroon and Pakistan, female sterilization is the most popular method, while in Bangladesh and Morocco the pill is the most common. In China, the IUD and vasectomy are the most common methods (Drennan 1998).

In Vietnam, contraceptive use is substantial and it has increased in the period between 1988 and 1997 (NCPFP 1999). In 1988, almost 60 percent of ever-married women reported they have used contraception sometimes in their life (ever-use of contraception). This proportion rose to 73 percent by 1994 and to 82 percent by 1997. Current contraceptive use among currently married women increased from 53 percent in 1988 to 65 percent in 1994 and to 75 percent in 1997. However, current use of traditional methods decreased between 1994 and 1997 by 2 percent (Phai et al. 1996; NCPFP 1999).

In Vietnam, the dominance of the IUD among modern methods and the relatively high share of traditional methods are consistently reported (Phai et al. 1996; Care International and MOH 1997; Mai and Montague 1998; Johansson 1998; NCPFP 1999). By 1997, more than half Vietnamese women reported having used an IUD at some time. The level of current use remained constant at one-third of married women of reproductive age. Vietnam has the greatest concentration of IUD users among users of modern methods (Phai et al. 1996). Other methods like the pill, condom and female sterilization are used at a low at 5- 6 percent. Although new contraceptive method like injectables has been introduced in many districts in Vietnam (Thom et al. 2000), the use of injectables, male sterilization and vaginal methods is negligible (NCPFP 1999).

#### **1.5.4. Practice of male contraceptive methods**

The choices of male methods are limited to withdrawal, condom, vasectomy and periodic abstinence. For the last decade, the use of condoms and vasectomy

worldwide is low compared to other methods, but it is slowly increasing in some countries (Ezeh et al. 1996; Drennan 1998). In most countries, the use of traditional methods like withdrawal and abstinence is limited.

### *Vasectomy*

Vasectomy is a surgical sterilization for men. This is a permanent, safe and effective method, which suitable for couples who wants no more children. Failure rate is very low and complications are very rare. About 5 percent of married couples rely on vasectomy for pregnancy prevention. Usage is highest in Asia and low in other regions (Green et al. 1995). Despite its effectiveness and safety, vasectomy is not widely used. Recently, the data show that in South Korea, about 12 percent of married couples use vasectomy, 10 percent in China, and 6 percent in Thailand (Drennan 1998).

Vasectomy has been available in Vietnam since the 1980s. However, in the last 20 years, the use of vasectomy is only 0.3 to 0.5 percent (NCPFP 1999). Different misconceptions lead to its low usage. Many people perceive that it is similar to castration and makes men weak, stupid and impotent. The same reasons have been identified in India and Pakistan (Khan and Patel 1997; Douthwaite 1998). In Bangladesh, deterioration of health services as well as the belief that it caused physical weakness were the reasons people gave for not adopting vasectomy (Donahoe 1996).

### *Condom*

The condom is an effective method if used correctly and has few side effects. In the world, condom use is more popular than vasectomy. The condom has been used for contraception for at least 250 years and as protection against sexually transmitted diseases even longer (Gallen and Liskin 1986). About 46 million couples now use condoms. Of those, 60 percent live in developed countries, mainly in Japan, the USA and the United Kingdom. Condom use varies widely among regions. In developing countries, condom use is highest in South Korea, where 10 percent of



couples rely on condoms, and lowest in Sub-Saharan Africa and North Africa (Drennan 1998).

In Bangladesh, despite increasing awareness, the use of condoms declined from 14.6 to 8.2 percent during the period 1975-1993. The main reasons related to health concerns, ineffectiveness, inconvenience, and reduced sexual pleasure (Donahoe 1996). Similar reasons were found by Jahan et al. (1996) in an exploratory study in an urban area of Dhaka. In addition to the above-mentioned reasons, problems with availability and their storage/disposal were also barriers against condom use in India (Khan and Patel 1997).

In Vietnam, condoms are mainly distributed through the social marketing system and private sector. Non-profit government organizations (NGOs) play little role in condom distribution. Despite the widespread social marketing program, condom use is still limited. In the last ten years, the rise of condom use was very modest from 1.2 percent in 1988 to 6.0 percent in 1997. The main reasons for low usage are similar to those in Bangladesh and India (Care International and MOH 1997; Mai and Montague 1998; Huy 2000). According to the United Nations Population Fund (UNFPA) (2000), one important reason relates to its high cost compared to average income, particularly for rural people.

### *Periodic abstinence (rhythm) and withdrawal*

Periodic abstinence and withdrawal are the oldest methods for prevention of pregnancy. Periodic abstinence involves avoiding sexual relations during the fertile period of the menstrual cycle. Withdrawal is *coitus interruptus*. The decision to use these methods needs to be made jointly by couples, and it requires awareness of basic conception/fertility physiology, including menstrual cycle (Gallen and Liskin 1986; Douthwaite 1998). The use of these methods is often the outcome of a strong desire to regulate fertility but they have a high failure rate. Some studies found the high failure rate was due to lack of knowledge of the menstrual cycle (Gallen and Liskin 1986) or lack of male self-control (Douthwaite 1998).

The two traditional methods are not widely used in developing countries except Vietnam, Turkey and South Korea. Recently about 3 percent of couples in developing countries were shown to rely on withdrawal and 4 percent on rhythm for prevention of pregnancy (Drennan 1998). However, percentages vary largely among countries. Worldwide, rhythm is the least used of methods involving male cooperation. However, DHS surveys might underestimate the use of traditional methods, because they do not report the combined use of traditional with modern methods such as the pill or condoms.

In Vietnam, the practice of periodic abstinence and withdrawal is substantial. It tended to increase during the period from 1988 to 1997 (NCPFP 1999). The study on contraceptive mix by Nhan et al. (1999) found a large number of couples in Vietnam switched from modern methods to the traditional methods due to health concerns. By 1997, around one-sixth of ever-married women said that they had practiced rhythm at some time and one-fourth said that they had practiced withdrawal. Current use of these methods is also high. About 7 percent of currently married women report that they practice periodic abstinence, and 12 percent use withdrawal.

The practice of withdrawal is more common than periodic abstinence. The combined prevalence of these two methods accounts for almost 25 percent of overall current contraception. This is one of the highest proportion shares in any developing country with moderate to high CPR (Phai et al. 1996; NCPFP 1999). Interestingly, urban and highly educated people are more likely to use traditional methods than rural people (NCPFP 1999). Given the high usage rate despite its high failure rate, Johansson (1998) emphasizes the remarkable lack of attention given to men by family planning programs.

#### **1.5.5. Use of IUDs in developing countries and Vietnam**

Globally, the IUD is the most common reversible contraceptive method used by women. It has been used for more than three decades (Hicks 1998). The first modern IUDs appeared in the early 1960s and since then, different generations have been produced. Nowadays, the most widely available IUD is the Tcu-380. The

United States Food and Drug Administration approved this model in 1994 for use up to 10 years. This is recognized as the longest-lasting copper IUD. The Tcu-380 is one of the most effective methods of contraception ever developed. Fewer than one woman per 100 become pregnant in the first year of use and only 2.1 per 100 became pregnant in 10 years of use (Treiman et al. 1995). Trussell et al. (1995) estimated the costs of 15 different contraceptives and concluded that the IUD is the most cost-effective reversible method. Despite its high initial costs, the IUD becomes more cost-effective the longer it is used.

The highest prevalence of IUD use is reported in China and Vietnam, where 30 percent of married women use IUDs. In Vietnam, the IUD accounts for almost two-thirds of all current modern contraceptive use (NCPFP 1999). IUDs are also widely used in other Asian countries, particularly in Indonesia and in Taiwan (Treiman et al. 1995).

There are some problems associated with IUD use, e.g., expulsion and infection. Expulsions usually occur in the first year, especially in the first 3 months after insertion, however, the expulsion rate is relatively low at 1.6 to 8.0 per 100 users (Hicks 1998). The risk of infection or pelvic inflammatory disease (PID) is its greatest risk and is associated with the preponderance of anaerobic organisms. The risk is greater for women with multiple sexual partners than those with a single partner. For parous women, the risk is from bacteria introduced at insertion. The relative risk is 6 times higher in the first 20 days. Moreover, the use of IUDs has not been associated with increasing transmission or acquisition of HIV/AIDS, nor is contraceptive efficacy reduced among HIV infected women.

Analysis of contraceptive discontinuation based on DHS from six countries (Morocco, Tunisia, Egypt, Ecuador, Indonesia, and Thailand) showed the continuation rate of IUD use was 82-89 percent after one year and 65-80 percent after two years (Ali and Cleland 1995). The health concerns including side effects related to IUD use are much lower than those of other modern methods. Hieu et al. (1995) reported a similar continuation rate of 81.0 percent of IUD use after one year in Vietnam. The main reasons of termination were expulsion (9 percent) and health problems (7 percent). However, Johansson et al. (1998a) found a much higher

expulsion rate of 14.0 percent; 30.0 percent and 44.0 percent after first, second and third year, respectively. The deliberate removal of IUDs was the main reason for the high expulsion rate among users in Vietnam. This was done under the guise of method failure in the hope of satisfying the family's wish for a son while avoiding the criticism of exceeding the two-child limit.

In Vietnam, the government has promoted IUD use since the 1960s using the target (quota)-system (Noble 1996). In the last few years, the government has tried to increase the contraceptive mix. However, in the rural areas, few other contraceptive options are available for people who want to prevent pregnancies (Toan et al. 1996; Noble 1996; Johansson et al. 1998a; Thang and Huong 1998).

#### **1.5.6. Abortion**

About 32 million induced abortions per year occur in developing countries (Bongaarts 1997). Asia accounted for 24 millions, Latin America account for 5 million and Africa account for 4 million. Most abortions are illegal in Africa and Latin America, while about one-third is illegal in Asia. About one in four pregnancies are ended by abortion in developing countries.

The abortion rate has a correlation with CPR. In most urban regions of Mexico and Colombia the abortion rate declines as contraceptive use stabilized or increased (Singh and Sedgh 1997). The studies show that contraception is the most effective way to reduce the likelihood of an unwanted pregnancy, birth and abortion. Contraception reduces the probability of having an abortion by 85 percent (Cohen 2000). In two countries sharing the same birth rate, the one with the higher CPR will see fewer abortions. However, the rise in abortion incidence may continue until access to contraceptive choice improves (Kulszycki et al. 1996).

Abortion has been legal in Vietnam since the 1960s and currently it is widely available (Belenger and Hong 1998). Vietnam is among those countries with the highest abortion rate: 2.5 abortions per woman lifetime (Goodkind 1994). The main reason relates to increasing premarital sex among young people. However, a

substantial proportion of women uses abortion as a substitute for contraception (Hieu et al. 1993)

Most abortions are performed in public health services at the provincial and district levels, although the private sector offers abortion services as well. Ultimately, the enforcement and normalization through social engineering of the population policy of 'one or two child' has big influence on women's decision to have abortion (Gammeltoft 1999). Many of them decided to have an abortion to save money or avoid being fined for exceeding the two-child limit (Johansson et al. 1996). Others seek abortion because of not practicing contraception, of contraceptive failure, or of poor knowledge and limited skills. The situation appears to stem from the social taboo associated with premarital sex and pregnancy, a weak information network and scarce resources (Belenger and Hong 1998).

Abortion has certain health risks. Possible complications include haemorrhage, retained tissue and infection, pelvic inflammatory disease, ectopic pregnancy and even death (Kulszycki et al. 1996). In a traditional culture like Vietnam, abortion often has adverse psychological effects since the foetus is perceived to be a living entity (Belenger and Hong 1998). The decision to have an abortion is often made jointly by spouses although the husband usually plays the main decision maker (Johansson et al. 1998b). It is often based on personal values such as those associated with religious affiliation rather than on the sole motivation to have a smaller family. The intention to have a smaller family is often associated with a greater acceptance of abortion (Miller 1994).

#### **1.5.7. Types of sexual relationship**

The type of sexual relationship within a marriage influences reproductive preference and contraceptive behaviour. The DHS data show that polygamous men are more likely to report a lower level of contraceptive use with their wives than monogamous men (Ezeh et al. 1996). Men are more likely to report condom use in extramarital relationships (Drennan 1998). Polygamous husbands often report less concurrence of contraceptive use with their wives than monogamous. Furthermore, monogamous couples in which one or both spouse report having extramarital sex

partners show less concurrence than do monogamous couples reporting no other partners (Becker and Costenbader 2001).

Male contraceptive behaviour is dependent, to a marked degree, on the types of relationship. According to Landry and Camelo (1996) communication between partners about contraception is least likely to occur in casual relationships and in the early stages of a new sexual relationship. However, in long-term relationships, men are more likely to switch from condoms to other methods once they have had time to assess their partner's risk status although the means used are often unreliable. In the Vietnam, the communication among casual partners is influenced by dominant social definitions of relationship (Gammeltoft 2002). The general societal condemnation of sex outside of marriage makes it difficult for people to communicate about contraception.

#### **1.5.8. Desired number of children**

Desired number of children is one measure of reproductive preferences. This is the number of children that a respondent would like to have if he or she could chose. There are some arguments concerning the validity of this measure such as proneness to inconsistency and rationalization (Bongaarts 1990; Pritchett 1994). Although the measure might be unstable over time at the individual level, it has remarkable consistency at the aggregate level (Bankole and Singh 1998). Some researchers consider it a good indicator of societal norms about family size, and that change in this indicator over time reflects change in attitudes, change that may affect behaviour (Ezeh et al. 1996).

One conventional assumption is that men want larger families than women. However, there is no evidence to prove this assumption in earlier studies as well as in more recent studies. Gallen and Liskin (1986) reviewed studies on desired number of children and stated that there was very small difference between men and women within a country. However, the difference was notable in some countries and some socio-economic groups.

The DHS data from 18 countries showed that between 1990 and 1996 married men on average wanted a larger number of children in many of these countries. Husbands in all surveyed countries except Pakistan wanted fewer than five children. The average preferred number of children desired by wives showed a similar range across countries and regions (Bankole and Singh 1998). The number of children desired by men appeared relatively small in Bangladesh: 2.5 children. It was higher in Pakistan at 4.1 children (Ezeh et al. 1996). By the ages 30 to 34 years, nearly half the men did not want any more children.

In Vietnam, the results from DHS surveys and other studies show a substantial lowering of desired number of children among women (Phai et al. 1996; Thang and Huong 1998; NCPFP 1999). In the past two decades, the number declined from 5.5 to 2.8 for currently married women. The same number was reported by men (Mai and Montague 1998). The small desired number of children is consistent with fertility decline in Vietnam and this could be a result of population policy on 'one or two child' (Gammeltoft 1999). Although some more recent qualitative studies report the prevalence of the desire for two children that is the norm for a majority of couples (Anh et al. 2002), many people could argue that the report for two children could be partially a result of respondents' providing social desirable answers, or of their fear of a government penalty (Phai et al. 1996; Gammeltoft 1999).

#### **1.5.9. Fertility intention**

Another prominent measure of reproductive preference is whether or not the respondent intended to have another child. This measure is a robust predictor of contraceptive and fertility behaviour at both the aggregate and the couple's levels, and it is an important measure of unmet need for contraception (Westoff 1990). However, Bongaarts (1992) states that under-reporting of unwanted births is common due to women's reluctance to classify their offspring as unwanted.

Contraceptive use is more prevalent among people who want to limit childbearing than those who only want to space children (Bongaarts 1992). In societies where relatively few women want to limit childbearing, fertility intention has only a small impact on contraceptive use and fertility. This pattern is more prevalent in Sub-

Saharan Africa, where the data show that a high proportion of husbands want both a large family and the next child sooner than their wives'. In comparison, in countries, where a large proportion of married women want to stop childbearing, most of them practice contraception. The use of contraceptive methods is highest when couples agree to stop childbearing; what happens when there is disagreement is unclear.

The effect of the husband's desire for another child is inconsistent across studies. While Salway (1994) found that the husband's desire for no more children has no effect on contraceptive use, Speizer (1999) reported that it has a significant role even after controlling for women's fertility desires.

#### **1.5.10. Son preference**

Son preference has an influential impact on fertility and contraceptive behaviour and it has been consistently reported in many studies across countries (Oyeka 1989; Arnold 1992; Rajaretnam and Deshpande 1994; Haughton and Haughton 1995; Wongboonsin and Ruffolo 1995; Stash 1996; Graham et al. 1998; Hussain et al. 2000; Nosaka 2000; Yount et al. 2000). Sons are important because they can inherit wealth, provide security for parents in older age, and continue the family name (Mwageni et al. 1998).

The DHS data in 26 countries show that parental preference for sons persist in some countries but may be declining in others. The most common preference pattern is for at least one son and one daughter (Arnold 1992). Son preference remains strong in South Asian countries, particularly those influenced by Confucianism (Wongboonsin and Ruffolo 1995). However, rather than an exclusive son preference, couples strive for one or more sons and at least one surviving daughter (Hussain et al. 2000). Contraceptive use is less likely among couples that want to continue trying for the desired number of sons. In countries where both contraceptive use and smaller family sizes are increasingly popular, son preference has the potential to bolster higher rates of fertility and lower rates of contraceptive use (Stash 1996). In Nigeria, women with no living sons are least likely to use modern contraceptive method and its use increases directly with the number of living sons (Oyeka 1989).



Son preference can be seen as undermining the success of the overall development process, because it reflects discrimination on the basis of sex from the earliest to the later stages of life (UN 1995). In general it may lead to problems of sex discrimination, sex-selective abortion, female infanticide, a poor quality of life for females, a marriage squeeze, deterioration of the family system and have effects on future fertility (Wongboonsin and Ruffolo 1995). Furthermore, Edlund (1999) states that increasing occurrence of sex determination in societies favouring sons may lead to social segregation of the sex, with men at the top and women at the bottom. This causes a surplus of males, a situation that has arisen in parts of China.

Social and cultural factors are likely to be substantial determinants of son preference in South East Asia (Wongboonsin and Ruffolo 1995). According to the world standard, Vietnam has a strong son preference and it results from a blending of Confucian and bilateral kinship systems, socio-economic factors, population policy and political transformation on gender relations. However, it has a minor effect on fertility due to high abortion rate in Vietnam. The high abortion rate may reduce the role of CPR in reflecting son preference (Haughton and Haughton 1995). If abortions were absent, fertility would fall by roughly 10 percent from the current level of 3.2 children per woman.

Due to the 'one or two-child policy', couples want to make sure that they bear some sons (Goodkind 1994). Couples with daughters are 27 percent less likely to use contraception than those who have children of both sexes. Couples with three and more children are more likely to use modern methods than those with fewer children (Anh 1995). However, with rapid socio-economic changes, son preference tends to be declining and disappearing in Vietnam (Ha and Schuler 1999; Haughton 2000)

#### **1.5.11. Men's unmet need for contraception**

Unmet need for contraception is a global issue. This has been one of the most widely discussed family planning concepts in recent years. Millions of people in developing countries who would prefer to postpone or avoid pregnancy do not use

contraceptives (Bryant et al. 1996). The first measures of unmet need developed by Westoff has become standard (Bhushan 1997). Recently the methodology for measuring unmet need for contraception has become increasingly refined and more complex (Bongaarts and Bruce 1995).

Unmet need is based on women's responses to survey questions. When women respond that they want to postpone or avoid childbearing but are not using contraception, they are defined as having an unmet need. The standard formulation of unmet need has been applied more exclusively to married women. However, there have been criticisms of this formulation. Mueller and Germain (1992) suggest that the unmet need concept should be applied to all sexually active people, regardless of marriage status. Furthermore, people who are using ineffective methods should be considered as having unmet need.

Bongaarts (1991) suggests an alternative formulation in which the level of unmet need in a country equals the amount of additional contraceptive use needed to achieve women's fertility preference. Bongaarts' method yields lower estimates of unmet need than those of DHS because it accounts for the fact that women with a current need for spacing births will eventually want to have another birth and thus will drop out of the unmet need category.

Conventional measures of unmet need ignore men's demand for family planning. However, the need for contraception involves both husband and wife. In Ngom's (1997) study of men's unmet need, which used DHS data from Ghana and Kenya, unmet need included the need of people who want to limit childbearing as well as of those who use traditional methods and want no more children. Married men were found to have a high level of unmet need, but it was slightly lower than women's level. Ngom found that, for men living in the African setting, the measure requires reformulating to take into account the specific status of each wife with respect to her exposure to the risk of pregnancy. Men's unmet need should be measured for both limiting and spacing pregnancies.

The prediction of men's unmet need from wives' responses is difficult, because the unmet need of husbands and wives differ in a large number of situations. Therefore,

focusing on couples' unmet need has a greater impact on fertility than focusing solely on women. Becker (1999) introduced the concept of couples' unmet need, defined as the proportion of couples with at least one partner having an unmet need for contraception. A minimum estimate of unmet need for couples is produced when both partners have unmet need; a maximum unmet need occurs if the couple unmet need rests with one spouse only. The results showed that in the Dominican Republic, Bangladesh and Zambia, unmet need for married women was significantly different from couples' and from men's only (Becker 1999). The discrepancies may have indicated spousal disagreement or lack of communication about reproductive goals or contraceptive use. Therefore, in order to reduce unmet need among couples, particularly in male dominant cultures, family planning programs need to target men, encouraging small families, while implicitly acknowledging men's power in contraceptive decision-making.

Ross and San (1997) analysed 1988 DHS data and found that unmet need was substantial among couples in Vietnam. Unmet need existed among one-sixth to over one-fourth of couples, without counting categories such as traditional method users, dissatisfied users, abortion cases, or the unmarried. Couples with an unmet need were more likely to be young, living in rural areas, of low education, and with small families without sons. Despite the substantial use of abortion, a very high proportion of couples had more children than they desired.

### **1.6. Couple communication and decision-making on contraception**

Couple communication on family planning matters is a significant predictor of contraceptive use and it allows shared decision-making and more equitable gender roles (Drennan 1998). The majority of studies in many countries support the finding. In Pakistan, Nigeria, and Ghana, couple communication has been correlated with current contraceptive behaviour (Oni and McCarthy 1991; Mahmood and Ringheim 1997; Odimegwu 1999). However, some other studies report the negative effect of communication on contraceptive use. The discrepancy is revealed even within countries. For example, in Ghana, Odimegwu (1999) found that partners, who communicated with each other were three times more likely to practice contraception than those who do not. In contrast, Mcwagani et al. (1998)

reported the reverse trend in Tanzania. Couples, who communicated on family planning, were less likely to use a contraceptive method.

Decision-making in family planning often begins at home, as spouses who have gathered information from friends, the media and previous health care encounters, discuss the issues together. Kim et al (1998) describes four key steps in the family planning decision-making. The first step is an understanding of personal circumstances. The client understands his/her own needs, priorities and reproductive intention. In the second step he/she considers alternatives based on knowledge of side effects, effectiveness etc. Thirdly, he/she chooses the best option based on the comparison of advantages and disadvantages of different contraceptive options. In the last step, the decision to implement is made.

Decision-making is a complex interaction of individual, with family, peers and others. These interpersonal elements act in conjunction with socio-cultural factors such as living conditions and job opportunities (Gage 1998). The decision to use contraception is predicted on (1) a consideration of the costs and benefits of engaging in a particular behaviour; (2) norms perceived to be held by significant others including peer groups, family members and partners; (3) the willingness of the person to conform to the wishes of significant others; and (4) self-efficacy in making such decisions such as belief in one's ability to obtain and use contraceptive or to convince partner to do so (Kim et al. 1998).

Decision-making commonly takes place in two ways: individually or jointly. In individual decision-making, the decision maker's motivation is often stronger. The couple still communicates, but one member makes the final decision. In many cases, the wife has much stronger motivation than her husband, who simply gives his consent (Miller and Pasta 1996; Hull 1999).

By contrast, joint decision-making is based on compromise between the husband and wife achieved through good communication. The process relies strongly on mutual openness and understanding, based on the principle that each side has a point of view that can be accepted. Each takes into account his or her partner's interests (Hull 1999). However, Becker and Costenbader (2001) believes that

discussion and joint decision-making concerning contraceptive use apparently was not occurring for a substantial proportion of couples, particularly in sub-Saharan Africa. In traditional settings, communication occurs but it does not mean that couples reach a decision together, because men in these cultures are seen as the main decision-makers (Nustas 1999).

Communication between couples enables husbands and wives to know each other's attitudes and concerns towards family planning and contraceptive use. Many men and women do not discuss family planning; therefore, they might not know each other's opinions. Consequently, many women cite husband's opposition as a barrier to contraception adoption, but in fact, there is approval from husbands (Drennan 1998). Such findings suggest that better communication could reduce the unmet need for family planning (Bongaarts and Bruce 1995). Although there is undeniable importance of couple communication on contraceptive use, the validity of this measure is still under discussion. Most of the studies are cross-sectional surveys, which capture information from a single point in time, failing to chart the progression of discussion or decision-making (Drennan 1998).

Bhassorn (1999) suggests issues of couple communication and decision-making exist across societies and its variations should be understood in terms of different structural and cultural factors with which the couples live. That means, religious and cultural norms and family structures influence couple communication. In many societies, discussing sex/contraception is taboo or it is perceived as women's business. Therefore, the issues of sex and contraceptive use might not be open to discussion. Women might consider discussion of such topics as a shameful act in India (Khan and Patel 1997) or taboo in Bangladesh and Pakistan (Donahoe 1996; Douthwaite 1998).

The position of women within the family and society has long been recognised as a crucial factor in determining fertility patterns. Among the various dimensions of women's status, education and employment draw most attention (Gage 1995; Becker and Costenbader 2001). The educational level of women influences the communication pattern about family planning. Better-educated women may have more status in the household and, therefore, have greater authority to speak openly

with husband about contraceptive preference. Education may increase women's earning capacity, and thus her advantage in household decision-making. Women who have some economic power are more likely to discuss family planning with husbands (Gage 1995). In Togo, Gage (1995) found that women who worked for cash and invested some of it in credit or saving plans reported the highest level of communication with husbands about family planning.

In Vietnam, about 65 percent of men report communicating about family planning issues with their wives (Mai and Montague 1998). Although discussion occurs among couples, men take a dominant role in deciding these issues, and the primary responsibility with method use rests with women (Mai and Montague 1998; Johansson et al. 1998b; Ha and Schuler 1999; Anh et al. 2002).

Finally, decision-making on contraceptive use is not purely a matter of individual choice. It is strongly influenced by local family planning program policy and social norms, cultural beliefs and religions. Researches find that social disapproval of contraception plays a major role in creating unmet need (Bhushan 1997). If contraception is viewed as socially and culturally unacceptable, a significant barrier to contraceptive use exists (Casterline et al. 1997). If policy promotes specific contraceptive methods and if supplies for these specific methods are provided, then there is limited informed contraceptive choice for people (Hieu et al. 1995; Tu et al. 1997; Johansson et al. 1998a).

### **1.7. Socio-demographic factors influencing on contraceptive use**

Education, occupation, income, religion and geography are factors influencing contraceptive behaviour. The evidence of educational influence on contraception is inconsistent across studies (Oni and McCarthy 1991; Anh 1995; Ezeh et al. 1996; Takyi and Sakyi 1997; Ismail 1998; Forste and Morgan 1998; Nustas 1999). While Takyi and Sakyi (1997) did not find a relationship between education and contraceptive use among Ghanaian men, other studies reported significant relationships. Men with lower education were less likely to use contraceptive methods than those with higher education in Vietnam, Ethiopia, Nigeria and the USA. Education has long been known to be a critical factor influencing fertility, by

its impact on the exposure to the risk of pregnancy, desired family size and contraceptive practice (Williams et al. 1999).

Similarly, a positive relationship between income and contraceptive use is reported in a majority of studies (Oni and McCarthy 1991; Nustas 1999; Williams et al. 1999). In Jordan, men who come from families with high incomes were more likely to believe that they should practice contraception than those with low incomes. In Nigeria, men's support for family planning increases from 46 to 78 percent with increasing income levels. One-third of men in the poorest areas, with no formal education reported willingness to use contraception, while two-thirds in areas with higher incomes and higher education reported their willingness.

Some studies report the positive influence of occupation on contraceptive use. For example, Takyi and Sakyi (1997) found that in Ghana professional husbands were more likely to have lower fertility and more likely to practice contraception than agricultural workers. In Bangladesh, contraceptive use was likely to be 1.8 times higher among couples whose husbands were employed in sales, services or production than those who were agricultural workers (Islam and Mahmud 1995). A similar trend is observed in Vietnam, where employed people are more likely to use contraception than those who are unemployed (Haughton and Haughton 1995).

Geographic difference also plays a significant role in contraceptive acceptance. Rural men are more likely to desire more children and less likely to approve contraception than urban (Ezeh et al. 1996). However, not all studies support the trend. For example, in Tanzania, Mwageni et al. (1998) did not find a significant difference in attitudes toward contraception among rural and urban men. This may be due to similar cultural norms in the two regions.

Religion is often cited as a factor that significantly influences contraceptive behaviour. Certain religions such as Catholicism are more disapproving of contraception than others like Judaism and Protestantism. In countries where Islam is strong, men are less likely to use contraceptive than other countries (Drennan 1998). Douthwaite (1998) reported that in Pakistan, Islam often is quoted as a barrier to contraception. A similar trend is observed in Sierra Leone, where Islamic

religious affiliation is negatively associated with contraceptive use. Nonetheless, religious disapproval does not necessarily translate into non-use at an individual level. Men are more interested in religious programs and concerned about the acceptability of various contraceptive methods within religious law compared to women (Nustas 1999).

### **1.8. Programmatic factors influencing on contraceptive use**

It has been widely accepted that programmatic factors such as access, prices and quality of care are essential to contraceptive use (Angle et al. 1995). This part describes the extent to which each factor influences contraceptive use.

According to Angle et al. (1995) accessibility (or access) is the degree to which family planning services and supplies may be obtained at a level of effort and costs that is both acceptable to and within the means of a large majority of the population. Entwisle et al. (1997) relates family planning accessibility to the supply of contraceptive methods and services in a community. Its components include the proximity, variety, costs, and quality of contraceptive services.

Much previous research on access has shown the negative effect that poor physical access/or geographic access has on contraceptive use (Shah 1994; Angle et al. 1995; Entwisle et al. 1997; Levin et al. 1999). Poor accessibility affects contraceptive use both by discouraging potential clients from seeking services and by making contraceptive continuation difficult. The closer the source is to the people, the higher is the level of contraceptive use. In Bangladesh, Levin et al. (1999) found that couples were less likely to use contraception if travel time to the closest fixed clinic was greater than 30 minutes.

The quality of road also affects contraceptive use. In Nang Rong, Thailand, the clients were less likely to go to sources of contraceptives if the quality of road was poor (Entwisle et al. 1997). A similar trend was reported in Vietnam; where people were living within 1 km of the closest clinic, higher modern contraceptive prevalence was reported (NCPFP 1999). In recent years, the government of Vietnam has tried to improve access by providing more sources of supplies like



community-based distributors, commune health centres, district health centres. In some places, free transportation is provided to clients who require family planning services (Thang et al. 1998).

In addition to access, price of contraceptives has a direct impact on contraceptive use. Lewis (1986) reported the negative impact of user's fees on contraceptive demand. Increasing fees may lead to decline in CPR. An experimental study in some Latin American countries showed support for Lewis's finding. When the price of a contraceptive method increased in a clinic, the number of clients started to decline. On the other hand, other studies showed a different pattern. For example, the prices of the pill in Jamaica, the pill and IUDs in Thailand were relatively insensitive to price change. The most recent study by Levin et al. (1999) found no effect of prices on probability of use of any contraceptive method in Bangladesh.

The effect of price on contraceptive use in Vietnam is inconsistent. While Haughton and Haughton (1995) did not find a significant impact of costs on contraceptive use, the UNFPA (2000) believes the cost of condoms is too high for rural people and this may be a barrier to condoms use.

The Bruce Jain framework on quality of care in family planning helps to examine contraceptive service (Bruce 1990). It emphasizes the importance of the client's perspective and defines quality of care in terms of six fundamental elements or dimensions: choice of methods, technical competence, information given to clients, interpersonal relations, mechanisms to endure follow-up and continuity, and an appropriate constellation of services. The better services are associated with a greater contraceptive use. A study in Peru showed that the CPR would be 13-26 percent greater if the quality of service was improved (Mensch et al. 1996).

Quality of care often has been neglected or ignored in some areas including Vietnam (Hardjanti 1997; Bhassorn 1999; Thang et al. 1998). In rural settings, where clean water is scarce the quality of care often is very poor. Contraceptive procurement relies mainly on a forecast of contraceptive requirement based upon an annual target, posing the danger of stocks expiring while in storage and/or disruption in supply. Recent situation analysis of public reproductive health services

shows that many elements of quality of care are ignored (Nhan et al. 2000). The counselling, and technical competence of health providers is generally poor. Recently, the government of Vietnam started emphasizing the quality of care in family planning services and this has been reflected in the country's reproductive health strategy 2001-2010. However, it is challenging and many elements need to be improved.

## **1. 9. Strategies to increase male involvement**

Different programs and projects that involve men in family planning have been carried out with considerable success. The main goal of most programs is to improve reproductive health by encouraging responsible sexual behaviour, and use of male contraceptive methods; to create greater male support for partners' actions; to improve couples' communication; and to provide education for youth (Green 1994). Several strategies could be designed to get men involved with low cost and ease of implementation.

### **1.9.1. Designing service**

Men's interests and needs regarding contraceptive use differ from women's in some aspects. To meet the needs of men, providers should offer an array of services, treat men with sensitive counselling, respect their privacy and confidentiality, have easy accessibility, and be low in cost (Green et al. 1995). However, there are no models for men's reproductive health services comparable to the existing well-defined constellation of obstetric and gynaecologic services for women (Wegner et al. 1998). The AVSC International recommended a model developed in the USA. The model consists of three categories of services: (1) screening which includes the information to be obtained from each male using the clinic, as well as information about what services he may need; (2) information, education and counselling services; and (3) diagnostic and treatment services. However, this model needs to be revised and adapted to specific existing health delivery systems in developing countries.

### *Integrated vs. separate services for men*

The question of whether to set up separate male clinics or to integrate male services in existing services is under debate. On the one hand, a separate service for men may make programs more sustainable. For example, in several Latin American countries, the operation of male clinics offering mainly vasectomy contributed to an increased vasectomy rate. This experience suggests that simply paying attention to men's needs and treating men respectfully helps to attract more men as clients (Green 1994; Wells 1997). On the other hand, these clinics did not increase men's satisfaction with services (Wegner et al. 1998). Therefore, the question of a separate service may not be the critical decision.

The other way to increase the availability of services is to adapt the existing services to make them more accommodating and attractive to men. Possible intervention includes dedicating hours for men, inviting men to come with their partners, hiring male health workers and educators. In Peru, male distributors reach more men and sell more condoms than their female counterparts. A similar strategy was implemented by USAIDS in Kenya, Mali and Honduras (Green 1994; Danforth and Green 1997). Furthermore, the scarce resources in most developing countries suggest integration of services is more cost-efficient (Wegner et al. 1998).

### *Mobile services*

A mobile service is an outreach service that is attached to an existing clinic. It is a very useful approach for reaching men in the community. Experience shows that mobile services are not only important in rural areas where there are no existing facilities but also for urban neighbourhoods (Wegner et al. 1998). It affords an opportunity to reach men directly and individually with convenient services and accurate information. This approach has been successfully implemented in Pakistan through the project 'Reaching men in the community' and, in Mali through the Katibuogou project (Green 1994).

### *Workplace programs*

Reproductive health services also need to be designed to fit workers' needs by rearranging opening hours (Wegner et al. 1998). The success of Family Health

International in Kenya suggests that the use of peer educators to reach men in the workplace is a very useful approach. In contrast, Marie Stopes International includes information on reproductive health in the curriculum of the National Youth Service and this helps to reach thousands of young men in Kenya.

### **1.9.2. Communication**

Men are often not aware of their own reproductive health needs nor of the availability of services; therefore, it is crucial to use a variety of communication strategies to help men gain access to both information and services (Wegner et al. 1998).

Information programs can help to promote discussions between partners and lead to healthier family planning practices. To be appropriate for male audiences, messages should promote behaviour change and offer information and services that men want (Drennan 1998).

In the family planning area, communication can be divided into three broad channels: interpersonal, including family, friends, and health care providers; group, including mobilisation of community organisations; and mass media, including print and broadcast.

At the interpersonal level, various studies have shown that providing men with information and counselling helps them be more supportive of contraceptive use, and more aware of the concept of shared decision-making (Wells 1997). Terefe and Larson (1993) stated that involving the husband in family planning education in the home significantly increases use of modern contraceptives in Ethiopia. Contraceptive use after a one-year intervention nearly doubled among couples who received husband-wife counselling, compared with use among couples in which women were counselled alone. A study from China suggests that husband involvement in a counselling process contributed to reduced rates of pregnancy and abortion among couples not using IUDs (Wang et al. 1998). Results from a pilot study in Bangladesh on Norplant use demonstrate that the women whose husbands have been involved in a counselling process have a lower discontinuation rate than

women whose husbands did not receive counselling (Amatya et al. 1994). Ozgue et al. (2000) show clear evidences of increasing contraceptive use in Turkey when the educational intervention involves both men and women.

Lessons learnt from communication intervention suggest that it is crucial to ascertain the needs of men and determine what communication approaches are acceptable or appropriate. Messages must address the misconceptions of both men and women and need to be gender-sensitive (Piotrow et al. 1997; Wegner et al. 1998). A study in Kenya suggested that health providers should anticipate men's outspokenness and understand the male agenda if they were to counsel men effectively (Kim et al. 2000). The counsellor should be trained to have knowledge about masculinity, gender roles and values, about men's position in the family and to talk openly about sexual behaviour (Wegner et al. 1998).

At the community level, the studies show that community involvement is critical to a program's success (Wegner et al. 1998). Some community groups can play a major role in conducting service delivery and education programs. Therefore, the employment of these groups could help to improve the family planning services. In Cameroon, group of leaders have been employed to make home visits and give educational talks. This approach contributes to a significant increase of knowledge, approval and use of contraceptive among couples in the village (Green 1994). This similar strategy has been implemented by USAIDS in some countries including Egypt, Bangladesh, Nigeria and Oman (Danforth and Green 1997).

A multimedia approach using television, radio, newspapers, and magazines has been found to work best in family planning communication (Piotrow et al. 1997) because it communicates to a wide audience (Wegner et al. 1998). In Kenya, the multimedia approach includes radio and television spots, newspaper advertisement, leaflet, booklet and poster distributions, this campaign increased the vasectomy rate by 125 percent.

Mass media are increasingly cost-effective and practical for reaching large numbers. In Zimbabwe, a communication campaign included television, radio, newspapers, magazines, football matches and community mobilization events and reached over

half million men; increase in use of modern contraceptive methods was found to be up to 20 percent greater than the previous trend (Piotrow et al. 1992).

Radio and television are probably more cost-effective in reaching populations than field workers. In addition, the mass media can depict scenes and bring up subjects that field workers may be unable or reluctant to discuss with people face to face. However, since resources are always limited, communication projects should identify a leading medium to carry the message and focus major efforts. This decision should be based primarily on the initial audience analysis (Piotrow et al. 1997). Although mass media can raise awareness, they do not necessarily lead to behaviour change. There is a need for reinforcement through other means of communication such as counselling and written material. Communication strategies should address the diverse needs of different groups (Wegner et al. 1998).

In summary, the key individual factors influencing contraceptive behaviour, such as knowledge, approval, practice of contraception, types of sexual relationship, fertility intention and son preference, were reviewed. The roles of socio-demographic factors, e.g. education, occupation and income, were reported in relation to contraceptive acceptance. Couple communication and decision-making in contraception was found as a significant predictor of contraceptive acceptance. In addition to the individual factors, programmatic factors, such as availability, costs and quality of services, were found to have some effect on contraceptive acceptance. Providing information and designing services to specifically meet men's needs were revealed as important strategies to promote male involvement in family planning.

## **CHAPTER 2: SOCIAL COGNITIVE THEORIES AND CONTRACEPTIVE BEHAVIOUR**

### **2.1. Introduction**

Several theories and models have been used to help understand and explain contraceptive behaviour and to select factors that are most strongly related to contraceptive behaviour. Many factors associated with men's contraceptive acceptance and uses are reviewed in previous sections (sections 1.5, 1.6 and 1.7). In order to understand the various social cognitive factors that may influence contraceptive acceptance and use, several theories have been applied. Knowledge of these variables and understanding of contraceptive behaviour among men can guide the development and refinement of interventions to increase effective contraceptive use. The use of conceptual models for contraceptive behaviour can help to focus on the modifiable variables. This section describes the theories that have been most often used in understanding the factors that are associated with contraceptive behaviour and in developing intervention.

Change in health behaviour involves getting people to stop old behaviour, adopting new behaviour, and reinforcing healthy behaviour. Glanz et al. (1997) reported that there are more than 66 different theories and models of behaviour change in the literature. These models can be classified into four general categories based on the ecological framework: 1) individual; 2) organizational; 3) community; and 4) population. The individual level focuses on personal characteristics; the organizational level focuses on social institutions; the community level focuses on the relationships between organizations, institutions, and informal networks of people; and the population level focuses on the local, state and national laws and policies.

It is increasingly recognized that individuals can make major contributions to their own health and well-being through the adoption of particular health-enhancing behaviour and/or the avoidance of health compromising behaviour. Three categories of health behaviour are defined at the individual level: preventive health behaviour,

illness health behaviour and sick-role health behaviour (Conner and Norman 1995). However, some health behaviours do not fall within these categories such as medical service usage (vaccination, screening), compliance with medical regimens (dietary, diabetic) and self-directed health behaviour (diet, exercise). Contraceptive behaviour is classified as self-directed health behaviour for self-management or improvement of well-being.

Four most commonly used behaviour change models that apply to contraceptive behaviour at the individual level are: the Health Belief Model (HBM), the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and Transtheoretical Model (TTM) (Glanz et al. 1997). Among these theories, the TTM is one of the leading models of health behaviour change. The model includes three theoretical constructs central to change: (1) stage of change (readiness to take action); (2) decisional balance (pros and cons associated with behaviour's consequences; and (3) self-efficacy (confidence to make and sustain change in difficult situation).

Some social cognitive factors identified by the above theories are important in understanding family planning behaviour: (1) perceived susceptibility to and severity of consequences of pregnancy and abortion; (2) perceived benefits and perceived costs of contraception; (3) attitudes, norms and behavioural intention and (4) self-efficacy.

## **2.2. Perceived susceptibility to and severity of consequences of pregnancy**

Perceived susceptibility to pregnancy and severity of consequences of pregnancy was originally derived from the Health Belief Model (Rosenstock 1974). The model suggests that the individual weighs the potential benefits of the recommended action against the psychological, physical, and financial costs (the barriers) when deciding to act. Individuals also evaluate whether or not they are susceptible to a threat and whether or not the threat is truly severe. Rosenstock (1974) noted that the combination of perceived susceptibility and severity provided the motivation for action, and the comparison of perceived benefits to perceived barriers provided the means or pathway to action. Thus, the stronger the perceptions of severity,



susceptibility, and benefits, and the weaker the perception of barriers, the greater the likelihood the health-protective actions will be taken. Overall, perceived barriers are the strongest predictor of whether or not an individual will engage in health-protective behaviour, followed by susceptibility, benefits and severity (Conner and Norman 1995).

Perceived susceptibility to pregnancy is a subjective perception of the risk of becoming pregnant. The perceived susceptibility to pregnancy has been found to be an important factor in predicting contraceptive behaviour (Hester and Macrina 1985, Eisen et al. 1985). Hester and Macrina (1985) studied contraceptive behaviour among 213 college women and revealed that negative attitudes towards pregnancy due to its serious and disruptive consequences were common to all women. However, in that study only perceived susceptibility to pregnancy was found to be an important predictor of contraceptive behaviour.

The role of perceived serious consequences of pregnancy has been inconsistently reported as a significant predictor for contraceptive behaviour. Eisen et al. (1985) reported that it was the most important predictor, followed by student's ethnicity. However, Hester and Macrina (1985) stated that despite recognition of the seriousness of pregnancy, perceived severity was not an indication that people will adopt contraception.

HBM has been used for an educational intervention program for prevention of pregnancy among teenagers based on the hypothesis that adolescents who have a higher perceived threat will be more likely to participate in this intervention program (Eisen et al. 1992). However, the finding did not support the hypothesis. About 57 percent of adolescents who had been pregnant did not participate in the program. This confirms the finding in Hester and Macrina (1985) that the educational program emphasizing adverse consequences of a pregnancy is not likely to have a substantial impact on contraceptive behaviour.

Perceived risk (severity) of undergoing an induced abortion refers to feeling about the seriousness of having an abortion. It includes the feeling about the severity of consequences of an abortion like pain, medical complications and adverse

psychological impacts associated with cultural values. This construct has been reported as an important factor in predicting contraceptive behaviour (Lucker 1975).

Although perceived susceptibility and severity are reported as significant factors in predicting health behaviour using HBM, many concerns have been expressed regarding this model. The vast majority of studies using this model have failed to establish validity or reliability of measurement prior to testing and confusion remains about relationships among HBM components (Conner and Norman 1995). HBM also does not take into account other aspects of people's lives such as significant psychological factors. Moreover, the operationalisations of constructs are implemented differently by investigators. Conner and Norman (1995) argued that the HBM model failed to address some cognitive variables shown to be important predictors of behaviour such as others' approval of behaviour.

Although the perceived susceptibility to pregnancy and severity of the consequences of pregnancy/abortion were important predictors in contraceptive behaviour, the difficulty with the measurement of these constructs limits their application in research. With a more careful construction, the two factors will be very important and useful in future research on family planning behaviour (Conner and Norman 1995).

### **2.3. Perceived benefits and costs of contraceptive behaviour**

Perceived benefits and costs as cognitive factor in behavioural change, has been derived from different theories and constructed differently. It appears as 'perceived benefit' and 'perceived barrier' in HBM and the decisional balance in TTM.

HBM suggests that the individual weighs the potential benefit of the recommended action against the psychological, physical and financial costs (barriers) of the action when deciding to act. The cost of contraceptive use encompasses much more than physical access to family planning services. It includes social, psychological, medical and cultural barriers to contraceptive practice (Bhushan 1997). To date relatively little empirical research has attempted to measure all concepts because of difficulties in making explicit the full array of costs (Casterline et al. 1997).

Assessing these barriers is particularly challenging if the data available are mainly from cross-sectional social surveys (Conner and Norman 1995). In a cross sectional study it is not possible to find out whether the action taken to not take a contraceptive/or discontinue a contraceptive was before or after the 'barrier' will not be known. Recall bias also be a problem when cross sectional surveys are used.

In HBM studies, perceived barriers have been found more consistently as the strongest predictor of behaviour (Conner and Norman 1995). Among 632 women, people who perceived less serious side effect were more likely to use the pill (Condelli 1986). A similar finding was reported by Lowe and Radius (1987) and Keith et al. (1991). Less perceived barriers was most strongly associated with effective contraceptive behaviour. Contraceptive non-users tend to report more barriers and less benefits of contraceptive use than users. However, the perceived costs and benefits were not found as a significant predictor for condom use in one study among college students (Thompson et al. 1996).

In TTM, the perceived benefits/costs of contraceptives is conceptualised as the 'decisional balance'. This concept has been proposed by Janis and Mann (1977) as a schema for representing both the cognitive and motivational aspects of human decision-making. This suggests that the anticipated gains (benefits) and the anticipated losses (costs) can be categorised into four types: 1) gain or loss for self; 2) gain or loss for significant other; 3) approval or disapproval from significant other; and 4) self-approval or disapproval.

In TTM, instead of eight factors that need to be balanced when making a decision, only two factors are considered, namely, pros and cons of a behaviour. The balance of pros and cons depends on the stages that people have reached. In the early stages, people judge the pros of the behaviour to outweigh the cons. In the later stages, the opposite pattern occurs (Prochaska et al. 1994). Grimley et al. (1995) studied different reasons for contraceptive use among 248 heterosexually active college men and women and indicated that the highest pros for both general contraceptive use and for condom use with main partners was protection from pregnancy, while the highest pros with casual partners was prevention of diseases.

The highest cons for using contraception with main partners was the feeling of having unnatural sex and for condom use, relying on partners' cooperation.

Galavotti et al (1995) designed a similar study for women with high risk of HIV and unintended pregnancy. In this study, different contraceptives other than condoms were studied. The general contraceptive measure appeared a significant predictor for use of other specific methods like the pill and Norplant. Therefore, it was believed that it was not necessary to measure specific contraceptive methods. A similar finding was reported by Hester and Macrina (1985), who suggested that beliefs and perception about specific contraceptive methods were not critical in explaining contraceptive behaviour. The beliefs and perception about specific methods often derived from an information base, while perceptions about contraception in general were emotionally derived.

#### **2.4. Attitudes, subjective norms and intention in contraceptive behaviour**

For Fishbein (1972), a given behaviour is a function of the intention to perform the behaviour, and an intention in turn, is a joint function of (1) the attitude towards performing the behaviour and (2) subjective norms that govern the behaviour. Those are core constructs of the Theory of Reasoned Action (TRA). The concept of perceived behavioural control was incorporated into these three constructs in the Theory of Planned Behaviour (TPB) (Conner and Norman 1995). This concept encapsulates a person's expectancy that performance of the behaviour is within his or her control. The concept is similar to the concept of self-efficacy. Individuals are likely to engage in behaviour if they believe that it will lead to good outcomes, if other people significant to them will approve, and if they have the necessary resources and opportunity to perform the behaviour.

TRA and TPB are widely used in family planning research, particularly in relation to condom use for HIV/AIDS prevention. A number of studies show support for TRA application in relation to the pill, condoms, IUDs and other contraceptive methods (Jaccard and Davidson 1972; McCarty 1981; Doll and Orth 1993). Perceived behavioural control was found to be a significant predictor of intention to

use condoms among a community-based sample of individuals at higher risk of contracting HIV (Kasprzyk et al. 1998).

Subjective norms are determined by normative beliefs, which represent perceptions of significant others' preferences about whether one should or should not engage in a behaviour (Conner and Norman 1995). It has been found to be an important predictor of contraceptive use in many studies (Fishbein 1972; Jaccard and Davidson 1972; Kasprzyk et al. 1998). The most important referents are commonly best friends, family, health workers, workmates and partners (Conner and Norman 1995). A positive subjective norm is said to exist when a person believes that important others think he should perform behaviour, and he is motivated to meet their expectations.

In family planning research, parents and older relatives are important referents in terms of transferring ideas and attitudes to young couples. In India, Karra et al. (1997) reported that members of the extended family like uncles and cousins play a major role in a couple's contraceptive choice and practice. Parents/mothers-in-law in developing countries tends to discourage couples from using contraceptives. The discouragement often is due to lack of correct and clear information on family planning (Hull 1999) or to the wish to have a grand son (Johansson et al. 1998a). Commonly, partners have the strongest influence on contraceptive use (Sinquefield 1974).

Some studies of contraceptive behaviour report on the roles of health workers or family planning collaborators as significant others (Hull 1999). Health workers often are cited as the positive referents, because they encourage use of family planning. On the other hand, in studies conducted in Indonesia and Vietnam, they were shown to have a negative influence on the choice of method, health providers often advised people not to use the pill due to their limited knowledge or to misunderstanding (Knodel et al. 1995; Hull 1999).

Although TRA/TPB have shown their success in family planning application research, some critiques are worth discussion. Sheppard et al. (1988) reports that the model is often applied within the rigid framework of the ideal model, where it

implies that individuals have control over the behaviour. However, this excludes socio-economic and political factors that are potentially influential on behaviour. Conner and Norman (1995) also believe that the model deals with perceptions of control and not with actual control issues themselves.

## **2.5. Self- efficacy and contraceptive behaviour**

Self-efficacy appears in many theories of behaviour change and it presents the key construct of Social cognitive theory. Glanz et al. (1997:164) defines self-efficacy to be “the confidence a person feels about performing a behaviour”. According to Bandura (1986), self-efficacy is the most important prerequisite for behavioural change. Perceived self-efficacy is what an individual believes about his/her capability to perform a certain action (perceived self-effectiveness).

According to Maibach and Murphy (1995), the measures of self- efficacy should be as situation-specific as possible. People tend to avoid the task that they believe exceeds their capability. Those who feel highly efficacious regarding their capability are also more persistent in the face of difficulties than those with lower efficacy. The measures should include three factors: the behaviour, the specific situation and the time frame. These should be measured against levels of the various task demands.

Perceived self-efficacy has been studied with respect to prevention of unwanted pregnancies and contraceptive use. Levinson (1986) examined the relationship between teenage females’ contraceptive behaviour and self-efficacy; those with high self-efficacy scores were sexually responsible and used contraception more consistently than did their low self-efficacy counterparts. In another study, Levinson et al. (1998) also found that self-efficacy is a predictor of contraceptive behaviour for teenage males and females after controlling for the effect of other variables (age, sexual experiences, educational aspirations). A similar finding was reported by Cecil and Pinkerton (1998) in a study on condom use among students. Those who had higher self-efficacy for condom use were more likely to report using condoms at last intercourse or during the last three months, as well as having greater intention to use condoms in the future.

Self-efficacy is specified as a mediator between outcome expectancies and intention (Conner and Norman 1995). Wulfert and Wan (1993) studied the self-efficacy model for condom use, and reported that self-efficacy functions as a central mediator through other cognitive factors like outcome-expectancies and peers pressure. Beliefs that using condom had negative outcomes (like decreased sexual pleasure) correlated with decreased self-efficacy and less consistent use and vice versa. The findings suggested that an intervention should target self-efficacy beliefs and attempt to enhance them, for example, by increasing positive and decreasing negative expectancies associated with condom use. Presenting an effective peer model should also be useful in certain social contexts.

Bryan et al. (1997) found that among young women, susceptibility to pregnancy, attitudes to condom use and self-efficacy for condom use were directly related to intentions to use condoms, and the relationship between intention and practice of condom use after 6 months was very strong. Some important dimensions of the self-efficacy construct for the condom use were reported to be obtaining, negotiating and using condoms. Bryan et al. (1997) and Levinson et al. (1998) assessed self-efficacy for condom use in some challenging situations such as the needs for buying condoms when they were not available; when one or both sexual partners were using drugs or alcohol; or when partners opposed condom use.

Looking at difficult situations is preferable in practical research, because it permits identifying possible sources of resistance towards condom use. For example, some people may find it difficult to plan ahead and to have a condom available when it is needed, while some may have problems negotiating with partners. People using drugs or alcohol are less confident in contraceptive use than those who are not (Galavotti et al. 1995; Grimley et al. 1995; Stark et al. 1998). Women are more confident in using condoms with casual partners than with their main partners and they are more likely to report higher self-efficacy for general contraceptive use than men. Identifying such differences in self-efficacy would be important if one were designing interventions that promote safe sex behaviour.

Some studies have used self-efficacy as a theoretical framework for designing educational interventions to enhance contraceptive knowledge and behaviour. These

interventions have been proven successful in increasing contraceptive efficiency for both male and female participants (Eisen et al. 1992).

Researchers have raised few criticisms of the self-efficacy model such as the lack of explicit consideration of social influences and failure to incorporate measures of cultural value associated with different outcomes (Conner and Norman 1995; Norman et al. 2000). Nonetheless, self-efficacy has been found to be a significant predictor of a range of health behaviours including family planning.

## **2.6. Application of TTM in promoting men's readiness to accept IUDs**

This part provides a rationale for the study and describes how TTM is being applied in the current study.

### **2.6.1. The Transtheoretical Model of change**

The Transtheoretical Model (also known as the 'stage model'), one of the leading models of health behaviour change (Prochaska et al. 1992), offers a systematic and empirically based approach to conceptualising and assessing readiness to accept contraception (Galavotti et al. 1995; Grimley et al. 1995; Schnell et al. 1996; Stark et al. 1998). Briefly, TTM understands change as process, over time, through a series of stages: precontemplation, contemplation, preparation, action and maintenance. Individuals use different processes of change as they move from one stage to another. Several studies of factors associated with contraceptive use have examined associations with stage of change (SOC), rather than with actual contraceptive use itself. SOC measures based on TTM can provide sensitive assessments of readiness to accept contraceptive methods and can guide the development of individually targeted intervention that can reduce the dropout of contraceptive use and increase the likelihood of effective contraceptive use. The TTM systematically integrates four theoretical constructs central to change:

Stage of Change: readiness to take action

Decisional Balance: pros and cons associated with behaviour's consequences

Self-Efficacy: confidence to make and sustain changes in difficult situation



Processes of Change: ten cognitive, affective, and behavioural activities that facilitate change.

Prochaska et al. (1992) represents the stage of change construct as a spiral. People start at the bottom in the precontemplation stage. Then they move through the stages in order (contemplation, preparation, action, maintenance) but will typically relapse back into precontemplation. They may cycle and recycle through the stages several times before achieving successful long-term behaviour change.

In the first stage of change, the precontemplation stage, individuals deny they have a problem. They are resistant to making changes because they are unaware of the negative consequences of their behaviour, or believe the consequences are insignificant, or have given up the thought of changing. These individuals are not intending to change in the next six months. The individuals in the contemplation stage are more likely to recognize the benefits of changing. However, they continue to overestimate the costs of changing and are not quite ready to change. Contemplators are seriously considering changing within the next six months. Individuals in the preparation stage have decided to make a change in the next 30 days and have already begun to take small steps towards that goal. Individuals in the action stage are overtly engaged in changing behaviours. Individuals in the maintenance stage have been able to sustain change for at least six months and are actively striving to prevent relapse. People move through a series of five stages when modifying behaviour on their own or when receiving the help of formal intervention (Prochaska and Diclemente 1983; Prochaska et al. 1992).

Decisional balance involves the perceived 'pros' (advantages) and 'cons' (disadvantages) of continuing the current behaviour or adopting the new behaviour (Prochaska et al. 1994; Prochaska and Velicer 1997). The balance between pros and cons varies depending on where a person is on the continuum of stages of change. TTM suggests that in the precontemplation stage, the cons outweigh the pros. In the action and maintenance stages, the pros outweigh cons. The crossover in the balance between pros and cons occurs during the contemplation or preparation stage.

The self-efficacy construct was adapted from social cognitive theory (Bandura 1986) and reflects a person's confidence in completing the health behaviour change. The theory postulates that confidence in one's ability to perform a specific behaviour is strongly related to one's actual ability to perform, and it has been associated with stage of change. The situational self-efficacy measures reflect the confidence of the individual not to engage in a specific behaviour across a series of difficult situations (Velicer et al. 2000)

In TTM, transitions between adjacent stages are the dependent variables, and the other constructs are assumed to influence these transitions, the independent variables (Norman et al. 2000).

A vast majority of TTM studies have used a cross-sectional design, which allows for comparison of people in different stages. The pros and cons and self-efficacy often have proven to be important predictors in certain stages (Weinstein et al. 1998). In addition to that, this design also allows for prediction and for particular discontinuity patterns (Norman et al. 2000).

According to Norman et al. (2000), few TTM studies have used a longitudinal design. Longitudinal design can be used to examine the sequences of transition through the stages and test whether different theoretically relevant variables predict stage transition among people in different baseline stages. Experimental design allows for testing whether the stage-matched intervention is more effective than an intervention that is not stage-matched. Studies using TTM for designing stage-matched intervention have shown significant success in moving people to the next stage in the sequence (Weinstein et al. 1998). However, Norman et al. (2000) raise concerns about the evidences of success in some stage-matched intervention studies.

Thus, TTM has been extensively applied to explain a variety of health behaviours including contraceptive behaviour. The theory has also been subject to criticism such as the lack of standardization of staging algorithms and lack of evidence of success of stage-matched intervention. Nevertheless, TTM, and particularly SOC, has shown an important paradigm shift in health behaviour by indicating that behaviour change should not be regarded as a dichotomy but as a process (Norman

et al. 2000). It is a valuable resource for providers of family planning programs who need to design behavioural change intervention.

### **2.6.2. Reasons for investigating men's readiness to accept IUD**

Contraceptive behaviour involves the decision to adopt and continue using a contraceptive method (Heise 1997). The domain of contraceptive behaviour is broad and complex. The literature review provides evidence of personal, interpersonal, environmental, socio-cognitive and programmatic influences on contraceptive acceptance. Contraceptive behaviour is also highly variable across situations and contexts, especially as contraceptive need changes during the life cycle. Some contraceptive methods, such as condoms or the pill, may be suitable for young unmarried people. Other reversible methods, such as the IUD, may be more appropriate for married couples with at least one child, and who have low risk of getting STD/HIV/AIDS.

Choice of method is influenced by the specific circumstances of each couple, by their social and cultural environment, and by the national and local family planning program and policies (Shah 1994). Some degree of choice, even within a rather narrow range of choice seems to be desirable. In relation to rural Vietnam, most contraceptive use takes places within marriage, exposure to STD/HIV/AIDS is low and few extramarital relationships occur. Then, the IUD use is a good choice for many people. It is highly effective, convenient and free of charge. Some side effects are reported, but they are marginal in relation to having an unwanted pregnancy and abortion.

Many studies show that the husband's approval appears to be a major determinant of contraceptive uptake in developing countries and more effective male targeting may be necessary for maintaining the success of family planning in the future (Kamal 2000). In a majority of cases in Vietnam, wives take the responsibility to practice contraception, but the husbands are the main decision makers (Johansson et al. 1998b; Mai and Montague 1998).

Investigating men's acceptance of family planning is not necessarily restricted to the study of how men approve of and practice male methods. Instead, information of men's knowledge and perception of the IUD as an effective contraceptive method, their readiness to accept the method for contraception, and their willingness to communicate family planning matters will through light on how they are involved in contraceptive decision-making.

### **2.6.3. Application of TTM to the study of men's readiness to accept IUDs**

Findings from studies that have examined TTM in the contraceptive behaviour domain across countries, age groups, site settings, residences and gender, give some explanation for the adoption of contraceptive method (Galavotti et al. 1995; Grimley et al. 1995; Schnell et al. 1996; Stark et al. 1998). Using a 'staging algorithm', participants are classified into stages based on their responses to a small number of questions. The algorithm for IUD use has been developed and validated in previous studies (Grimley and Lee 1997).

The SOC within TTM describes motivational readiness to accept a specific contraceptive method. Stages integrate current contraceptive status with intention to maintain or change contraceptive use. Applied to IUD use in rural Vietnam, the five stages of motivational readiness to accept the method were defined as follows:

- The precontemplation stage includes those (couples) who do not use the IUD and do not intend to start in the next six months.
- The contemplation stage includes those (couples) who do not use the IUD but intend to start in the next six months.
- The preparation stage includes those (couples) who have a strong intention to change in the near future (often within the next 30 days) and may participate in discussion or seek information related to IUD use.
- The action stage includes those (couples) who have accepted the IUD for contraception.
- The maintenance stage includes those (couples) who have accepted and used IUD for contraception for six months or longer.

The pros and cons and self-efficacy for contraception in general have been reported and validated from other studies (Galavotti et al. 1995; Grimley et al. 1995; Schnell et al. 1996; Stark et al. 1998). These constructs have been developed and validated for IUD use in rural Vietnam in this study (Chapter 4).

The SOC identifies the stage, where a person is in the change process. According to the TTM, it is best to provide an intervention that targets the stage to meet the persons' current need. Prochaska et al. (1994) recommended that the intervention have a cognitive focus when targeting people in the early stages, so that it is more likely to help them see that the advantages outweigh the disadvantages. In contrast, for people in preparation and higher stages, behavioural strategies are the best approach.

The SOC construct has been applied as a component of intervention studies in a few contraceptive behaviour trials, mainly for HIV/AIDS prevention (Cabral et al. 1996; Collins et al. 1999; Fishbein et al. 1999; Malotte et al. 2000). The evidence from these studies shows that the optimal strategy for moving people from the early stage is to target both cognitive and action-oriented variables like self-efficacy (Malotte et al. 2000).

A cross-sectional design allows for estimating differences between people in different stages, which justifies the application of the model. The use of experimental design with stage-targeted intervention helps to measure the intervention's effect in progressing people along the stages of change. The purpose of the current study was therefore to examine the rural Vietnamese men's readiness to accept IUD for contraception, and also to determine the variables (predictors) that discriminate significantly between men in different stages, to design a stage-targeted intervention based on predictors, and to evaluate the intervention in promoting men's readiness to accept the IUD.

Seven classes of variables identified by Prochaska and Diclemente (1983) are defined in the following manner:

1. Pros for contraception in general are the perceived benefits of general family planning (contraception)

2. Cons for contraception in general are the perceived costs of general family planning (contraception)
3. Pros for IUD use are the perceived benefits of IUD use.
4. Cons for IUD use are the perceived costs of IUD use.
5. Self-efficacy for contraception in general is the confidence of a person to abstain from sexual intercourse or to use a contraceptive method in specific situations.
6. Self-efficacy for IUD use is a man's confidence about convincing (persuading) his wife to adopt IUD use or to continue IUD use.
7. SOC for IUD use, identified by the staging algorithm, the stages of readiness to accept the IUD for contraception. These terms (stages of change for IUD and stages of readiness to accept IUD for contraception) will be used interchangeably throughout the thesis.

Two other variables adapted from Green (1994) for additional explanation of men's readiness to accept IUD are defined as:

1. Men's contraceptive knowledge is referred to the spontaneous recall of modern and traditional contraceptive methods.
2. Men's communication on family planning with wives and others is referred to the level (high or low) of communication.

With these specific variables, the underlying hypothesis of the study is that greater knowledge of a contraceptive method, more favourable attitude towards of family planning and the IUD method, and more effective communication on family planning will lead to a higher stage of readiness to accept IUD use, then the intervention targeted to stage of change will facilitate the positive progress towards stages of change for IUD use.

## **2.7. Research goal, aims and questions**

### *Research goal*

The research goal for this study is to identify methods by which targeted health behavioural change programs might be best developed and implemented for men that will result in increased acceptance of modern contraception.

### *Research aims*

To achieve this goal, the aims of this study of men in rural communes Vietnam are to:

1. identify potential modifiable factors of men that relate to acceptance of contraception; and
2. design and evaluate a targeted health behavioural change intervention to promote men's acceptance of contraception.

### *Research questions*

1. To identify measures of rural Vietnamese men's readiness to accept IUD for contraception.
2. To identify the potential modifiable factors in each stage of men's readiness to accept IUD for contraception.
3. To test whether an intervention targeted at stage of readiness will result in an increase in men's readiness to accept IUD for contraception.

## **CHAPTER 3: RESEARCH METHODS**

### **3.1. Introduction**

A series of studies were carried out from January 2001 to July 2002 in Quoc Tuan and An Hong rural communes of the An Hai District, Hai Phong Province, Vietnam. The studies employed a quasi-experimental design, which was conducted in 3 phases: (1) pilot study, (2) baseline study and (3) intervention and posttest study. The main purpose of the pilot study was to develop and validate measures for men's readiness to accept IUD for contraception. Items that measure pros and cons and self-efficacy for contraception in general have been developed and validated elsewhere (Galavotti et al. 1995; Grimley et al. 1995; Stark et al. 1998). However, items specifically measuring IUD use have not been reported by the time the study was designed. Therefore, the pilot study was aimed to develop and validate measures specifically for IUD method in rural Vietnam.

The baseline study used a cross-sectional survey, in which all participants satisfying screening criteria were included. The main purpose of the baseline survey was to identify potential modifiable factors influencing men's readiness to accept the IUD for contraception. The findings from the baseline survey served as the basis for designing a stage-targeted intervention.

The stage-targeted intervention using the TTM framework was designed to promote men's readiness to accept IUD for contraception. A trial of the intervention was carried out from November 2001 to May 2002 using a quasi-experimental design. The posttest study was a cross-sectional survey to measure the impact of the intervention on men's readiness to accept IUD use after six months follow-up. The research methods for each study are reported in the respective chapter.

### **3.2. The setting**

This part describes the country and society of Vietnam, and includes health service structure and family planning services.



### 3.2.1. Vietnam: country and society

Vietnam is situated in South-East Asia, bordering China in the north, and Laos and Cambodia in the west. The entire east faces the Eastern Sea. Vietnam is a long and narrow country with a surface area of 331,991 square kilometres. The length of country is more than 2,000 kilometres.

The country has three main parts: plain, midland, and highland. Two big delta regions are the Red River Delta in the north, and the Mekong River Delta in the south. Most parts of the upper north and middle regions of the country are mountainous areas. In the north the climate is sub-tropical with four seasons (spring, summer, autumn and winter). In the south, the climate is tropical with two distinguished seasons (rainy and dry). Administratively, Vietnam comprises of 61 provinces, including 4 urban authorities, 600 districts and 10330 communes. Hanoi is the capital city. The human development index ranks Vietnam 110 out of 174 countries and the gender related index is 91 out of 143 countries (UNDP 1999).

*Economy:* After reunification in 1975, the country's economy was heavily influenced by the advice and support from the former Soviet Union and other countries of the former Council for Mutual Economic Assistance (Phai et al. 1996). By the mid-1980s, the country had entered a period of socio-economic crisis. In response to the crisis, in 1986, the government implemented a plan for renovation, or Doi Moi, aimed at reforming the centrally planned economy and decentralizing (Goodkind 1994).

The market-oriented reform enabled Vietnam to transform from crisis into rapid economic growth in the 1990s. Most notably, poverty has been reduced from an estimated 70 percent in the mid-1980s, to 58 percent in 1993 and around 37 percent in 1998, using the World Bank's internationally comparable poverty line. Nevertheless, Vietnam remains one of the poorest countries in the world, with a 1998 average GDP per capita of just UD dollars 352. The disparity between rural and urban welfare is widening, and mountainous and isolated regions have benefited marginally from the development process (UNDP 1999).

*Population:* Vietnam is the twelfth most populous country in the world with a population of 76.3 million and the second most populous country in South East Asia, after Indonesia. The population is concentrated mainly in the two large river deltas. The Mekong River Delta is the most populous region with a population of 16.1 million (21 percent of the total population) and the Red River Delta has a population of 14.8 million (19 percent of the total). The population density overall is not particularly high at 231 people/km<sup>2</sup>, but it is very high in the river deltas. The people are mainly ethnic Vietnamese (Kinh), with ethnic minorities in the western part and central highlands. The country has undergone dramatic demographic changes over the past ten years. The population growth rate has fallen rapidly, and fertility and mortality rates have decreased to levels comparable to more developed South East Asian countries (UNDP 1999).

*Fertility:* The fertility levels in Vietnam have steadily declined in the past two decades (Phai et al. 1996; NCPFP 1999). The recent DHS showed that the fertility levels declined in Vietnam, from 4.0 births per woman in 1987 to 2.3 births in 1997 (NCPFP 1999). The decline in the fertility rate is due to both a drop in the fertility level and fertility pattern changes (NCPFP 1999). The peak fertility now occurs in the 20-24 years female age group compared to its previous occurrence in the group aged 25-29 years. The age-specific fertility rate has also changed significantly. Fertility declines are proportionately greater for women aged 25 years and older. This arises during the process of fertility transition, when older women, who have reached their desired family size, often make more effort to limit births than do young women who are in the process of achieving the desired number of children (Phai et al. 1996; NCPFP 1999).

*Education:* Vietnam's educational indicators are much better than would be expected for a country at its level of income per capita. One contributing factor to the generally impressive health indicators is the high literacy rate. Nine out of ten adults are now literate. Primary and secondary school enrolment rates have increased, offering more hope and opportunity for the nation's children (UNDP 1999).

*Gender relations in the family:* Vietnamese family ideology and norms for social relations reflect the Confucian tradition. The traditional Vietnamese family is patriarchal, patrilineal, and patrilocal, often with two or four generations under one roof. A strictly hierarchical order reigns, the younger generation obeying the older, women obeying men (Johansson 1998).

Men have higher status than women, and sons are valued more highly than daughters. A traditional Vietnamese woman is governed by three basic tenets from Confucianism. First, she must submit to her father, next she must obey her husband, and then if widowed, obey her eldest son. Ideally, she is soft spoken, and above reproach for her moral conduct (UNDP 1995; Johansson 1998).

Tasks are divided along gender lines in Vietnam; the father typically works outside the home and the mother/wife takes care of the children and manages the household. The father also leads the family in ancestor worship (UNDP 1995).

Son preference is strong in Vietnam (Haughton and Haughton 1995) because only men can perform the rites of ancestor worship. However, there is no marked difference in the treatment of young boys and girls once they are born in terms of access to health and education (UNDP 1995).

In the Vietnamese cultures, it is clear that women have the subordinate role. However, after independence, in 1946, the first constitution states that 'women are equal to men and enjoy all civil rights' (UNDP 1995). The government of Vietnam has strong policies on gender equality. A number of reforms and laws which forbid outdated customs like polygamy and forced marriages and formally guarantee equal rights between women and men in all fields have been stipulated. Different laws, decrees and resolutions including marriage and family laws to protect the status of women have been issued. The most recent decree, Number 37, states that all levels of government and party should have at least 20 percent of elected positions filled by women. The Vietnam Women's Union and the Committee for the Advancement of Women are the main organizations working for women's improvement (UNDP 1995).

After Doi Moi, Vietnamese women have shared the improved living standards of the majority. Adult literacy rate is 88.7 for women and 95.8 percent for men. However, the difference between men and women over 25 years of age in literacy is 15 percent. Women constitute 52 percent of the labour force, with the highest proportion in agriculture (71 percent). The average percentage of female-headed households in Vietnam is 32 percent and nearly 23 percent of the population live in female-headed households (Kirjavainen 2000). Contrary to the situation in many countries, female-headed households in Vietnam are not worse off than male-headed households in terms of living conditions and per capita daily expenditure (Loi 1996).

However, there is a large variation within and between regions with regard to women's status. The education and health of rural and highlands women are at a much lower standard than that of urban women (Johansson 1998). The birth rates and mortality in some rural areas and highlands are very high and form a major burden in the lives of women due to their economic, socio-cultural and even linguistic isolation, and lack of services and infrastructures (NCPFP 1999). Although men now tend to be more involved in household work, women still have much more responsibility for work related to reproduction. Due to the influence of feudalistic thinking, women have historically suffered disadvantage: lack of occupational opportunities, poor reproductive health, as well as the overall male-centred attitude of society (UNDP 1995).

Women's unequal position in decision-making processes and access to resources has deleterious effect on their reproductive health. According to Ministry of Health statistics (1999), approximately, one-third of all births are unwanted at the time of pregnancy. Abortion is common and alarmingly rising and accounts for about 40 per cent of all pregnancies. Some reports mention that about one-third of all abortions are among young, unmarried women (MOH 1997). In many districts of the country, there are more abortions than live births.

Gender inequality in treatment is also a problem in Vietnam (UN 1999). Women tend to receive poor care of and support for their reproductive health. The barriers to better care include geography, language and culture, attitudes and gender of

health providers, cumbersome and bureaucratic procedures, poor equipment and lack of skilful staff, long waiting times, high user charges, etc (UN 1999).

In sum, even though Vietnamese women have a strong position in education and employment compared to other countries, huge gaps still exist in gender related development (Kirjavainen 2000).

### **3.2.2. Vietnam: health and health sector**

Vietnam has a well-developed public sector health infrastructure; and private sector services have grown rapidly in recent years. At the central level, the MOH formulates health policies and instructions for technical questions of implementation. It directly manages a number of specialized institutes that provide tertiary and referral services in various specialties, as well as medical, pharmaceutical and public health schools.

At provincial level, the provincial health department (bureau) is responsible for preventive health centres, secondary medical school, local production of medical supplies and provincial hospitals. At district level, the district health centre is responsible for primary and secondary referral curative services, preventive services including preventive health brigades, district hospitals and inter-communal polyclinics. Each district covers a population of around 100,000-150,000 and includes between 10 and 20 communes (UN 1999).

Over the past two decades, a vast literature points to weak health policy development and implementation. The government strategy 'Orientation for People's Health Care and Protection for 1996-2000', does not provide a clear description of purpose nor clear measures to address inequality, quality, funding and other issues identified as problems. Consequently, efforts to address these issues have not been particularly effective (UN 1999).

The literature on utilization of health services indicates that there is a general under utilization of community health services. The utilization of curative services in 1998 was only 40 percent (MOH 1999). The quality of health services delivery

needs further improvement. According to a UNICEF report of 12 provinces, only 23 percent of women have safe obstetric care including prenatal care, assisted delivery and postnatal care (UN 1999).

Health inequality is an acute problem in Vietnam. The gap between the rich and poor is widening. The poor utilize public health services less, spend less on health care, are under-represented in health insurance schemes, and have more difficulties in accessing health care services. Over the past five years, the rich have captured a disproportionately high share of government-subsidized health care in hospitals (UN 1999).

### **3.2.3. Family planning program in Vietnam**

#### *Historical development*

North Vietnam was among the first countries in developing world, which adopted an official policy to reduce population growth. In early 1963, the government of North Vietnam issued a statement recommending couples limit family size and extend space between births. This policy was a response to concern about pressure on the land and associated chronic food shortages (Phai et al. 1996). However, before reunification in 1975, the implementation of family planning was limited to provision of IUDs, condoms and some abortion services. In the South, family planning was not fully promoted until the end of the war (Goodkind 1995).

After full independence in 1975, the government issued a series of policies to reduce population growth and extent family planning services throughout the country. A policy advocating a one to two child family size in late 1988 was formally adopted at the national level (Goodkind 1994). The specific implemented guidelines included minimum childbearing age for government cadres and spacing between births. There was also encouragement for sterilization through cash incentives and penalties for those violating the policy. Different kinds of penalties were implemented. Government cadres who had a third child could lose their jobs. For the rural peasants, the fines for having a third baby ranged from about one to

three months earnings. But there was large variation in implementing the policies among provinces and districts (Goodkind 1995).

In January 1993, the government for the first time approved a resolution on population and family planning. This resolution was a response to the concern of excessive population growth and its consequent social, economic and ecological problems. The resolution endorsed that each family should have not more than one or two children in order to lower fertility and achieve population stabilization. To implement the resolution, the Prime Minister approved an official and comprehensive population and family planning strategy to the year 2000 in June 1993 (Phai et al. 1996).

### *Structure of family planning programs*

Since its establishment, NCPFP and MOH have closely collaborated in the delivery of the family planning program in Vietnam. NCPFP is a ministerial organization responsible for initiating family planning policies, developing national strategies and coordinating all program activities. Its members include personnel from ministries as well as from mass organizations such as Women's Union and Youth's Union. In 1995, the NCPFP established a network of committees at lower levels, i.e., the provincial, district and commune levels (Knodel et al. 1995).

The MOH is responsible for the delivery of family planning services through its network of public health services. Within MOH, responsibility for family planning services is assigned to the department of Maternal and Child Health and Family Planning (MCH/FP). Other ministries and mass organizations (most notably the Women's Union) are involved as the role of educating, promoting and encouraging the use of family planning (Knodel et al. 1995).

### *Contraceptive methods use in Vietnam*

The CPR in Vietnam is high at 73 percent and has been rising for the last ten years (NCPFP 1999). However, promotion of contraceptive use is oriented primarily towards married women. The IUD still is the main method accounting for 38.4

percent of current use. Other methods like condoms and the pill account for only about 5 to 6 percent. A very small proportion of people use male sterilization or injectables (less than 1.0 percent)

Different sources of contraceptives are available, but the public sector remains the major source in Vietnam. Contraceptives are available through the commune health clinics, hospitals, private clinics and family planning collaborators. Government is dominant in providing IUDs and sterilization. Besides that, contraceptives also are available at pharmacies, and through some NGOs (UNFPA 2000).

In 1993, UNFPA was the primary, almost exclusive, source of public sector contraceptives. The MOH was responsible for receipt, storage and distribution of contraceptives. Since 1996, this task has shifted from MOH to NCPFP, supported by the Population and Family Health project. Another notable change since 1993 is the expansion of community based distribution of condoms and oral pills. This has significantly contributed to the increasing prevalence of all contraceptive methods (UNFPA 2000).

#### *Review of prior studies on family planning program and contraceptive use*

In the last two decades, information about reproductive health knowledge, attitudes and behaviour has been collected systematically by DHS. The first Vietnam DHS was conducted in 1988 independently of the international standard DHS although it used a modified and considerably abbreviated version of the typical DHS questionnaire (Phai et al. 1996). The sample consisted of more than 4000 ever-married women aged 15-49 in 12 provinces purposively including Hanoi and Ho Chi Minh city to ensure a degree of nationwide representativeness.

A second survey, the Vietnam Inter-Censal Demographic Survey (VNICDS) was conducted in 1994. In this survey the questionnaire more closely resembled questionnaires DHS have used in other developing countries. The sample consisted of almost 10,500 ever-married women aged 15-49 years taken across all 53 provinces of the country. More recently the third Vietnam DHS was conducted in 1997 from June to October under subcontract to Future Group International and



General Statistical Office. The sample consisted of 5664 ever-married women aged 15-49 years from across all provinces of the country (NCPFP 1999).

Other surveys related to population issues have also been undertaken during the last few years, but they have been less comprehensive in coverage or in their treatment of reproductive health behaviour and attitudes than the three surveys mentioned above. Nevertheless, valuable information about fertility and other family planning issues has been derived from the reproductive health survey in 1995 (VNRHS 95), which was conducted in five provinces by NCPFP and Deutsche Gesellschaft für Technische Zusammenarbeit (NCPFP and GTZ 1995). The sample consisted of 6871 women aged 15-49 years. In addition, other small cross-sectional health surveys have been conducted by Mai and Montague (1998); Care International and MOH (1997); and Mai et al. (2001).

#### **3.2.4. Study population**

Hai Phong is in the northeast of Vietnam and has a population of over 1.7 million. The province is divided into 13 districts (nine rural and four urban) and 217 communes. An Hai is a rural district, with a total population of 219,150 people. The district has one district hospital, four inter-communal clinics and 23 commune health centres. Family planning services such as IUD provision and sterilisation are offered free of charge at the district hospital, the inter-communal clinics and at commune health centres. Other methods such as condoms or the pill are available for purchase in drugstores or clinics. Twelve out of 23 commune health centres reported no family with a third child in their coverage areas. Each village has a village health worker. The CPR is 75 percent with dominance of IUDs (60.0 percent), followed by condom (4.5 percent), the pill (2.5 percent) and a small usage of other methods like vasectomy or female tubectomy (An Hai District Health Centre 2001).

Two communes (Quoc Tuan and An Hong) were randomly selected from eight rural communes in An Hai District, where the majority of people earn their living by farming. A small proportion of the population live by fishing and the manufacture of seafood products. The rest live by other jobs (flower growing, handicrafts, etc).

The IUD rate is 60.0 percent at Quoc Tuan and 54.0 percent at An Hong commune (An Hai District Health Centre 2001). The map of two communes is in Appendix A.

### **3.3. Measures**

Four main measures were included in the study: (1) contraceptive knowledge, (2) communication on family planning issues, (3) social cognitive factors and (4) stage of change for IUD use. The justification of their inclusion in the study was provided at previous section (section 2.6.3).

Measures of contraceptive knowledge were adopted from standard DHS to measure spontaneous and prompted recall of modern and traditional methods (Ezeh et al. 1996).

Measures of communication on family planning issues were adopted from Mai and Montague et al (1998) to investigate men's communication on family planning issues with wives and other people.

Decisional balance and self-efficacy for contraception in general were adopted from Grimley et al. (1995) and Galavotti et al. (1995). The scales of decisional balance and self-efficacy for IUD use were developed and validated in the pilot study (Ha et al. in press, Appendix L).

Stage of men's readiness to accept IUDs was adopted from Grimley and Lee (1997) and validated in the pilot study (Ha et al. in press).

### **3.4. Implementation**

#### **3.4.1. Funding**

Funding for the research was provided by a grant from the China Medical Board of New York to the Hanoi School of Public Health

### **3.4.2. Ethics approval**

Approval was obtained from the Human Research Ethics Committee of the University of Wollongong for the study on November 7, 2000; and approval also was obtained from the Research Committee of the Hanoi School of Public Health on October 13, 2000 (see Appendix B). Progress reports were supplied to the Committee every year upon request.

### **3.4.3. Time-line**

The pilot study (N=201) was undertaken in January- March 2001.

The baseline study (N=651) took place March - April 2001.

The intervention (N=336) was conducted during November 2001- May 2002.

The posttest study (N=610) was carried out during June -July 2002.

### **3.4.4. Recruitment**

Interviewers visited each household in the selected villages and sought all married men aged between 19 to 45 years; who had lived with their wives in the same house during the three months prior to the study. The inclusion criteria were: the wife was currently not pregnant; the couple did not plan to have a child in the next six months; they currently did not use condoms consistently for family planning and the wife currently did not use the pill consistently for family planning. A sample of 201 men who fitted the criteria was selected to complete the pilot study. Their informed consent was obtained. A total of 651 men who fulfilled the selection criteria from the 12 villages, were selected for the baseline study. A total of 336 men were included in the intervention group and 274 men were included in control group for the intervention study.

### **3.4.5. Consent**

Fully informed consent was obtained from all men participating in the research and as the sensitive nature of the topic raised the possibility that the interview process may overwhelm some participants, men were assured that they could withdraw

consent at any time (see Appendix C). All survey information was confidential, and the men were assured that the research would not affect their ongoing relationship with local health workers and local authorities. Each participant was assigned an identification number (ID) and all data were kept in a locked filing cabinet and on a password-protected computer.

#### **3.4.6. Data collection**

Data was collected in face-to-face interviews. The literature suggests that the reliability and validity of self-reports is contentious and it is acknowledged that fictitious reports can and do occur (May 1993). Underestimation of the true extent of the problem was considered to be the most likely prevalent in this study, rather than overestimation.

#### **3.4.7. Training**

Prior to beginning the data collection of each study phase, the interviewers undertook training at the An Hai district health centre. Face-to-face interview requires careful training. Training should give interviewers experience of and confidence to interview people. The training should ensure that interviewers can read fluently, speak clearly and are able to answer the interviewees' questions (De Vaus 1995). The number of interviewers depends on the nature of the study. The pilot study involved only four interviewers while the baseline and posttest involved 12 interviewers. A manual for data collection was developed by the researcher, which explained how to ask and record the answer for each question in the questionnaire (Appendix D).

Interviewers, both male and female, were local health workers. Those people were chosen because they were familiar by the respondents. During two days of training, the interviewers practiced administration of the questionnaire by completing it themselves and through role-playing.

#### **3.4.8. Field supervision**

To minimize observer errors in surveys, careful preliminary training of staff in the use of a particular technique is not sufficient. It also requires continued supervision throughout the survey, to ensure that the procedures do not vary from the initial standard (De Vaus 1995). District health workers in charge of the family planning program undertook the field supervision. They were responsible for field editing of questionnaires and validating completed interviews.

Field supervisors were required to call back 20 percent of cases assigned to an interviewer and to ask the respondents directly if they participated in the original interview and also to re-administer sections of the questionnaire. If significant inconsistencies were discovered during this process, other interviews completed by the same interviewer were subjected to rechecking. An average of 5 percent of errors were detected during the field supervision.

#### **3.5. Data management**

The questionnaires were entered by using EPI-INFO version 6, and then converted to the Statistical Program for Social Science (SPSS) for analysis.

Initially, four data files (pilot, baseline, intervention and posttest) were created separately. Then two files (baseline and posttest) were merged using the identification number assigned for the survey (unique identifier) as the primary merge variable.

Descriptive statistics were generated for each continuous variable, and the frequency distribution for each categorical variable, so that data could be assessed for outliers, implausible values, and missing values as well as central tendency and dispersion.

In the pilot study, preliminary descriptive statistics were also generated for items in the decisional balance and self-efficacy scales. The goal was to construct appropriate indices for the scales. This was to ensure that values for all items in the

scales were in the same direction. The next step was to determine through correlation matrix the association among variables. If the correlation was higher than 0.9, then the items were excluded from the analysis

The reliability was measured by internal consistency reliability in all three studies (pilot, baseline and posttest), however only test-retest reliability was reported for the pilot study.

### **3.6. Data analysis**

Three sets of analyses were undertaken using the SPSS: (1) Descriptive analysis; (2) Bivariate analysis and (3) Multivariate analysis.

The detailed data analyses of the pilot, baseline and posttest study are provided for each study, respectively.

## **CHAPTER 4: DEVELOPMENT AND VALIDATION OF MEASURES FOR MEN'S READINESS TO ACCEPT IUD**

### **4.1. Introduction**

The study reported in this chapter uses data from the pilot study, which was undertaken in January- March 2001 in two rural communes, An Hong and Quoc Tuan in An Hai district. The purposes of the pilot study were to:

1. test the interview and questionnaire format;
2. assess the feasibility of gaining consent to participate from the married men;
3. assess the ability of local health workers to recruit married men for the study;
4. identify and overcome any implementation difficulties;
5. undertake preliminary analyses to: (a) test the ability of TTM to identify men's readiness to accept a modern contraceptive method (IUD) based on the premise that the husband's readiness will contribute to the wife using contraception; and, (b) test whether two core constructs of the TTM, decisional balance and self-efficacy, are sensitive to stage of a husband's readiness to accept IUD for contraception.

The pilot study was conducted in two phases: (1) qualitative phase (focus group discussion and in-depth interviews), and (2) cross-sectional survey.

### **4.2. Qualitative phase**

Since constructs had not been developed specifically for IUD use and the Vietnamese context, a preliminary qualitative study was carried out to develop the decisional balance and self-efficacy items relevant to Vietnam. Five in-depth elicitation interviews and two focus group discussions (FGD) with married men in the study areas were conducted to identify issues relevant to contraceptive use and IUD use. The interviews and FGDs were face-to-face, confidential, and audiotape recorded. The TTM framework served as the basis for the design of the open-ended questionnaire that was used.

FGD participants were asked about the practice of contraception with reference to the IUD method, their perceived benefits and costs of family planning and their perspective on male involvement in family planning. They also were asked to describe the factors related to IUD use such as benefits (one time insertion, free of charge) and constraints, as well as the situations in which women found it hard to use IUDs (abdominal pain, bleeding). The interviews and FGDs were transcribed and content was analysed for development of the quantitative survey instrument. The content analysis identified specific issues for TTM constructs, and the information was used to develop the Likert-type scale questionnaire.

Scales were developed to elicit information concerning pros and cons (benefits and costs) and self-efficacy for IUD use (confidence in dealing with IUDs).

#### **4.3. Pilot survey**

A cross-sectional survey by face-to-face interview was carried out after the qualitative phase.

A total of 201 men who satisfied screening criteria were selected for the study. The screening criteria were described in Chapter 3 (Section 3.4.4).

The participants' mean age was 35.7 years, with a little over one-third of men in the sample less than 35 years old. Over two-thirds (69.7 percent) of the men were working in the local agricultural fields.

#### **4.4. Test- retest**

A total of 29 questionnaires were re-tested in an actual field situation in two weeks. Test-retest is a method to check on the reliability of questions, to ask the same people the same questions after an interval of two weeks and calculate the correlation. If the test-retest coefficient is greater than 0.5; then the question is assumed reliable (Streiner and Norman 1998). However, the test-retest method is not always a good test because it relates to length of time as well as the participant's



memory (De Vaus 1995). Therefore, it can artificially inflate the apparent reliability of the question.

#### **4.5. Measures**

The pilot questionnaire consisted of two parts: basic socio-demographic characteristics; and items assessing the three main TTM constructs, i.e. stages of change for IUD use, pros and cons and self-efficacy. The staging algorithm for IUD use was adapted from Grimley and Lee (1997); and the decisional balance and self-efficacy for contraception in general were adapted from Grimley et al. (1995). These items were developed and validated in other studies (Galavotti et al. 1995 and Stark et al. 1998).

Items for measuring self-efficacy and decisional balance for IUD use were developed using the results of the qualitative phase. Items for the scales that originated from scales developed in English were translated to Vietnamese. Following the content validation by experts, each item was back translated to English to ensure it contained the same meaning. All items were reviewed by family planning experts and health behavioural experts for its content. Additionally, these items also were reviewed by family planning health workers and married men in the two rural communes, An Hong and Quoc Tuan, Vietnam.

##### **4.5.1. Stages of change algorithm**

To assess readiness to adopt and maintain IUD use as a contraceptive method, a four-item staging algorithm was used. These items have been found to be reliable in previous studies (Grimley and Lee 1997). The first question asked participants whether they used an IUD or not: 'Do you currently use IUD method for pregnancy prevention?' (Yes/No). People who currently used IUDs were asked: 'How long have you been using an IUD?', and the dichotomous answers were: 'less than 6 months' or 'more than 6 months'. Those who were currently not using an IUD were asked the question: 'Are you (your spouse) thinking about using an IUD in the next 6 months?' (Yes/No). Those who answered 'yes' were asked: 'Do you plan to use a IUD in the next 30 days?' (Yes/No). Responses to these questions were used

to classify the individual into one of five stages of change. The staging algorithm is shown in Table 4.1.

**Table 4.1. Staging algorithm for IUD use**

Algorithm	Stage
Q1. Is your wife currently using an IUD?	Yes → Q 2 No → Q 3
Q2. How long has your wife been using an IUD?	< 6 months → Action stage ≥ 6 months → Maintenance
Q3. Are you (your spouse) thinking about using an IUD in the next 6 months?	Yes → Q4 No → Precontemplation
Q4. Do you (your spouse) plan to use an IUD in the next 30 days?	Yes → Preparation No → Contemplation

**4.5.2. Decisional balance (pros and cons) measures**

Twelve items were employed to measure pros and cons for contraception in general and 14 items to measure pros and cons for IUD use (Table 4.2). Ten of the items of pros and cons for general contraceptive use were adopted from Grimley et al. (1995) and Galavotti et al. (1995). The items for measuring advantages (pros) covered content such as protection from unwanted pregnancy, personal responsibility, wife's positive reaction to the contraceptive method, and the promotion of the family's economic conditions. Items for measuring disadvantages (cons) of contraception included hassles associated with the contraceptive method, personal beliefs, difficulties associated with the family setting, financial costs and decrease in sexual pleasure. An example of an item measuring pros for IUD use was: "IUD does not reduce the sexual pleasure". An example of an item measuring cons was: "IUD can not prevent HIV/AIDS/STDs". Each respondent was asked to rate a five point Likert-type scale (1= not important to 5= very important) on how important each statement was to his decision whether or not to use contraception and/or an IUD.

#### **4.5.3. Self-efficacy measures**

Twenty-two items were employed to measure efficacy (Table 4.4). Five of the items measuring self-efficacy for contraception in general were adopted from Grimley et al. (1995). These items have been described and validated by others (Galavotti et al.1995; Stark et al.1998). Items were written in such a way as to assess the level of confidence of the respondents in specific situations (e.g., when the method is not available (right on hand), when 'high' on alcohol or drugs, when the wife dislikes the method, when the method causes health or other problems for the wife). An example of these items was: "How confident are you that you would use the contraceptive method when the method is not available (not right on hand)?". Response options ranged from 1 (not at all confident) to 5 (extremely confident).

Items measuring men's self-efficacy in confidence in convincing (persuading) the wife to have an IUD inserted and /or continue IUD use were based on content elicited from focus group discussions and in-depth interviews with married men in the study area. The items were constructed to obtain a gradation of difficulties for each category. Items were written in such a way as to assess the level of confidence of the respondents in specific situations (e.g., when the method caused abdominal pain or bleeding). Response options ranged from 1 (not at all confident) to 5 (extremely confident). An example of these items was: "I am confident that I could convince my wife to have an IUD inserted or to continue use even when she got abdominal pain". The wording of items was changed to obtain two sets of items, one for men, whose wives were not yet in the action/maintenance group (i.e., not yet using IUD), and the other was for men whose wives were currently using IUD.

#### **4.6. Statistical analysis**

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS version 11.0). Frequencies for all variables were examined for missing, unlikely, or out-of-range values and when detected were checked against the original data source. Factor analysis was carried out to identify the structure of TTM constructs. Factor analysis enables determination of whether the variables measured

can be explained by a smaller number of factors (or hypothetical constructs) (Streiner and Norman 1998).

The Cronbach's alpha coefficients were estimated for internal consistency reliability of the scale. Internal consistency represents the average of the correlation among all items in the measures. An alpha coefficient between 0.7 and 0.9 is usually accepted to be adequate for new scales (Streiner and Norman 1998).

In addition to internal consistency, the Pearson's correlation coefficient was employed to identify test-retest reliability.

Initially, MANOVA was carried out to identify any difference of pros and cons for contraception in general and the IUD use among stages of change for IUD use. If a significant difference between stages was detected, then a one-way ANOVA and post-hoc Tukey test were performed to identify which variables were different. Similarly, MANOVA, one-way ANOVA and post-hoc Tukey were conducted to identify the differences between stages of change for IUD use for self-efficacy for contraception in general and IUD use. To carry out these tests, raw scores for pros and cons and self-efficacy were converted to standardised score and then to T scores ( $M=50$ ;  $SD=10$ ) (Grimley et al 1995).

## **4.7. Results**

### **4.7.1. Factor analysis of decisional balance scale**

The original decisional balance scale was divided into four sub-scales: pros/cons for contraception in general, and pros/cons for IUD use. These items are shown in Table 4.2.

**Table 4.2.Items to assess pros and cons for contraception in general and IUD use**

<b>Item No</b>	<b>Contents of constructs</b>
<b>Pros for contraception in general</b>	
1.	Family planning helps your wife to be safer from unwanted pregnancy
2.	Family planning helps you to become more responsible for decisions about having children
3.	Family planning helps you avoid the results of unwanted pregnancy
4.	Your wife would not have to worry about becoming pregnant if using contraception
5.	Family planning helps to limit size of the family
6.	Family planning helps you to promote your family's economic conditions
<b>Cons for contraception in general</b>	
7.	Some contraceptive method like condoms and the oral pill require preparation for sex
8.	Contraception is against your beliefs
9.	Family planning makes sexual intercourse difficult in a family setting
10.	Some family planning methods are costly
11.	Family planning adversely affects the wife's health
12.	Family planning reduces sexual pleasure
<b>Pros for IUD use</b>	
13.	IUD is always available inside the body
14.	IUD may be effective in prevention of pregnancy
15.	IUD may be taken out if there is a need to have another child
16.	IUD may work for a long time

- 
17. IUD does not require preparation before sexual intercourse
  18. IUD does not need buying many times
  19. IUD does not reduce the sexual pleasure

**Cons for IUD use**

20. IUD makes sexual intercourse uncomfortable due to the string in the way
  21. IUD may cause problems like dizziness and headache
  22. IUD may cause back-pain
  23. IUD may cause abdominal pain
  24. IUD may cause bleeding
  25. IUD may cause PID (pelvic inflammatory diseases)
  26. IUD may be expelled without reasons
  27. IUD cannot prevent STD/HIV/AIDS.
- 

To explore the underlying structure of items assessing decisional balance (pros and cons for contraception in general and pros and cons for IUD use), all 27 items were factor analysed using principal component analysis with varimax rotation. A correlation matrix was computed for all variables. This showed a large number of Pearson's coefficients with values greater than 0.3, indicating evidence of reasonable correlations between variables (Tabachnick and Fidell 1996).

The Bartlett test of sphericity produced a significance level of  $<0.001$  indicating that the data were from a multivariate normal distribution (Tabachnick and Fidell 1996). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.81, indicating an acceptable index for comparing the magnitude of the observed correlation coefficients to the magnitude of the partial correlation coefficients (Kaiser 1974).

Using the default settings for principal component analysis, six factors having eigenvalues greater than one and accounting for 57.6 percent of total variance were extracted from the correlation matrix. These factors were rotated to orthogonal

simple structure. The pattern of rotated factor loading did not fully support the items groupings hypothesized earlier. Two new factors were found, and several items tended to correlate higher with different factors than had been hypothesized. Results of the rotated factor solution are shown in Appendix E.

Factor 1: First factor accounted for 20 percent of total variance of scale. Six items emphasizing disadvantages of the IUD remained the empirical core of the cons of IUD (item 21-26). However, item 26 had a secondary loading on factor 5.

Factor 2: Second factor accounted for 13 percent of total variance of scale. Six items emphasizing advantages of contraception remained the core of pros of contraception (item 1-6), with additional item (item 13) originally hypothesized to be pros of IUD. However, item 13 loaded better on the third factor.

Factor 3: Third factor accounted for 7 percent of total variance of scale. Seven items emphasizing advantages of IUD remained the core of pros of IUD (item 13-19), with additional item (item 20) originally hypothesized to be cons of IUD. However, item 19 and item 20 had secondary loading on factor 6.

Factor 4: Fourth factor accounted for 6 percent of total variance of scale. Five items emphasizing the disadvantages of contraception remained the core of cons of IUD (item 7-10, and item 12) with additional items (item 27) originally hypothesized to be cons of IUD.

Factor 5: Fifth factor accounted for 5 percent of total variance of scale. Five items formed a new factor (item 7, 11, 26, 27, 25). However, among these, item 25 and item 7 had secondary loading on factor 1 and 4, and other two items 7 and 26 also loaded in another factors (factor 4).

Factor 6: Sixth factor accounted for 4 percent of total variance of scale. Four items formed a new factor (item 18, 12, 19, 20). However, among these, two items (18, and 12) had secondary loading on factor 3 and 4, and other two items (19 and 20) also loaded in other factors (factor 3).

Overall, the factor analytic finding suggested that hypothesized item groupings based on the decisional balance required some modifications. The grouping items should be quite distinct from each other; e.g., there were no items overlapping secondary loading ( $>0.3$ ) on the other factors, and the item that were highly correlated should be excluded. Using these rules, item 22 was excluded because it was highly correlated with item 23 ( $R > 0.95$ ). Items that had secondary loading were also excluded by keeping 3 or 4 items for each sub-scale, it was found that 14 best fitted items remained in the scale. These items were factor analysed with varimax rotation. Four factors (eigenvalues  $>1$ ), which accounted for 65.8 percent of the total variance were extracted. Scores on the new items were computed by averaging unweighted ratings for the individual items within the four factors (Table 4.3).



**Table 4.3. Retained decisional balance scale items and factor loading**

Factor - items	Factor loading			
	1	2	3	4
<i>Factor 1: Cons for IUD use (<math>\alpha = 0.75</math>)</i>				
IUD may cause abdominal pain	0.91			
IUD may cause bleeding	0.90			
IUD may cause problems like dizziness and headache	0.85			
IUD may cause PID (pelvic inflammatory disease)	0.80			
<i>Factor 2: Pros for contraception in general (<math>\alpha = 0.89</math>)</i>				
FP helps you to avoid the results of unwanted pregnancy		0.78		
Your wife would not have to worry about becoming pregnant if using contraception		0.77		
FP helps to limit size of the family		0.73		
FP helps you to become more responsible for decisions about having children		0.69		
<i>Factor 3: Pros for IUD use (<math>\alpha = 0.72</math>)</i>				
IUD may be effective in prevention of pregnancy			0.85	
IUD may work for a long time			0.82	
IUD does not require preparation before sexual intercourse			0.67	
<i>Factor 4: Cons for contraception in general (<math>\alpha = 0.61</math>)</i>				
FP makes sexual intercourse difficult in a family setting				0.81
Some FP methods are costly				0.76
Contraception is against your beliefs				0.66

4.7.2. Factor analysis of self-efficacy scale

The original self-efficacy scale was divided into 3 sub-scales: self-efficacy for contraception in general and self-efficacy in convincing wife to have IUD inserted /or continue IUD use. All items are shown in the Table 4.4.

Table 4.4. Self-efficacy items for contraception in general and IUD

Item No	Contents of constructs
<b>Self-efficacy for contraception in general</b>	
1.	When the method is not right on hand/ not always available
2.	When you have been using alcohol or other drugs
3.	When your wife gets upset about that
4.	When the wife has to go through too much troubles
5.	When the wife suffers side effects like nausea, pain etc
<b>Self- efficacy in convincing wife to have IUD inserted</b>	
6.	I am confident that I could discuss IUD use with my wife even if she did not want to.
7.	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause minor side effects like headache and dizziness.
8.	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause back pain.
9.	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause abdominal pain.
10.	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause bleeding.
11.	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could reduce sexual pleasure.
12.	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause discomfort in sexual intercourse.

- 
13. I am confident that I could convince my wife to have IUD inserted even if she was concerned that it does not protect against STD/HIV/AIDS.
  14. I am confident that I could convince my wife to use IUD even if it requires regular check-ups.

**Self- efficacy in convincing wife to continue to use IUD**

15. I am confident that I could convince my wife to continue using IUD even when she got minor side effects like dizziness and headache.
  16. I am confident that I could convince my wife to continue using IUD even when she got back-pain.
  17. I am confident that I could convince my wife to continue using IUD even when she got abdominal pain.
  18. I am confident that I could convince my wife to continue using IUD even when she got bleeding.
  19. I am confident that I could convince my wife to continue using IUD even when she got decreased sexual pleasure.
  20. I am confident that I could convince my wife to continue using IUD even when she got discomfort in sexual intercourse.
  21. I am confident that I could convince my wife to continue using IUD even when she was concerned that it does not protect against STD/HIV/AIDS.
  22. I am confident that I could convince my wife to continue using IUD even when it requires regular check-ups.
- 

The self-efficacy scales for contraception in general were assessed by factor analysis with varimax rotation (item 1- 5). The Bartlett test of sphericity produced a significance level of <0.001 indicating that the data were from a multivariate normal distribution (Tabachnix and Fidell 1996). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.73, indicating an acceptable index for comparing the magnitude of the observed correlation coefficients to the magnitude of the partial correlation coefficients (Kaiser 1974).

Results showed one factors having eigenvalues greater than one and accounting for 51.4 percent of total variance. The Cronbach's alpha coefficients of sub-scale was 0.75 illustrating 'satisfactory' internal consistency of the scale (Table 4.5)

**Table 4.5. Retained items for self-efficacy for contraception in general**

Construct	Items	Loadings
<i>Self-efficacy for contraception in general</i>  (Cronbach's alpha = 0.75)	When the method is not right on hand/ not always available	0.82
	When you have been using alcohol or other drugs	0.78
	When your wife gets upset about that	0.52
	When the wife has to go through too much trouble	0.79
	When the wife suffers side effects like nausea, pain, etc.	0.76

Factor analysis with varimax rotation was carried out separately for items measuring self-efficacy in convincing wives to use an IUD and in convincing wives to continue to use an IUD (item 6-14 and item 15-22). The Bartlett test of sphericity showed a significance level of  $<0.001$  indicating that the data were from a multivariate normal distribution (Tabachnick and Fidell 1996). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.79 and 0.75, respectively, indicating an acceptable index for comparing the magnitude of the observed correlation coefficients to the magnitude of the partial correlation coefficients (Kaiser 1974).

One factor for each situation was revealed with eigenvalues greater than one and accounting for 65.0 and 72.0 percent of total variance, respectively. The Cronbach's alpha coefficients of both sub-scales were between 0.8 and 0.89, illustrating good internal consistency of the scales (Table 4.6).

**Table 4.6. Items retained for self-efficacy for IUD use**

Construct	Items	Loadings
<i>Self- efficacy in convincing wife to have IUD inserted</i>  (Cronbach's alpha = 0.8)	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause minor side effects like headache and dizziness.	0.75
	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause abdominal pain.	0.91
	I am confident that I could convince my wife to have IUD inserted even if she was concerned that it could cause bleeding.	0.90
	I am confident that I can convince my wife to have IUD inserted even if she was concerned that it could cause discomfort in sexual intercourse.	0.78
<i>Self- efficacy in convincing wife to continue to use IUD</i>  (Cronbach's alpha = 0.89)	I am confident that I could convince my wife to continue using IUD even when she got minor side effects like dizziness and headache.	0.71
	I am confident that I could convince my wife to continue using IUD even when she got abdominal pain.	0.77
	I am confident that I could convince my wife to continue using IUD even when she got bleeding.	0.78
	I am confident that I could convince my wife to continue using IUD even when she got discomfort in sexual intercourse.	0.86

**4.7.3. Test-retest reliability of stage of change measures for IUD use**

Test-retest reliability of the decisional balance and self-efficacy items was assessed by calculating the Pearson's correlation coefficient. The results are shown in Table 4.7. The value of coefficient for pros for contraception in general and IUD use was 0.6 and 0.53 respectively, which indicates acceptable test-retest reliability. The test-retest reliability of cons for contraception in general and IUD use and self-efficacy scales varied from 0.35 to 0.4, which indicated fair test-retest reliability.

**Table 4.7. Test-retest reliability of scales**

Scales	Test-retest coefficient
Pros for contraception in general	0.64
Cons for contraception in general	0.38
Pros for IUD	0.53
Cons for IUD	0.38
Self-efficacy for contraception in general	0.4
Self-efficacy in convincing wives to have /continue IUD use	0.35

**4.7.4. Stages of change for IUD use**

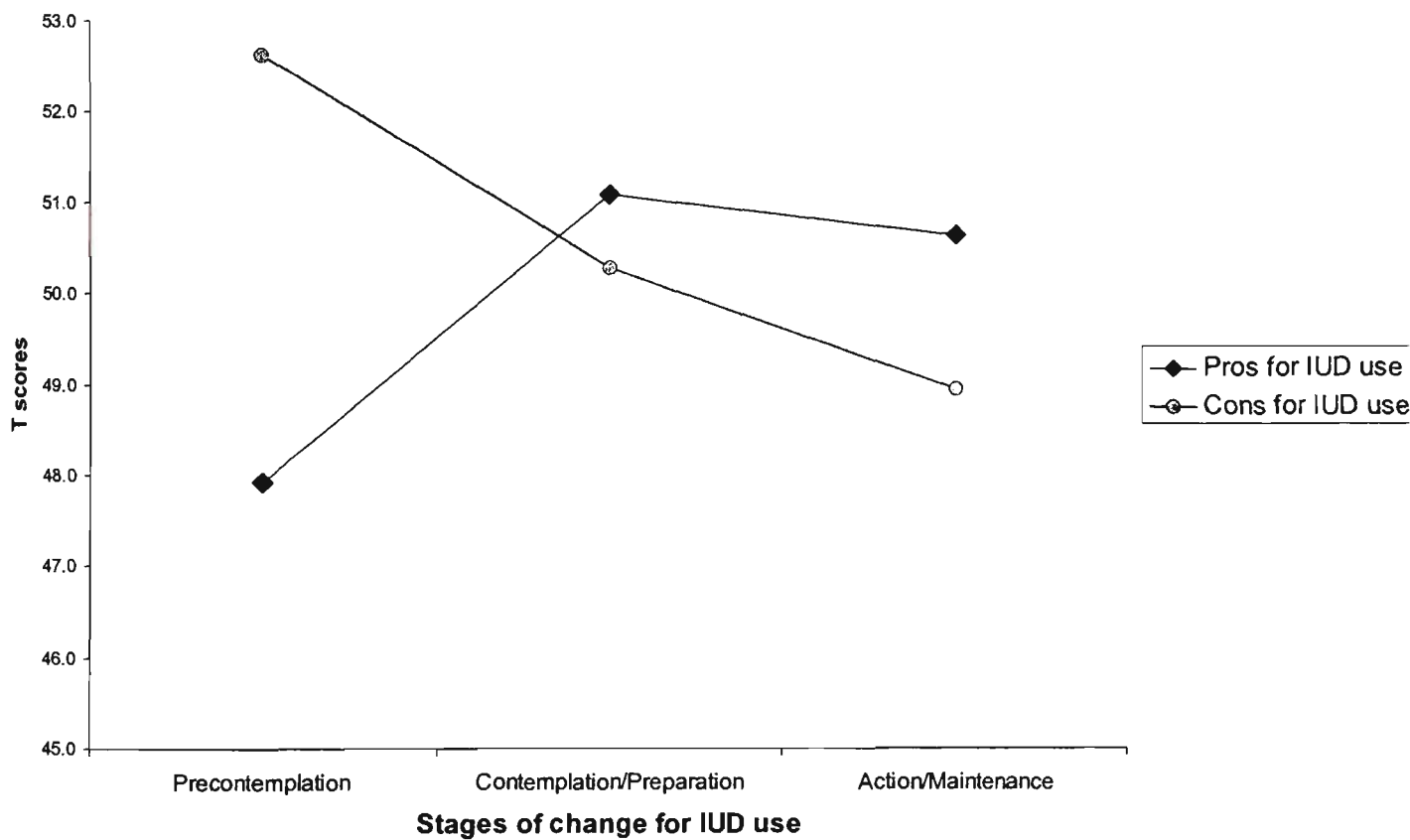
When categorized into stages, 25.9 percent of the men were in the precontemplation stage; 7.5 percent were in the contemplation stage, 3.0 percent each were in preparation and action, and the rest, 60.7 percent, were in the maintenance stage. The distribution of men’s SOC shows that for IUD use, there are three main stages (Ha et al., in press). The first transition, compared men who lack of the intention to use IUD (who are in the precontemplation) with those who are at various stages of intending (contemplation and preparation), attempting to achieve behaviour change. The second transition, compared men in contemplation/preparation to those have achieved behaviour change. Over one-fourth (25.9 percent) of men were in the precontemplation stage; about one-tenth (10.4 percent) were in the contemplation/preparation stage; and about two-thirds (63.7 percent) were in the action/maintenance stage.

**4.7.5. Decisional balance by stages of change**

The T-scores (M=50; SD=10) for pros and cons and their movement by stage of change are presented in Figure 1. Multivariate analyses of variance (MANOVA) were performed with data on staging and decisional balance measures. Significant difference between cons for IUD use across stages of change was detected  $F(2, 193) = 3.113; P = 0.04$ ). Follow-up analysis of variance (ANOVA) revealed

significant differences of cons for IUD use ( $F(2, 194) = 3.249$ ;  $P = 0.04$ ). Post-hoc Tukey test results indicated that there were significantly higher scores for respondents in the precontemplation stage compared to the action/maintenance stage. No significant differences were found between stages in cons for contraception in general and for pros for both contraception in general and IUD use.

**Figure 1 . Standardized scores of pros and cons for contraception in general and IUD use**

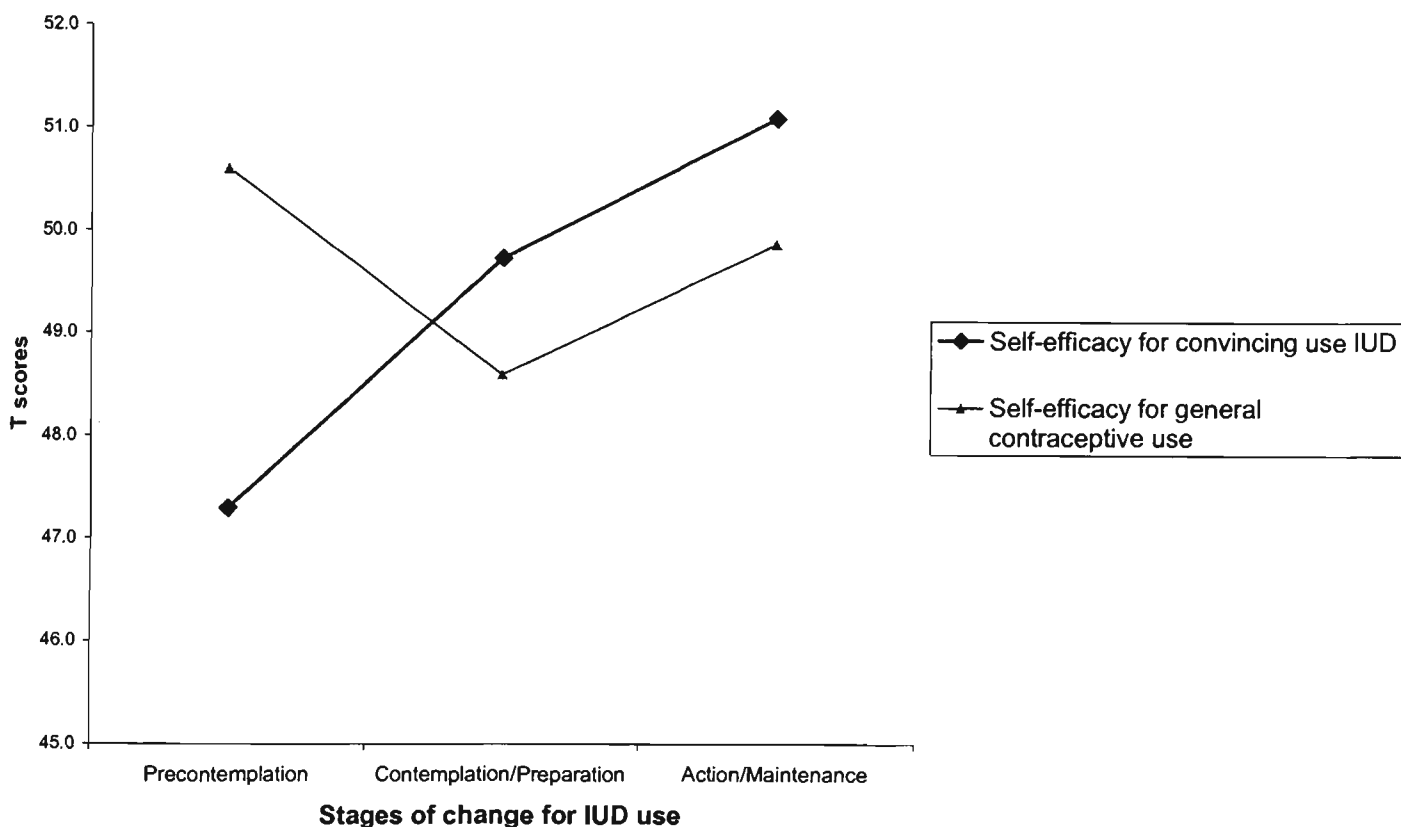


**4.7.6. Self-efficacy scales by stages of change**

The findings for self-efficacy scores and the relationship to stage of change are shown in Figure 2. Multivariate analyses of variance were performed with data on staging and efficacy measures. No significant differences were found between those in different stages with regards to self-efficacy for contraception in general. There was a significant difference between self-efficacy in convincing wife to have an IUD and stages of change ( $F(2,196) = 4.337$ ;  $P = 0.014$ ). Post-hoc testing indicated significantly higher scores for self-efficacy in convincing wife to have an IUD for

those in the action/maintenance stage compared to those in the precontemplation stage. This shows that those in pre contemplation felt less confident in convincing their wives to have an IUD inserted than did those in the higher stages.

**Figure 2. Standardized self-efficacy scores for contraception in general and IUD use**



**4.8. Implications of the pilot study**

**4.8.1. Summary of findings**

In the study, three stages of men’s readiness to accept IUD use were identified: precontemplation, contemplation/preparation, and action/maintenance stage. A majority (63.7 percent) of men was in action/maintenance. This reflects the dominant pattern of IUD use in Vietnam (NCPFP 1999). Those who were in lower stages either did not use any method or used condoms or a traditional method.



Pros and cons and self-efficacy for contraception in general and IUD use were measured by using T-scores. Prochaska et al (1994) suggest that prior to the action stage, the pros and cons should crossover with pros being higher than cons. The findings show that the expected pattern of pros and cons was seen where the pros and cons intersected at the contemplation/preparation stage. However, in the case of readiness to accept IUD for contraception, it was the cons and not pros that varied by stage. The pros score for IUD use was highest at the contemplation/preparation stage and lower in the action/maintenance stages, and still remained higher than cons for IUD use in these two stages. The findings also show that the pros did not increase and cons did not decrease by stage of change for contraception in general. There was a significant decrease in the cons of IUD use by stage, while the pros for IUD use was not significantly associated with the stages of IUD adoption.

Participants in precontemplation scored significantly lower on self-efficacy for their ability to convince their wives to have an IUD inserted than the participants in the action/maintenance stage. This finding may be explained by the fact that men whose wives are already using IUDs had more experience and therefore, more confidence in convincing wives to use (and maintain use) of IUDs than did those who had not. This confirms Bandura's (1986) premise that self-efficacy is enhanced through practice. Self-efficacy can also be enhanced through information, encouragement and modelling by others. People may have efficacy, outcome-expectations and other perceptions that are 'advanced' for the behaviour that they exhibit. These should be taken into account when helping men move from precontemplation through contemplation and preparation into action.

#### **4.8.2. Reliability and validity**

The reliability and validity of measurement was assessed in this study. The reliability refers to the consistency of a score and the extent to which a measure is free from random error (Fink 1995). Two types of reliability were estimated in the pilot study, internal consistency and test-retest. The Cronbach's coefficients of almost all scales varied from 0.8 to 0.9 showing good internal consistency reliability. The Pearson's correlation coefficients of all scales showed acceptable or

fair level of test-retest reliability. However, as it was expected, test-retest method did not always give good results due to the length of time and memory of respondents (De Vaus 1995). One explanation could be the small sample (N=29) used. Therefore, the results could still be considered a reliable indication of the range of male perceived pros and cons and self-efficacy for contraception in general and IUD use.

Validity means the extent to which a measure measures what it is supposed to and does not measure what it is not supposed to (Fink 1995). Different types of validity were reported in the literature such as face validity, content validity, criterion validity and construct validity. The research process with careful literature review and seeking advices from experts in the field as well as people in the actual situation helped to ensure that the measures have had face validity as well as content validity. The construct validity was ensured by factor analysis of related items. The clustering items in each factor were supported by TTM-based groupings with different factors such as pros and cons and self-efficacy for contraception in general and for IUD use.

#### **4.8.3. Changes to the study**

The pilot study supported the application of TTM in studying men's readiness to accept IUD use in rural Vietnam. All measures appeared reliable and valid for application in rural Vietnam. The staging algorithm was a useful measure to identify stages of change for IUD use. In general, the pattern of decisional balance and self-efficacy followed the expected pattern of constructs in TTM studies. However, the preliminary results showed that the measures of decisional balance and self-efficacy for IUD use were more sensitive with SOC than measures for contraception in general.

A number of changes were made to the questionnaires following the pilot study. These included: (1) removal of some questions, which were unrelated to the major research questions; (2) removal of items that failed to retain the TTM constructs after factor analyses.

The implementation of the pilot survey showed good responses of men in answering questions, and local health workers were able to approach men at their house for interviews. However, some problems were identified such as: (a) difficulties in meeting the men during daytime; and (b) poor response if participants were too tired or too busy at the time of interview. Strategies to overcome these problems included: (a) to visit in the evening, and if the participants were too tired or busy, (b) to make a specific time at which to return.

## **CHAPTER 5: MODIFIABLE FACTORS RELATED TO STAGE OF MEN'S READINESS TO ACCEPT IUD FOR CONTRACEPTION**

### **5.1. Introduction**

The literature review (Chapters 1 and 2) provides clear evidence that men's acceptance of contraceptive use is influenced by different factors including socio-demographic characteristics, level of contraceptive knowledge, frequency of couple communication on family planning and social cognitive factors. Chapter 3, the theoretical framework justifies the need for investigating men's readiness to accept the IUD for contraception in rural Vietnam as well as the usefulness of having an intervention study for promoting men's readiness. Chapter 4, the pilot study describes how the TTM based measures for contraception in general and for IUD use in the context of rural Vietnam were developed and validated.

The study reported in this chapter uses data from the baseline survey, which was undertaken during March and April 2001. The information on the methods of sampling, data collection, data analysis and results of the baseline survey is presented. The major aim of the baseline survey was to elicit the modifiable factors related to men's readiness to accept a contraceptive method in rural Vietnam that will be used for developing a stage-targeted intervention promoting men's acceptance of effective contraception.

The specific research questions of the baseline survey are as follows:

1. to identify the stages of men's motivational readiness to accept the IUD for contraception; and
2. to identify potential modifiable factors in each stage of men's readiness to accept the IUD for contraception.

## **5. 2. Method used for the baseline survey**

This section describes the sampling technique, data collection process and survey measures. Other related issues such as recruitment of participants, obtaining men's consent, training of interviewers and field supervision are described in section 3.4.

### **5.2.1. Study design**

The design for the baseline study was a cross-sectional survey by face-to-face interview of participants in the Quoc Tuan and An Hong rural communes of the An Hai District, Hai Phong Province. The cross-sectional design is the most common design used in survey research (De Vaus 1995). To obtain baseline measures, information was collected from men in different stages of readiness to accept the IUD for contraception. Data were also collected to compare the extent to which participants differ on the dependent variables (i.e., knowledge of contraceptive methods, communication on family planning matters, pros and cons and self-efficacy for contraception in general and IUD use).

### **5. 2.2. Sampling**

A multistage cluster sampling technique was used to identify participants in 12 villages in An Hai District, Hai Phong Province. This sampling procedure has been devised to provide a reliable random, representative sample of a large population without having to identify and enumerate the entire population at the outset. In the sampling process, only smaller randomly selected segments (clusters) are identified and enumerated (Bouma 1996).

The primary cluster for selection was a village.

Stage 1: An Hai District, Hai Phong Province

Stage 2: Commune (2)

Stage 3: Village (12)

Stage 4: Household (653)

'Household' was defined in accordance with international convention as a person living alone or as persons living together and sharing a common source of food. In cases where there were more than one household in the house, the target household was selected by lottery technique carried out on site by the interviewer. The screening criteria were: the wife was currently not pregnant; the couple did not plan to have a child in the next six months; they currently did not use condoms consistently for family planning; and the wife currently did not use the pill consistently for family planning.

### **5. 2.3. Data collection**

The baseline data collection spanned one month from March to April 2001. On average, the questionnaire took 50-60 minutes to complete. A total of 653 married men were interviewed after they had signed the consent form. However, two men dropped out during interviews. Therefore, the total sample was 651.

Twelve interviewers, both male and female, who were local health workers, were trained for two days at An Hai District health centre. The researcher developed a manual for interviewers, which explained how to ask each question and record the answer in questionnaire form (Appendix D). During the training, the interviewers practiced administration of the questionnaire both by themselves and through role-play.

All participants were assured that the answers recorded would be confidential. Confidentiality of participants was assured through a number of mechanisms. The name of each participant was matched with an identification number (ID). The list of names and addresses of all participants required for the intervention study was kept in a locked filing cabinet. Participants' detailed information was stored in the computer using ID numbers. This strategy was used to help protect confidentiality and to improve the quality and honesty of responses (De Vaus 1995).

There were no cases of serious difficulty in getting information from males by female interviewers since over time professional trust has been build between them.

### 5. 3. Survey instrument and measures

This section presents information on the questionnaire structure, its measures, and reliability of cognitive scales.

#### 5.3.1. Measures

The questionnaires consisted of five parts: socio-demographic information, contraceptive knowledge, communication on family planning issues, social cognitive factors and stage of change for IUD use (Appendix K).

*Socio-demographic information* included information on the participants' age, education, religious affiliation, ethnicity, total number of children with current wives (parity), number of sons, number of daughters, wife's abortion history, number of desired children, fertility intention and the last birth intention.

*Knowledge on family planning* was sought with questions designed to measure the participants' knowledge on the infertile period of the menstrual cycle, recall of contraceptive methods and knowledge on information sources for contraceptive methods.

*Communication on family planning issues* was investigated with questions about men's communication patterns with their wives and other people on family planning issues.

Questions dealing with contraceptive knowledge and communication were mainly close-ended. The advantage of close-ended questions is that they are easy to use and also permit comparability between respondents' answers. However, they restrict the response (May 1993). In order to let respondents express themselves freely without compromising ease of data processing, the questionnaire provided space for participants' comments after almost all closed questions.

*Social cognitive factors* were assessed by using decisional balance (pros and con) and self-efficacy scales for contraception in general and IUD use. A detailed

description of social cognitive items is described in the previous chapter (Chapter 4). The scaled questions consisted of sets of statements, against which, the respondents were asked to rank their opinions with pre-coded answers. All questions employed a Likert- type scale. This approach reduces the effects of one-sided responses and increases the reliability of responses in contrast with the single item questions, which are designed for measuring an attitude with a particular direction (May 1993).

*Stages of readiness to accept contraceptive method* assessed the distribution of men along the stages of change for IUD use. The practice of contraception reports the level of current use of contraceptive methods.

**5.3.2. Reliability**

The Cronbach’s  $\alpha$  coefficients were estimated to measure internal consistency reliability of scales (Table 5.1). The  $\alpha$  coefficients varied from 0.78 to 0.9, which suggest the scales had good internal consistency. The  $\alpha$  coefficients for cons for contraception in general was 0.6 suggesting fair internal consistency.

**Table 5.1. Cronbach’s  $\alpha$  coefficient of cognitive scales at baseline study**

Scales (N=651)	Cronbach’s coefficient
Pros for contraception in general	0.85
Cons for contraception in general	0.60
Pros for IUD	0.78
Cons for IUD	0.90
Self-efficacy for contraception in general	0.78
Self-efficacy for IUD	0.90

**5.3.3. Validity**

Construct validity of the measures used for this investigation into men’s readiness to accept IUD for contraception in rural Vietnam was established in the pilot study (Chapter 4).



## 5. 4. Operational definition of measures and variables included in analyses

The variables defined below were included in the analyses. Justification for their inclusion has been provided in section 2.6.3.

### **Response variable**

The primary outcome, men's readiness to accept IUDs for contraception (or stage of change for IUD use) was identified by using a staging algorithm. As previously stated, the five stages of men's readiness to accept the IUD were: (1) precontemplation; (2) contemplation; (3) preparation; (4) action; and (5) maintenance.

### **Independent variables**

#### *Socio-demographic variables*

*Age* referred to the participant's self-reported age in years at his last birthday. Age was transformed into the following groups: 19-24, 25-29, 30-34, 35-39, 40-44 and 45-49 years. Husbands aged 35-39 years were selected as the reference category since more than one-third of men fell within this group.

*Education* referred to formal educational level. This variable was coded as primary, lower secondary, upper secondary, and higher education. Lower secondary school was used as the reference category as about two-thirds of husbands had reached lower secondary education.

*Ethnicity* information was sought by specifying six groups: Kinh, Hoa, Muong, Nung, Hmong and other. Respondent's self-reported ethnic affiliation was coded as yes/no for each group. Almost all participants were of Kinh ethnicity making it the reference category.

*Occupations* were classified into four categories: government officer, private worker, farmer, and other. Farmer was the reference category as about two-thirds of men belonged to this category.

*Religion* referred to the respondent's self-reported religious affiliation. This variable was grouped as non-religion, Buddhism, Catholic, Christian, Caodai and other. Non-religion was the reference category, as almost all the men had no religion.

*Parity* referred to the number of living children the respondent has had with his current wife. The number was divided into number of sons and number of daughters. The number of children varied from 1 to 4. The variable was collapsed into three groups: one child, two children, three and more children. Two children was the reference category.

*Having a son* refers to number of sons in the family. This variable was expressed fractionally, the ratio between the number of sons/total number of children in the family. A fraction different from 0, meant the family had one or more sons. This variable was given two categories: 'has son' and 'has no son'; the reference category was 'has son'.

*Number of abortions* refers to the number of abortions procured by the respondents' current wife. The respondent was presented with two categories; 'has not had an abortion' or 'has had an abortion'. The former was the reference category.

*The desired number of children* was treated as a continuous variable from 1 to 5. Two children was the reference category since about fourth-fifths of men desired two children.

*The fertility intention* was classified into five categories: no intention of having more children; intention of having a child in the next two years; intention of having a child after 2 years; undecided when to have the next child; and no response to question. For logistic regression, the intention was grouped as 'desire for more children' and 'no desire for more children'. The latter was the reference category since a majority of men did not want to have any more children.

*Last birth intention* referred to whether the participant had wanted the couple's most recent birth or not. It was classified as 'last birth wanted', 'missed time' and 'last birth unwanted'. 'Last birth wanted' was the reference category since more than

two- thirds of men had wanted the last birth. For logistic regression, it was grouped as 'last birth wanted' and 'last birth not wanted' regardless of timing.

### *Knowledge of contraceptive methods*

*Knowledge of infertility period of the menstrual cycle* referred to knowledge of the safe period for non-conception which was categorized as: 'few days before menstruation', 'during menstrual period', ' few days after menstrual period' and 'between menstrual periods'. Dummy coding was used for each category.

*Knowledge on sources of contraceptive method* was assessed using eight categories: (1) hospital; (2) district health centre; (3) commune health centre; (4) private clinics; (5) family planning collaborators; (6) pharmacy; (7) self; and (8) other. Dummy coding was used for each category.

*Knowledge on information sources of contraceptive method* was categorized as (1) radio; (2) television; (3) newspapers; (4) billboard; (5) health workers; (6) family planning collaborators; (7) relatives, friends; (8) Women's Union members; (9) wives; and (10) other. Dummy coding was used for each category.

### *Communication on family planning*

The frequency of participants' communication with wives and with others on family planning issues in the year preceding the survey was categorised as 'no communication', 'communication from 1-3 times', and 'communication more than 3 times'.

Using Jolly (1976), a composite index was created to study the quantum of men's communication. The index was based on the overall responses pertaining to the frequency of communication on the specific items. The 'no communication' was coded '0'; 'communication from 1-3 times' was coded '1'; and 'communication more than 3 times' was coded '2'. Scores for frequency of communication with wives as well as with other people ranged from 0 to 10. Men who scored from 0 to 5

were categorized as low communicators, and those who scored from 6-10 were categorized as high communicators.

### *Social cognitive factors*

Perceived pros and self-efficacy for both contraception in general and IUD use were scaled as (1) high level (scores from 4-5), and (2) low level (scores from 1-3) and coded as 1/0. The reverse coding was used for cons for contraception in general and for IUD use.

### *Practice of contraceptive method and stages of readiness to accept IUD use*

*Current use* of a contraceptive method was dealt with by providing a list of methods. A dummy coding was used.

*Stages of readiness to accept IUD* for contraception were assessed by using a staging algorithm.

*Reasons for not practising contraception* were categorized as (1) planning to have next child; (2) difficult to conceive; (3) too old; (4) infertile; (5) too complicated; (6) side effects; (7) too expensive; (8) religiously unacceptable; (9) infrequent sexual intercourse; (10) unavailable method; and (11) other. A dummy coding was used for each category.

## **5. 5. Data analysis**

The data from the questionnaires were entered into EPI-INFO version 6, and then converted to the Statistical Program for Social Science (SPSS) version 11 for analysis. Frequencies for all variables were examined for missing, unlikely, or out-of-range values and when detected were checked against the original data source.

Different analyses were employed to answer research questions. Descriptive analysis was first used to obtain information on socio-demographic characteristics,

men's contraceptive knowledge and communication on family planning, social cognitive factors and practice of contraception.

The Chi-square test was used to explore the differences across stages of change for IUD use by socio-demographic characteristics, contraceptive knowledge and communication variables.

Initially, MANOVA was carried out to identify any differences for pros and cons for contraception in general and IUD between stages of change for IUD use. If a significant difference between stages was detected, then a one-way ANOVA and post-hoc Tukey tests were performed to identify which variables were different. Similarly, MANOVA, one-way ANOVA and post-hoc Tukey tests were conducted to identify the differences between stages of change for IUD use for self-efficacy for contraception in general and IUD use. To carry out these tests, raw scores for pros and cons and self-efficacy were converted to standardized score and then to T scores ( $M=50$ ;  $SD=10$ ) (Grimley et al. 1995; Galavotti et al. 1995).

Finally, the binary logistic regression was used to identify the predictors of the stage of change for IUD use at baseline study. Logistic regression is more flexible than other techniques. It has no assumption about the distribution of predictors. The predictors do not have to be normally distributed, linearly related, or of equal variance within each group. The predictors could be mix of continuous, discrete and dichotomous variables (Tabachnick and Fidell 1996). The goal of logistic regression was to find the best-fitting, most parsimonious yet reasonable (feasible) model to describe the relationship between a dependent outcome and a set of independent predictors (variables).

Logistic regressions were used to identify attributes of men's readiness to accept IUD use. Two logistic regression models were used to compare the outcome between two adjacent stages (precontemplation vs. contemplation/preparation and contemplation/preparation vs. action/maintenance stage). The dependent variable was the likelihood of being in one stage of change for IUD use. The odds of independent variable gave probability of being in one stage of change for IUD use compared to the adjacent stage.

The stage of change for IUD use in two adjacent stages is binary outcomes that generate the binominal distribution. The logistic model is appropriate to study these outcomes as it enables assessment of the probability of moving to the next stage of change for IUD use in the sequence, and it is based on the nonlinear function of the best linear combination of predictors, with two outcomes expressed as:

$$\hat{Y} = e^{\mu} / (1 + e^{\mu})$$

Where  $\hat{Y}$  is the estimated probability that the  $i$ th case ( $i = 1, \dots, n$ ) is in one of the categories and  $\mu$  is the usual linear regression equation. The log transformation of linear regression equation will create the log of the odds:

$$\text{Ln}[\hat{Y}/(1-\hat{Y})] = A + \sum B_j X_{ij}$$

So, the odd of (dependent variable)

$$\mu = A + B_1 X_1 + B_2 X_2 + \dots + B_k X_k$$

Where  $A$  is a constant,  $B_j$  as coefficients, and  $X_j$  are independent variables, and subscript  $k$  run from 1 to  $k$ . The odds refer to the probability of being in one stage of change for IUD use in this study by independent variables. As a measure of association, an odds ratio has some special features. First, it is easier to interpret. If the odds ratio is greater than one ( $OR > 1$ ), it indicates a higher chance of outcome occurring versus not occurring, or every unit change in the exploratory variable, other things being equal. An odds ratio of less than one ( $OR < 1$ ) indicates a lower chance of outcome occurring versus not occurring, or every unit change in the exploratory variable, other things being equal. Secondly, an odds ratio provides a measure of both magnitude and direction of the association. Thirdly, the odds ratio accompanied by confident interval will provide additional information about the precision of the estimated odds ratio and a statistical test of its significance (Liao 1994).

In preparing for logistic regression analysis, the following evaluations of the data were made:

The ratio of subjects to independent variables was assessed to ensure that the ratio was sufficiently high, using the formula  $N > 50 + 8m$  (where  $m$  = number of independent variables (Tabachnick and Fidell 1996).

Normality, linearity and independence of residuals were also assessed. For this assessment, univariate residual scatter plots were run. Residuals were also displayed against each independent variable. Plots were examined for linearity, normality and outliers and independence residuals. The assumptions are that residuals are normally distributed, that residuals have a linear relationship, and in an unbiased model, residuals randomly vary around their mean (zero) and around the mean of the independent variable.

Multicollinearity and singularity for the independent variables were assessed. These conditions occur if the independent variables are very highly correlated, i.e.,  $r = 0.9$  and above (multicollinearity), or perfectly correlated (singularity). This means that one independent variable is actually a combination of other independent variables. Bivariate correlations were run and the Pearson's correlation coefficients were assessed. The software SPSS 11 was used to check the collinearity in the regression analysis. No collinearity problems were identified for the independent variables.

## **5.6. Results**

This section is organised in three parts. The first part presents information on participants' socio-demographic characteristics, contraceptive knowledge, communication pattern on family planning, and social cognitive factors on contraception and IUD use. The second part presents the differences across stages of change for IUD use by related variables. The third part reports the results of logistic regression on predictors in each stage of men's readiness to accept IUD for contraception.

**5. 6.1. Participants’ characteristics**

Socio-demographic information included information on age, education, occupation, ethnicity, religion, number of children (sons and daughters), number of abortions, having a son, desired number of children, son preference, fertility intention and last birth wanted.

Table 5.2 shows the percentage distribution of the men’s socio-demographic characteristics. The mean age was 35.9. More than one-third (34.6 percent) were aged 35-39 years; over one-fifth (22.0 percent) were either aged 30-34 or 40-44 years; less than one-fifth (15.5 percent) were aged 25-29 years; and a small proportion (2.2 percent) were aged either 19-24 or 45-49 years.

Over half (60.5 percent) of men completed lower secondary education only; approximately one-fourth (25.7 percent) finished upper secondary education; few (7.5 percent) were primary educated only; and fewer (6.3 percent) reached higher education.

The majority (99.5 percent) of men were of Kinh ethnicity and had no religious affiliation. Only a few were Catholic (0.2 percent) or Buddhist (0.6 percent). Approximately two-thirds (61.8 percent) were farmers, less than one-fifth (17.1 percent) had government or private job, and a very small proportion (2.5 percent) had other jobs.



**Table 5. 2. Participants’ socio-demographic characteristics**

<b>Characteristics</b>	<b>Number of participants</b>	<b>Percent (%)</b>
<b>Age (years)</b>		
19-24	14	2.2
25-29	101	15.5
30-34	151	23.2
35-39	225	34.6
40-44	146	22.4
45-49	14	2.1
<b>Education (level)</b>		
Primary	49	7.5
Lower secondary	394	60.5
Upper secondary	167	25.7
Higher education	41	6.3
<b>Occupation</b>		
Government	106	16.3
Private	111	17.1
Agricultural	402	61.8
House work	15	2.3
Other	17	2.5
<b>Ethnicity</b>		
Kinh	648	99.5
Muong	1	0.2
Nung	1	0.2
Mixed	1	0.1
<b>Religions</b>		
No religion	645	99.1
Buddhism	4	0.6
Catholicism	1	0.2
Other	1	0.1
<b>Total</b>	<b>651</b>	<b>100.0</b>

Table 5.3 displays the participants' demographic information on number of children (sons and daughters). The mean number of children was low at 1.88, and number of children varied from 0 to 4. More than half of the men (51.3 percent) had two children, less than one-third (30.9 percent) had one child, and less than one-fifth (17.6 percent) had three and more children. The number of sons and daughters ranged from 0 to 4. About three-fourths of men (74.0 percent) had a son in their families; only one-fourth (26.0 percent) had no son in the family.

Most wives (74.2 percent) were reported by their husbands to have not had an abortion. One-fourth (25.8 percent) had from one to four abortions. Among those, a majority had one abortion (18.9 percent), a few (5.8 percent) had two abortions, and fewer had had three (0.9 percent) or four abortions (0.2 percent)

**Table 5. 3. Participants’ demographic characteristics**

<b>Characteristics</b>	<b>Number of participants</b>	<b>Percent (%)</b>
<b>Number of sons</b>		
None	169	26.0
One	334	51.3
Two	134	20.6
Three	13	2.0
Four	1	0.1
<b>Number of daughters</b>		
None	223	34.3
One	299	45.9
Two	108	16.6
Three	20	3.1
Four	1	0.1
<b>Total number of children</b>		
None	1	0.2
One	201	30.9
Two	334	51.3
Three	106	16.3
Four	9	1.3
<b>Having a son</b>		
No	169	26.0
Yes	482	74.0
<b>Abortion</b>		
None	483	74.2
One	123	18.9
Two	38	5.8
Three	6	0.9
Four	1	0.2
<b>Total</b>	<b>651</b>	<b>100.0</b>

Table 5.4 presents the men's fertility intention. The mean of desired children was 2.1 (SD =0.5). The minimum desired number of children was 1 and the maximum was 5. Two children were the most frequent number of children that men desired (84.6 percent), followed by three children (8.4 percent). Few men wanted to have only one child (4.9 percent), and fewer wanted to have four or five children (about 1 percent). None wanted to be childless.

Mean of desired sons was 1.1 (SD = 0.38), and the number of desired sons ranged from 0 to 3. On comparison, the number of desired daughters varied from 0 to 2 only, with mean was 1.01(SD = 0.3). A majority of men desired to have one son (88.6 percent) or one daughter (90.8 percent). Few of them desired to have two sons (7.7 percent) or two daughters (4.9 percent) and fewer wanted to have three sons (1.2 percent).

More than two-thirds of men did not want to have any more children (70.8 percent). Approximately one-fourth expressed the desire to have children either in the next two years (6.6 percent) or later than two years (19.0 percent); a small proportion was uncertain of time (2.3 percent).

With regards to last birth intention, over two-thirds of men (73.1 percent) reported the last birth was wanted. About one-tenth (11.1 percent) stated last birth occurred at an undesired time, and 15.8 percent indicated it was unwanted. Thus, a total of 26.9 percent of men expressed their unmet need for contraception for the family's most recent birth.

**Table 5. 4. Participants' fertility intention**

<b>Characteristics</b>	<b>Number of participants</b>	<b>Percent (%)</b>
Number of desired children		
One child	32	4.9
Two children	551	84.6
Three children	55	8.4
Four children	8	1.2
Five children	5	0.9
Number of desired sons		
None	16	2.5
One	577	88.6
Two	50	7.7
Three	8	1.2
Number of desired daughters		
None	28	4.3
One	591	90.8
Two	32	4.9
Fertility intention		
Wanted no more	461	70.8
Wanted within two years	43	6.6
Wanted later	124	19.0
Not sure about time	15	2.3
Do not know	8	1.3
Last birth intention		
Wanted then	476	73.1
Missed time	72	11.1
Unwanted	103	15.8
Total	651	100.0

5. 6. 2. Participants’ contraceptive knowledge

*Knowledge of safe period for non-conception*

Table 5.5 presents the men’s knowledge on the safe period for non-conception. Less than half (304 men) responded to this question. Among those, approximately two-thirds (68.1 and 63.5 percent) correctly identified the safe period as the few days before and the few days after the menstrual period, respectively. A small proportion thought it was between menstrual periods (4.6 percent) or during the menstrual period (0.7 percent). Thus, men’s knowledge on the safe period for non-conception was relatively low.

**Table 5. 5. Percentage distribution of knowledge on infertile period**

Infertile period (N=304)	Percent
Few days before menstrual period	68.1
During menstrual period	0.7
Few days after menstrual period	63.5
Between menstrual period	4.6

*Knowledge of contraceptive methods*

Table 5.6 illustrates men’s knowledge of contraceptive methods. The survey collected information on both spontaneous and prompted recall of contraceptive methods. Interviewers asked participants which method they had ever heard of. Then they prompted for further recall by describing each of the methods not mentioned spontaneously by the participants and asked if they had ever heard of that method. A participant was classified as knowing a method whether he recalled it on his own or after prompting.

Almost all men (99.4 percent) knew at least one contraceptive method either by spontaneous or prompted recall. The proportion of men who spontaneously recalled modern methods was higher than those able to recall traditional methods (94.0 vs. 38.4 percent). The IUD was spontaneously recalled by a majority of men (84.3 percent), the next was condoms (72.9 percent), and then the pill (44.3 percent). Very few men spontaneously recalled permanent methods like vasectomy and tubal

ligation (9.0 and 8.9 percent, respectively). Only 1.0 percent of men spontaneously recalled injectable methods. For traditional methods, less than quarter of the men had heard about either abstinence (23.0 percent) or withdrawal (23.7 percent).

**Table 5. 6. Percentage distribution of contraceptive knowledge**

Methods (N=651)	Spontaneous (%)	Prompted (%)	Total knowledge (%)
<b>Any method</b>	<b>96.8</b>	<b>83.9</b>	<b>99.4</b>
<b>Modern methods</b>	<b>94.0</b>	<b>68.4</b>	<b>99.2</b>
Pills	44.3	37.9	74.4
Condoms	72.9	27.1	93.5
IUD	84.3	17.6	96.3
Vasectomy	9.0	39.7	42.1
Tubal ligation	8.9	40.3	42.4
Injectable	1.0	0.9	1.7
<b>Traditional methods</b>	<b>38.4</b>	<b>40.7</b>	<b>78.1</b>
Periodic abstinence	23.0	19.2	38.4
Withdrawal	23.7	37.7	54.4
Other	0.3	0.4	0.6

Table 5.7 shows the percentage distribution of knowledge of information sources for contraceptive methods. A majority of men (N=625) answered the question on sources of information. The television was the most frequent source reported (92.6 percent), followed by the radio (81.1 percent). Newspapers and health workers accounted for around half (55.2 and 52.2-percent), wives accounted for less than half (48.8 percent). Friends and relatives were the least frequent source (21.9 percent).

**Table 5. 7. Percentage distribution of knowledge on information sources**

Sources of information (N=625)	Percent (%)
Radio	81.1
Television	92.6
Newspapers	55.2
Billboard	24.3
Health workers	52.2
Family planning collaborators	36.6
Friends/relatives	21.9
Women's Union	25.8
Wife	48.8
Other	.3

Table 5.8 presents information on needs for further information on contraceptive methods. Less than half of the men (N=299) wanted further information on contraceptive methods. Among those, information on side effects of contraceptive methods was the most frequent need (71.2 percent), followed by the need for information about the indication for specific methods (58.9 percent) and their effectiveness (55.9 percent). Need for instructions on how to use specific methods was less required (36.1 percent).

**Table 5. 8. Percentage distribution of needs for further information**

Needs for further information (N=299)	Percent (%)
Side effects	71.2
Effectiveness	55.9
Indication	58.9
Instruction	36.1
No need	0.7



5.6.3. Communication on family planning issues

This part explores communication patterns on family planning issues. The questions were designed to investigate the communication pattern (1) with wives and (2) with other people (e.g., friends, family planning collaborators, Women's Union members, people's commune committee and relatives) in the year preceding the survey.

Table 5. 9. Couple's communication on family planning issues

Communication pattern	Number of participants	Percent (%)
With wives on use of FP methods		
No	196	30.1
1-3 times	87	13.4
> 3 times	368	56.5
With wives on number of children		
No	408	62.7
1-3 times	72	11.1
> 3 times	171	26.2
With wives on abortion issues		
No	562	86.3
1-3 times	40	6.1
> 3 times	49	7.6
With wives on sexual relationship issues		
No	397	61.0
1-3 times	105	16.1
> 3 times	149	22.9
With wives on spacing issues		
No	473	72.7
1-3 times	62	9.5
> 3 times	116	17.8
Total	651	100.0

The frequency of couple communication is presented in Table 5.9. The pattern of couple’s communication was not similar for all family planning issues. Couples had frequent communication on some issues such as use of contraceptive methods (69.9 percent), sexual relationship (39.0 percent) and number of children (37.3 percent). Other issues like abortion and spacing were less discussed between spouses (less than 25 percent).

**Table 5. 10. Men’s communication with others on family planning**

Communication pattern	Number	Percent (%)
With friends		
No	431	66.2
1-3 times	86	13.2
> 3 times	134	20.6
With family planning collaborators		
No	587	90.2
1-3 times	38	5.8
> 3 times	26	4.0
With Women’s Union members		
No	604	92.8
1-3 times	26	4.0
> 3 times	21	3.2
With people’s commune committee.		
No	632	97.1
1-3 times	8	1.2
> 3 times	11	1.7
With relatives		
No	509	78.2
1-3 times	71	10.9
> 3 times	71	10.9
Total	651	100.0

Table 5.10 shows the frequency of men’s communication with others on family planning. More than two-thirds of men did not communicate with other people on

family planning issues. The majority of them (90 percent) did not communicate with family planning collaborators, Women’s Union members, and the people’s commune committee. A small proportion of men (less than 5 percent) communicated with these groups either from 1 - 3 times or more than 3 times.

Participants had more frequent communication on family planning issues with friends than relatives (33.8 vs. 21.8 percent). Approximately one-fifth (20.6 percent) communicated more than 3 times and one-tenth (13.2 percent) communicated 1- 3 times in the previous year with friends. In comparison, about one-tenth (10.9 percent) communicated 1-3 times and more than 3 times in the previous year with relatives.

### 5.6. 4. Social cognitive factors

Table 5.11 presents scores of social cognitive factors on decisional balance and self-efficacy by means and standard deviation (SD). Generally, participants understood the benefits of contraception and IUD use. The pros for contraception in general consisted of 4 items, and scores varied from 8 to 20 with a mean of 17.0 (SD=1.7), and the pros for IUD use consisted of 3 items with score’s ranging from 6 to 15 and mean of 12.2 (SD=1.4).

**Table 5. 11. Percentage distribution of social cognitive scales**

Social cognitive scales	Means	Standard Deviation
Pros for contraception in general	17.0	1.7
Cons for contraception in general	6.4	1.2
Pros for IUD	12.2	1.4
Cons for IUD	11.9	3.8
Self-efficacy for contraception in general	19.4	2.6
Self-efficacy for convincing wives to have IUD inserted/or continue IUD use	15.0	2.9

Not many participants expressed concerns for contraception. Cons for contraception in general scored low. The scale consisted of 3 items and scores varied from 3 to 13 with mean of 6.4 (SD=1.2). In contrast, the cons for the IUD held more concerns for many participants. The scale consisted of 4 items and scores varied from 4 to 20 with mean of 11.9 (SD=3.8).

Men expressed high self-confidence (self-efficacy) for contraception in general as well as for the IUD use. The self-efficacy for contraception in general consisted of 5 items, and the scores varied from 5 to 25 with mean of 19.4 (SD=2.6). The self-efficacy for the IUD consisted of 4 items and scores varied from 8 to 20 with mean of 15.0 (SD=2.9).

**5.6. 5. Practice of contraceptive methods**

Table 5.12 presents the level of current use and ever-use of contraceptive methods. A majority of men (96.9 percent) reported current use of at least one contraceptive method; only 3.1 percent had not used any method. The IUD was the main method, which accounted for 62.1 percent and the next was withdrawal (27.9 percent). It can be seen that the use of traditional methods was relatively high (43.2 percent).

**Table 5. 12. Percentage distribution of contraceptive use**

Contraceptive methods (N=651)	Current use
Use of contraceptive methods	96.9
Pill	0.2
Condoms	4.6
IUD	62.1
Abstinence	15.3
Withdrawal	27.9
Did not use any contraceptive methods	3.1

Those who were not using any contraceptive methods were asked about the reasons for not practicing and the results are presented in Table 5.13. The major reason was

irregularity of sexual intercourse (26.3 percent) and fear of side effects (21.1 percent). Financial cost and nonavailability were insignificant (about 5 percent)

**Table 5. 13. Percentage distribution of reasons for not using contraception**

Reasons for not using contraception (N=19)	Percent (%)
Difficult to get pregnant	15.8
Too old	10.5
Too much trouble	5.3
Fear of side effects	21.1
Too expensive	5.3
Irregularity of sexual intercourse	26.3
Nonavailability of method	5.3
Other	36.8

Using the staging algorithm, the men were classified into 5 different stages of readiness to accept the IUD for contraception. Their distribution presented in Table 5.12, shows that men tended to cluster into two groups: precontemplation (29.5 percent) and maintenance (56.4 percent). In contrast, a relatively small number were classified as being in contemplation (6.1 percent), preparation (4.5 percent) or action (3.5 percent).

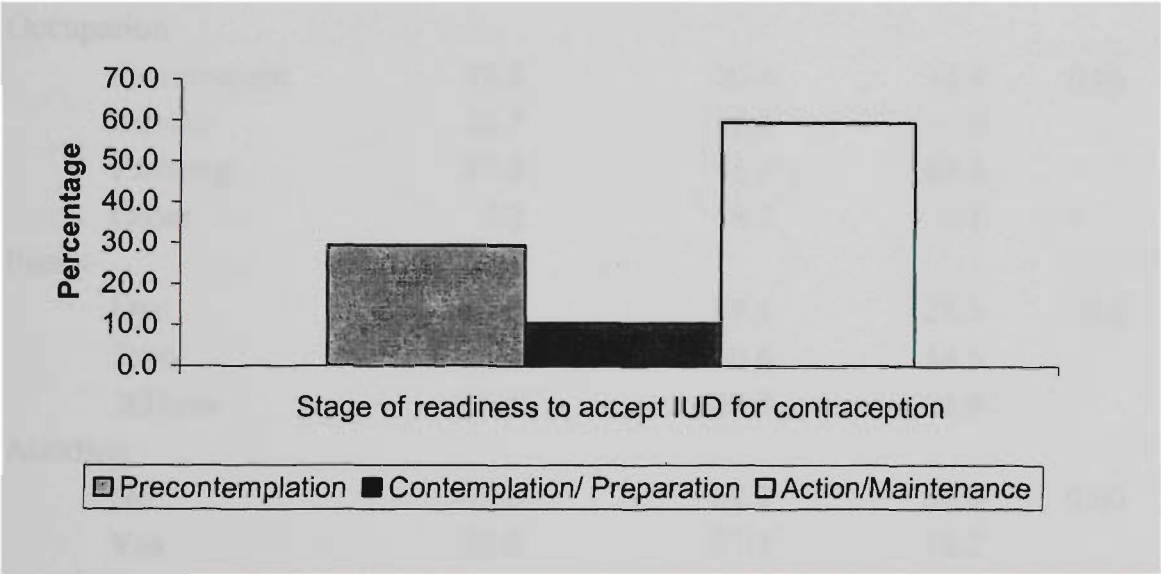
**Table 5. 14. Percentage distribution of men’s stage of change for IUD use**

Stages of change for IUD	Number (N)	Percent (%)
Precontemplation	192	29.5
Contemplation	40	6.1
Preparation	29	4.5
Action	23	3.5
Maintenance	367	56.4
Total	651	100.0

Given the low numbers in some groups, and as a strategy for simplifying the statistical analysis and increasing sample sizes, the five stages of behaviour change for IUD use were reduced to three, by combining men in the contemplation and

preparation stages into a single ‘contemplation/preparation’ group, and those in action and maintenance stages into a single ‘action/maintenance’ group. These three stages corresponded to two important comparisons, or transitions. The first transition compared men who lacked the intention to use the IUD (those in the precontemplation stage) with those at various stages of intending and attempting to achieve behaviour change. The second transition compared men in the contemplation/preparation stage to those who had achieved behaviour change. Over one-fourth of men (29.5 percent) were in the precontemplation stage, one-tenth (10.6 percent) of men were in the contemplation/preparation stage, and slightly less than two-thirds (59.9 percent) were in the action/maintenance stage.

**Figure 3. Stages of men's readiness to accept IUD for contraception**



**5.6.6. Factors associated with men's readiness to accept IUD**

All variables (socio-demographic factors, knowledge, communication and social cognitive factors) were examined in relation to the stages of men's readiness to accept IUD for contraception.

Examining the socio-demographic factors by stage of change for IUD use, there were statistically significant relationships between stages of change for IUD use and having a son and a wife with a history of abortion ( $P<0.05$ ) (Table 5.15).

**Table 5. 15. Relationships between socio-demographic factors and stages of change for IUD use**

Characteristics	Stage of change for IUD use (%)			P value
	Pre contemplation	Contemplation/ Preparation	Action/ Maintenance	
Age groups				
20-24	1.0	4.4	2.3	0.2
25-29	13.0	20.3	15.9	
30-34	19.8	23.2	24.9	
35-39	34.9	36.2	34.1	
40-44	28.7	13.0	21.0	
45-49	2.6	2.9	1.8	
Education				
Primary	6.8	4.3	8.5	0.1
Lower secondary	58.3	50.7	63.3	
Upper secondary	28.6	36.2	22.3	
Higher	6.3	8.8	5.9	
Occupation				
Government	18.8	20.3	14.4	0.06
Private	16.7	18.8	16.9	
Farming	57.3	52.2	65.6	
Other	7.2	8.7	3.1	
Parity				
One	33.3	39.1	28.5	0.2
Two	48.4	40.6	54.6	
≥Three	18.3	20.3	16.9	
Abortion				
No	63.0	62.3	81.8	0.00
Yes	37.0	37.7	18.2	
Having a son				
No	28.6	40.6	22.1	0.03
Yes	71.4	59.4	77.9	
Last birth wanted				
No	24.0	21.7	29.2	0.2
Yes	76.0	78.3	70.8	
Desired children				
No	69.3	65.2	72.6	0.3
Yes	30.7	34.8	27.4	
Number of men	192	69	390	

The proportion of men in the action/maintenance stage whose wives had not undergone abortion was significantly higher than those in the lower stages (81.8 vs.

62.3 and 63.0 percent;  $P<0.05$ ). In contrast, the proportion of men in the action/maintenance stage who had a son in the family was significantly higher than those in the contemplation/preparation and the precontemplation stage (77.9 vs. 59.4 and 71.4 percent;  $P<0.05$ ).

Examining the knowledge and communication by stage of change for IUD use, there were statistically significant differences between stage of change and spontaneous recall of modern method, of traditional methods and communication with wives ( $P<0.05$ ) (Table 5.16).

**Table 5. 16. Relationships between knowledge, communication and stages of change for IUD use**

Characteristics	Stage of change for IUD use (%)			P value
	Pre contemplation	Contemplation/ Preparation	Action/ Maintenance	
Recall of modern method	87.5	95.7	96.9	0.00
Recall of traditional method	64.6	52.2	23.1	0.00
Communication with others				
Low	97.4	98.6	94.6	
High	2.6	1.4	5.4	0.1
Communication with wives				
Low	72.9	65.2	82.6	
High	27.1	34.8	17.4	0.00
Number of men	192	69	390	

The proportion of men in the action/maintenance stage who spontaneously recalled modern contraceptive methods was significantly higher than those in the other stages (96.9 vs. 95.7 and 87.5 percent). The reverse pattern was reported for recall of traditional methods (23.1 vs. 52.2 and 64.6 percent). The proportion of men in the action/maintenance stage who had low communication with wives was



significantly higher than those in the other stages (82.6 vs. 65.2 and 72.9 percent, respectively).

MANOVA was performed to investigate the differences in decisional balance by stages of change. Assumption was tested to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. No serious violation was detected. There were statistically significant differences between stages of change for IUD use on the combined dependent variables (pros and cons for IUD use) ( $F(1,650)=11.364$ ;  $P<0.05$ ). The one-way ANOVA and Tukey post-hoc test were used to examine these factors by stage of change for IUD use (Table 5.17). The pros for IUD use increased from precontemplation to action/maintenance stage and the reverse trend was reported for cons for IUD use. The crossover occurred in the contemplation/preparation stage. Men in the action/maintenance stage reported significantly higher pros for IUD use than those in the precontemplation stage (51.4 vs. 47.3;  $F(2, 650)= 11.043$ ;  $P<0.05$ ). In contrast, men in the action/maintenance stage scored significantly lower cons for IUD use than those in the two other stages (47.6 vs. 52.3 and 54.0;  $F(2, 650)= 31.636$ ;  $P<0.05$ ).

**Table 5. 17. Relationship between decisional balance, self-efficacy and stages of change for IUD use**

TTM constructs	Stage of change for IUD use			F ratio	P value
	Pre contemplation (N=192)	Contemplation/ Preparation (N=69)	Action/ Maintenance (N=390)		
	Mean (SD)	Mean (SD)	Mean (SD)		
Pros for contraception	49.6 (9.0)	51.3 (11.2)	50.0 (10.3)	0.753	0.47
Cons for contraception	49.3 (9.0)	49.6 (9.2)	50.4 (10.6)	0.873	0.42
Pros for IUD	47.3 (11.0)	49.9 (9.5)	51.4 (9.3)	11.043	0.00
Cons for IUD	54.0 (9.2)	52.3 (9.9)	47.6 (9.7)	31.636	0.00
Self-efficacy for contraception	52.7 (9.4)	50.3 (10.3)	48.6 (10.0)	10.747	0.00
Self-efficacy for IUD	42.8 (13.0)	50.1 (7.9)	53.5 (5.8)	95.487	0.00

MANOVA was performed to investigate the differences in self-efficacy across the stages of change. No serious violation was detected for assumption of normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. There were statistically significant differences between stages of change for IUD use on the combined dependent variables (self-efficacy for contraception in general and for IUD use) ( $F(1, 650)=48.696$ ;  $P<0.05$ ). Self-efficacy for contraception in general decreased from precontemplation to action/maintenance stage, while the reverse result was reported for self-efficacy for IUD use. Results of one-way ANOVA and post-hoc Tukey test showed that men in the action/maintenance stage reported significantly lower self-efficacy for contraception in general (48.6 vs.52.7;  $F(2, 650)= 10.747$ ;  $P<0.05$ ) than those in the precontemplation stage. However, they scored significantly higher self-efficacy for IUD use than those in the other two stages (53.5 vs. 50.1 and 42.8;  $F(2, 650)=95.487$ ;  $P<0.05$ ) (Table 5.17).

### **5.6.7. Predictors of stages of men's readiness to accept IUD for contraception**

To assess which factors might facilitate successful progress from one stage to a higher stage, it may be appropriate to look at one stage versus the stage above. This part explores the relationship between attributes of people in each stage with those of people in the higher stages. Two different sets of multivariate analyses for people in different stages were examined:

- relationship between people in the precontemplation stage and the contemplation/preparation stage, and
- relationship between people in the contemplation/preparation stage and those in the action/maintenance stage.

In each analysis, the dependent variable was coded to represent being in a higher stage for IUD use, allowing for easy determination of factors that may be useful in designing interventions to facilitate men's movement from a lower to a higher stage. For each independent variable in the multivariable model, the logistic regression analysis assessed the odds of being in one stage, such as contemplation/preparation, compared to being in the precontemplation stage.

After controlling for age, occupation and education, the model estimation included only factors that were found significantly associated with stage of change for IUD use in the bivariate analysis. These factors included history of having abortion, having a son in the family, spontaneous recall of modern and traditional contraceptive methods, communication with wives and others on family planning issues, pros and cons for IUD use, self-efficacy for contraception in general and IUD use. No high correlation ( $R > 0.09$ ) was found among these variables.

A modified backward elimination variable reduction strategy was used to remove any of the additional variables if these variables failed to maintain significance in the final multivariate models. These final models were obtained in the following way. First, a series of logistic regression with analyses (precontemplation vs. contemplation/preparation, and contemplation/preparation vs. action/maintenance), using a selection of all significant variables from the bivariate analysis listed above,

were conducted. Next, variables that failed to show significance in any of these logistic models were removed, and the process was repeated using a more conservative p value (Stark et al. 1998). The significance across the model used a liberal p value of 0.2, 0.1, and finally 0.05.

The results shown in Table 5.18 presents the predictors of the likelihood of being in the contemplation/preparation stage compared to those in the precontemplation stage of change for IUD use after controlling for ages, occupation and education. Table 5.18 is a compilation of significant ( $P=0.10$ ) predictors identified at each stage of the model fitting process. Two models were presented: a full and a reduced model.

The full model containing nine variables provided a significant fit to the data ( $P=0.004$ ). The significant independent variables were (a) recall of traditional contraceptive method, and (b) self-efficacy for IUD use.

The full model indicated that six variables, namely having a son, history of abortion, spontaneous recall of traditional methods, communication with wives, pros and cons and self-efficacy for IUD use were all positively associated with stage of change for IUD use. There was an inverse association between stages of change for IUD use and spontaneous recall of modern methods and self-efficacy for contraception in general.

In a reduced model, predictors of being in the contemplation/preparation stage were modeled against variables from the full model statistically associated ( $P \leq 0.2$ ) with the dependent variables. The reduced model was almost as good a fit to the data as the full model but was, by definition, more parsimonious (Chi-square =36.043,  $df=14$ ,  $P=0.001$ ). Both significant variables in the full model retained their significance in the reduced model e.g., self-efficacy for IUD use and spontaneous recall of traditional methods.

Men in the contemplation/preparation stage were 1.8 times more likely not to recall traditional methods than those in the precontemplation stage ( $OR=1.8$ ; 95% confidence interval 1.0 to 3.4;  $P=0.06$ ), other things being equal.

Men in the contemplation/preparation stage were 5.2 times more likely to report high self-efficacy for IUD than those in the precontemplation stage (OR=5.2; 95% confidence interval 2.3 to 11.7;  $P=0.00$ ), other things being equal.

Table 5.18. Logistic regression for likelihood of being at the Contemplation/Preparation as opposed to the Precontemplation stage of men's readiness to accept IUD for contraception

Variables	Full model			Reduced model		
	Odd ratio	95% confidence interval	P value	Odd ratio	95% confidence interval	P value
Had no son	1.7	0.9-3.2	0.13	1.5	0.8-2.9	0.2
Had abortion	1.4	0.7-2.7	0.35			
No spontaneous recall of modern method	0.5	0.1-1.8	0.27			
No spontaneous recall of traditional method	1.7	0.9-3.3	0.09	1.8	1.0-3.4	0.06
Low communication with wives	1.3	0.6-2.6	0.49			
High pros for IUD	3.7	0.4-34.3	0.25			
Low cons for IUD	1.1	0.6-2.1	0.78			
High self-efficacy for contraception	0.9	0.3-3.1	0.88			
High self-efficacy for IUD	5.1	2.2-11.7	0.00	5.2	2.3-11.7	0.00
N	261			261		
X <sup>2</sup>	41.151			36.043		
df	20			14		
P value	0.004			0.001		
Log likelihood	260.342			265.451		

The results shown in the Table 5.19 presents the predictors of the likelihood of being in the action/maintenance stage compared to those in the contemplation/preparation stage of change for IUD use. Table 5.19 is a compilation of significant ( $P=0.10$ ) predictors identified at each stage of the model fitting process. Two models were presented: full and reduced model.

The full model containing nine variables provided a significant fit to the data ( $P<0.001$ ) after controlling for age, education and occupation. There were six significant independent variables, e.g., having a son, a wife with an abortion history, spontaneous recall of traditional methods, communication with wife on family planning issues, cons for IUD use and self-efficacy for IUD use.

The model estimation indicates recall of traditional methods, communication with wife on family planning issues, pros and cons and self-efficacy for IUD use were all positively associated with stage of change for IUD use. There was an inverse association between stages of change for IUD use and having a son, wife with abortion history, recall of modern methods and self-efficacy for contraception in general

In a reduced model, predictors of being in a higher stage of change for IUD use were modelled against variables from the full model statistically associated ( $P \leq 0.2$ ) with the dependent variables. The reduced model was almost as good a fit to the data as the full model but was, by definition, more parsimonious (Chi-Square = 70.688,  $df=17$ ,  $P<0.05$ ). All significant variables in the full model retained their significance in the reduced model e.g., having a son, having wife with abortion history, spontaneous recall of traditional methods, communication with wife on family planning issues, and cons and self-efficacy for IUD use.

Men in the action/maintenance stage were 0.5 times less likely to have no son in the family than those in a lower stage (OR=0.5; 95% confidence interval 0.3 to 0.9;  $P=0.02$ ). In other words, people who had a son were almost 2 times more likely to accept IUD use than those without a son.

Men in the action/maintenance stage were 0.7 times less likely to have wives who had undergone abortion (OR=0.3; 95% confidence interval 0.2 to 0.6; P=0.00). In other words, men in the action/maintenance stage were almost 3 times more likely to have wives who had not undergone abortion.

Men in the action/maintenance stage were 3.8 times more likely to not recall traditional contraceptive methods than those in the contemplation/preparation stage (OR=3.8; 95% confidence interval 2.0 to 6.9; P=0.00). Those people who were currently using IUDs were less likely to recall traditional methods than those in the lower stages.

Those in the action/maintenance stage were 1.8 times more likely to have low communication with wives on family planning matters than those in a lower stage (OR=1.8; 95% confidence interval 0.9 to 3.5; P=0.09). Thus, people who were currently accepted IUD were less likely to have discussed these issues with their wives in the year preceding the survey than those currently not accepted.

Men in the action/maintenance stage were 2.0 times more likely to have low cons for IUD use than those in the lower stage (OR=2.0; 95% confidence interval 1.1 to 3.7; P=0.02), and those in the action/maintenance stage were 3.7 times more likely to report a high self-efficacy for IUD use than those in the lower stage (OR=3.7; 95% confidence interval 1.3 to 10.6; P=0.02).



Table 5.19. Logistic regression for likelihood of being at the Action/Maintenance stage as opposed to the Contemplation/Preparation stage of men’s readiness to accept IUD for contraception

Variables	Full model			Reduced model		
	Odd ratio	95% confidence interval	P value	Odd ratio	95% confidence interval	P value
Had no son	0.5	0.3-0.9	0.02	0.5	0.3-0.9	0.02
Had abortion	0.3	0.2-0.6	0.00	0.3	0.2-0.6	0.00
No spontaneous recall of modern method	0.8	0.2-3.7	0.78			
No spontaneous recall of traditional method	3.8	2.1-7.0	0.00	3.8	2.0-6.9	0.00
Low communication with wives	1.8	0.9-3.5	0.09	1.8	0.9-3.5	0.09
High pros for IUD	2.3	0.1-37.5	0.55			
Low cons for IUD	2.0	1.1-3.7	0.03	2.0	1.1-3.7	0.03
High self-efficacy for contraception	0.9	0.3-2.5	0.84			
High self-efficacy for IUD	3.5	1.2-10.1	0.02	3.7	1.3-10.6	0.02
N	459			459		
X <sup>2</sup>	71.235			70.688		
df	20			17		
P value	0.000			0.000		
Log likelihood	317.331			317.879		

## 5.7. Summary of findings

A total of 651 married men participated in the study, and the men's readiness to accept IUD use was examined by different factors: socio-demographic characteristics, knowledge, communication and cognitive variables. The staging algorithm was adopted from other studies (Grimley and Lee 1997) and it was validated in the pilot study (Ha et al. in press). The TTM constructs were reliable and valid for the application of TTM in investigating men's readiness to accept the IUD for contraception in the two rural communes, Vietnam (Ha et al. in press).

Less than two-thirds of participants were in the action/maintenance stage of readiness to accept the IUD; these participants had accepted the IUD for contraception for six months or longer. Less than one-third was in the precontemplation stage, and a small proportion was in the middle stage (contemplation/preparation). About two-fifths of men practiced the traditional methods and about two-fifths of them spontaneously recalled these methods. When questioned "can you name the FP methods you know?" many did not know a name (such as withdrawal of rhythm) for traditional methods even though they used the methods. This would have been because they learned how to carry out "family planning" from others in the community and may not have considered it as a method without knowing the exact of the method.

In the bivariate analysis, the significant differences between three stages of men's readiness to accept IUD were revealed for socio-demographic variables (having a son and wife with abortion history); contraceptive knowledge (spontaneous recall of modern and traditional contraceptive methods); communication with wives on family planning issues; and social cognitive factors (pros and cons for IUD use and self-efficacy for contraception in general and IUD use).

Two logistic regression models were computed. The first model compared men in the precontemplation stage with those in the contemplation/preparation stage; the second model compared men in the action/maintenance stage with those in the contemplation/preparation stage. In the logistic estimations, six variables were found as significant predictors for stage of men's readiness to accept IUD use. The

variables included socio-demographic characteristics (having a son and wife with abortion history); contraceptive knowledge (spontaneous recall of traditional methods); communication on family planning (couple communication); and social cognitive factors (cons and self-efficacy for IUD use).

Compared to men in the precontemplation stage, men in the contemplation/preparation stage were about 5 times more likely to report high self-efficacy for IUD use. Those men were more likely to report higher confidence in their ability to convince their wives to use IUDs than those in the precontemplation stage. Compared to men in the contemplation/preparation, men in the action/maintenance also were about 2 times more likely to report low cons for IUD use and 3 times were more likely to report high self-efficacy for IUD use.

In both logistic regression models, self-efficacy for IUD use was the most important predictor for men's readiness to accept the IUD ( $P < 0.05$ ). In the second model, the finding may be explained by the fact that men whose wives were already using IUDs (action/maintenance stage) had more experience and therefore, more confidence in convincing wives to use (and maintain use of) IUDs than did those who had not (contemplation/preparation stage).

The findings also show that decisional balance for IUD use followed the expected pattern for pros and cons in TTM studies. Pros for IUD use increased from the precontemplation to action/maintenance stage, and the reverse pattern was reported for cons for IUD use. The crossover was observed at the preparation stage. In contrast, the pros and cons for contraception in general did not significantly increase or decrease by stage of readiness for IUD use. Moreover, self-efficacy for contraception in general decreased from the precontemplation to action/maintenance stage. Thus, this confirms the finding from the pilot study that specific measures for IUD use were more sensitive in measuring men's readiness to accept the IUD.

Men in the action/maintenance stage were almost 3 times more likely to have wives who had not undergone abortion. In other words, abortion has an inverse relationship with IUD adoption. Men who accepted the IUD for contraception were less likely to have wives who had undergone abortion than those who had not.

In the study, men in the action/maintenance stage were almost 2 times more likely to have a son in the family. After fulfilling their desire for a son, men were more likely to accept IUDs for contraception.

Men in the action/maintenance stage were more likely not to recall traditional method. They were currently using IUDs, therefore, they did not need to use traditional methods and less likely to recall these methods. In comparison, those in the precontemplation stage were more likely to recall traditional methods than those in the contemplation/preparation stage. The findings suggest that those in the precontemplation stage were more likely to use traditional methods than those thinking about IUD use.

Men in the action/maintenance stage were more likely to have low communication with wives on family planning issues than those in a lower stage. IUD use does not require much ongoing effort; IUD users may not need to discuss contraceptive issues to the degree that users of condoms or the pill might need to. In contrast, those thinking about adopting the IUD method may need more extensive discussion; high communication was observed among those in the contemplation/preparation stage.

A worthwhile intervention implied by the present findings might involve devoting resources to men not considering IUD use (the precontemplation group, 29.5 percent of the study's sample), that is, to those least convinced of the need for IUD contraception. Those in the precontemplation stage were found to report less confidence in their ability to use IUDs and were more likely to use traditional methods. It might be beneficial to improve their self-efficacy for IUD use and to provide them with information on the low effectiveness of traditional methods.

Another implication of the findings is the value of providing men at the contemplation/preparation stage with information about IUD use. This group was small but not an insignificant percentage of the study's sample (10.6 percent). Men in this group reported much higher cons for IUD and lower self-efficacy than those

at the action/maintenance stage. Therefore, the strategy would be to increase self-efficacy and reduce perceived costs of IUD use.

The cross-sectional study was carried out with the aim of finding the modifiable factors of stages of men's readiness to accept IUD use. The study shows the identified predictors helpful for developing strategies for a stage-targeted intervention promoting men's readiness to accept IUDs for contraception.

## **CHAPTER 6: TRIAL OF INTERVENTION TO PROMOTE MEN'S READINESS TO ACCEPT IUD FOR CONTRACEPTION**

### **6.1. Introduction**

Chapter 4 describes how the measures for men's readiness to accept IUD for contraception was developed and validated for rural Vietnam. Chapter 5 presents the findings of the baseline survey on modifiable factors related to men's readiness at each stage to accept IUD use. This chapter describes the development of a stage-targeted intervention to promote men's motivational readiness to accept the IUD for contraception. The intervention was carried out using a quasi-experimental design in An Hong and Quoc Tuan communes. A posttest cross-sectional survey was planned to be conducted after six months of follow-up to measure the impact of the intervention.

### **6.2. Development of the stage-targeted intervention program**

The results from the baseline survey (Chapter 5) identified a number of factors related to stage of men's readiness to accept contraception. The identified factors belonged to different categories. Among them were social cognitive factors such as self-efficacy and cons for IUD use, contraceptive knowledge (spontaneous recall of traditional methods), having a son and couple communication. None of the socio-demographic factors were predictors except for a wife with a history of abortion and having a son.

The baseline study also revealed that different factors were important at each stage of change in keeping with the theory of TTM. Men in the precontemplation stage reported low self-efficacy for IUD use and were more likely to use traditional methods than those in the contemplation/preparation stage. Those in the contemplation/preparation stage reported lower self-efficacy and higher cons for IUD use than those in the action/maintenance stage. Men, who had accepted the IUD for contraception were more likely to have a son, and less likely to have a wife who had undergone abortion.

The theory (TTM) states that stage-targeted interventions are needed to modify factors. The intervention, in the form of relevant information promoting IUD use, should reduce misconception about cons; increase self-efficacy; discourage the preference for sons; emphasize risk of abortion; increase contraceptive knowledge; and encourage the couple to communicate about family planning.

The three stages of change identified for this particular study (Chapter 5) were 'precontemplation' (non-acceptance of the IUD and with no intention to change in the next six months); 'contemplation/preparation' (intention to change in the next 30 days to 6 months); and 'action/maintenance' (acceptance of the the IUD for contraception and having and IUD for six months or longer).

The stage-targeted intervention was designed to assist the movement of men through the stages of change for IUD use, that is, from the precontemplation stage to the contemplation/preparation stage and into the action/maintenance stage. The intervention program was developed based on concepts of TTM (Weinstein 1998; Velicer et al. 2000) using predictors of stages of men's motivational readiness to accept the IUD for contraception.

TTM intervention studies have shown the use of stage-targeted letters and counselling produced changes in different public health programs (Velicer et al. 2000; Petrocelli 2002). For example, stage-targeted letters were found useful in achieving higher scores on knowledge and behaviour associated with food choices among adults who received the intervention (Davis et al. 2000); and counselling was successful in promoting physical activity among sedentary patients in a health care setting (King et al. 1998).

The intervention program was designed to employ two devices: stage-targeted letters and interpersonal counselling. The interpersonal counselling was included to ensure follow-up contact with participants and to ensure that all questions or concerns that arose during the intervention process were responded to.

TTM states that people in the precontemplation stage lack basic information of behaviour change, a lack that should be addressed (Weinstein 1998). In comparison,

people in the contemplation/preparation stage have beliefs that minimize their perceived risk of changing behaviour and have fears based on beliefs and experiences. The recommendation is to obtain information on personal risk assessment and to provide an opportunity to reduce their fears. In contrast, people in the action/maintenance stage need to have messages of reinforcement to maintain the behaviour. These principles were used in this study's stage-targeted intervention for promoting men's readiness to accept IUDs.

To move people from the precontemplation to the contemplation/preparation stage, the main concepts for the message were:

1. to give basic information on the IUD method (effectiveness, convenience, costs, availability and accessibility in local area);
2. to emphasize the low effectiveness of traditional methods;
3. to address susceptibility of those who use traditional methods to falling pregnant then needing an abortion (risk of a bad outcome);
4. to emphasize the severity of risk to health posed by abortion;
5. to reinforce the importance of communication with wives and others on family planning and IUD adoption.

As men become more conscious of the above issues, they become increasingly able to reevaluate themselves. The main concepts for the message for the contemplation/preparation group were:

1. to decrease cons for IUD use;
2. to increase self-efficacy for IUD use;
3. to reduce the importance of having sons;
4. to increase awareness of the likelihood of having an unwanted pregnancy and of needing an abortion with its risk to health;
5. to reinforce the importance of communication with wives and others on family planning and IUD adoption.

Finally, those in the action/maintenance stage were given a message of congratulation that rewarded them for choosing IUDs and for maintaining IUD use, and that also encouraged them to talk with others about their success and about how they solved any problems arising from IUD use.



A total of eight messages were included in the three stage-targeted letters:

Message 1: information on the IUD method (emphasis on the pros of the IUD: effectiveness in prevention of pregnancy, free of charge and assured availability with easy access locally).

Message 2: information on traditional methods (emphasis on low effectiveness for the prevention of pregnancy).

Message 3: information on the susceptibility of those who use traditional methods to fall pregnant and need an abortion i.e., risk of a bad outcome (emphasis on the severe risk to health posed by abortion and the need to examine personal probability of having an unwanted pregnancy and abortion).

Message 4: information to correct cons for IUD use (description of normal expected side effects).

Message 5: information to increase self-efficacy for IUD use (emphasis on reducing concerns about side effects and increasing beliefs about IUD effectiveness).

Message 6: encouragement to discard attitudes involving son preference (emphasis on the importance of providing children with good health and education regardless of gender).

Message 7: reinforcement of the need to communicate (emphasis on the need to discuss family planning with wives and other people without embarrassment).

Message 8: congratulation for acceptance of an IUD (emphasis on encouragement to continue use and to share experiences with other people).

The principles of the targeted health message (Kreuter et al. 1999) were used. The following steps were taken. First, the message was given a title. For example, the title of the first message was 'IUD information'. The main issue relating to this message was that people in the precontemplation stage lack basic information of the IUD method: its effectiveness, convenience, costs, availability and accessibility in the local area. Therefore, the concept of the message was to provide basic information of IUD use. This message was written in the letter targeted for the precontemplation group as follows:

*"Most of the surveyed men know that IUDs help to prevent unwanted pregnancy. In fact, IUD is one of the most effective reversible contraceptive methods in the world,*

*with effectiveness up to 99%, and with minimum side effects. That means, only one person can get pregnant among 100 women using IUD. The IUD version Tcu-380A is available in An Hai District at this time and is effective for 10 years. The IUD is very convenient to use; your wife needs to get it inserted ONCE only, and you do not need to worry about unwanted pregnancies any more. It is provided free of charge at any district health centre and commune health centre, and can be removed any time upon request. IUD can be inserted 42 days after a birth or an abortion. It helps to prevent ectopic pregnancy when it is in place, and is safe for women who have low exposure to STDs or HIV/AIDS like women in the An Hong and Quoc Tuan communes”.*

Each message was developed in a similar manner based on the concepts explained earlier. The sample letter has been printed in Vietnamese and the English translation of letter is provided in Appendix F.

### **6.3. Intervention program**

This section explains the intervention design, selection of intervention sites and intervention activities.

#### **6.3.1. Intervention design**

A quasi-experimental design was selected for the intervention. The most rigorous evaluation design is the true experiment, in which individuals are randomly assigned to either group (intervention and comparison). In many field situations, however, implementing a true experiment may be impractical (Fisher et al. 1985). In a quasi-experimental design, the participants were not randomly assigned to certain group (intervention or control). In this study, the village was chosen as the primary unit for intervention. This design is called a moderate quasi-experimental design and it has the advantages of transparency, that is, it is known what setting (village) will receive the intervention and what setting will not receive the intervention (Gliner and Morgan 2000). The design was the most appropriate for an intervention that used messages to promote behaviour change. There was a high

probability that men would pass on the messages (intervention) to others assigned to the control groups, especially if they were in the same village.

### **6.3.2. Intervention sites**

Six villages were chosen for intervention from the 12 villages identified in the baseline survey. In order to reduce contamination during the intervention process, three villages were purposively selected from each commune after careful review of their location. The intervention villages were selected for their separateness from the control villages. The main road was chosen as the main criterion for separation. Three villages on one side of the road in each commune were selected for the control group, and the others for intervention. The distance between those groups was 2-3 km. The distance between the two communes was 8 km. The maps of these villages and communes are shown in Appendix A.

### **6.3.3. Intervention activities**

The participants in the intervention villages received letters corresponding to their stage of change for IUD use. They were encouraged to ask their local health workers any question relating to the letter. Participants in the control villages received neither letter nor interpersonal counselling. In both intervention and control villages, the local health workers continued their routine activities.

Two rounds of intervention were carried out over a period of six months. The first round was conducted in November 2001. This involved a visit to each participant from a local health worker who used a staging algorithm to assess the men's current stage of change for IUD use. Each participant was provided with a letter corresponding to his identified stage of change for IUD use. The local health workers asked men to read through the letter, to record any questions if provoked and to discuss the letter with their wives and others. After one week, the local health workers visited the men again, answered any questions and collected information on the men's perception regarding the stage-targeted letter.

The second round of intervention took place after three months, in February 2002. The staging algorithm was used to assess the men's current stage of change for IUD use. Each participant received a letter corresponding to his new stage of change for IUD use. The main purpose of the second round was to reinforce any commitment to behaviour change, to encourage communication and adoption of the IUD. Men were asked again to read the letter, to record questions and were encouraged to discuss family planning and IUD use with wives and others. Similar to the first round, the local health worker visited again one week later to answer questions and to assess the men's perception regarding the stage-targeted letter.

#### **6.3.4. Training and supervision of field workers**

The local health worker in each intervention village was assigned to carry out the intervention activities. Before each intervention round, those health workers attended two days intensive training conducted by the researcher. They received the protocol on how to carry out the intervention. Information on all activities and the information that they were required to provide during each intervention round was included in the protocol. The intervention protocol is in Appendix G. During training, the protocol was discussed at length and the researcher tested performance by engaging in a role-play with the health workers' supervisor. In addition, the researcher and supervisor were available by telephone for consultation, problem solving and encouragement during the fieldwork period.

Two district health workers in charge of the family planning program supervised the local health workers during the intervention period. They randomly checked 20 percent of all intervention households, to see if the intervention was carried out correctly. Those health workers who had not correctly performed the tasks were requested to repeat them.

During the six months of intervention, all events relating to family planning from both intervention and control villages were recorded in monitoring forms and submitted to the researcher (see the monitoring form in Appendix G).

## 6.4. Evaluation of stage-targeted letters

A series of 22 questions were developed to evaluate the stage-targeted letters at the end of the first and second intervention rounds (questionnaires in Appendix H). The items were based on evaluation principles from Kreuter et al (1999). The questions examined:

1. exposure to and reading of the letters
2. reaction to the appearance of the letters
3. reaction to the content of the letters
4. perceived personal relevance of the letters
5. letters' effects on communication with wives and others on family planning
6. perceived usefulness of the information in the letters on convincing wives to adopt/continue to use the IUD.

Evaluation data were collected and entered into a computer program and analysed using SPSS 11.0. A total of 337 men were able to participate in the first intervention round, and 327 men were able to be followed-up in the second round. The results of the two evaluations were quite similar and the results of the first evaluation are presented in this chapter. The results of the second evaluation are in Appendix I.

Almost all participants (99.7 percent) read the information in the letter. About two-thirds of men (61.1 percent) stated that they read all the information, more than one-fourth (26.1 percent) read almost all the information and a small proportion (12.5 percent) read some of the information.

Table 6.1 shows the information that was recalled by participants after reading the letters. In the first intervention round, almost all participants recalled information on the effectiveness of the IUD (99.7 percent), side effects (91.4 percent), perceived pregnancy susceptibility (91.4 percent), perceived risk of abortion (97.9 percent). More than two-thirds of participants recalled information on communication on IUD use (67.1 percent) and adoption of the IUD (73.9 percent).

**Table 6. 1. Percentage distribution of information recalled by participants**

Recall information	Percentage (%)
Effectiveness of IUD	99.7
Side effects of IUD	91.4
Pregnancy susceptibility	91.4
Abortion risk	97.9
Communication on IUD	67.1
Adoption of IUD	73.9
Others	2.4

The reaction to the appearance and content of the letter was measured by a Likert-type scale from 1 to 7 (not attractive/interesting to very attractive/interesting).

**Table 6. 2. Men’s perception of the stage-targeted letters**

Evaluation items (N=337)	Mean	SD
Appearance (not attractive to very attractive)	6.3	0.6
Interesting (not interesting to very interesting)	6.4	0.6
Usefulness (not useful to very useful)	6.4	0.6

Men found the stage-targeted letter attractive in its appearance (mean = 6.3; SD = 0.6). The letter’s content was interesting (mean = 6.4; SD = 0.6) and useful (mean = 6.4; SD=0.6). The findings suggest that the letters were well designed and contained useful information, attracting the attention of participants (Table 6.2).

**Figure 4. Perception on understanding level**

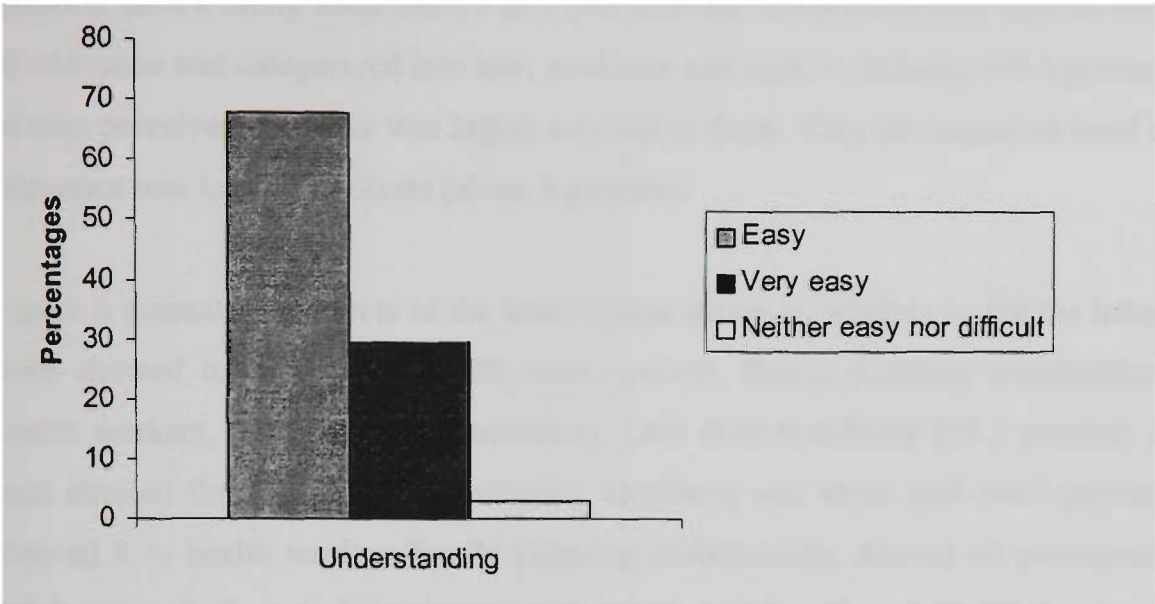


Figure 4 presents the men’s perception of their level of understanding after reading the letter. The level of understanding was categorized into 5 levels, from very difficult to very easy. Figure 4 shows that information was not difficult. None of participants indicated the information was difficult or very difficult to understand. More than two-thirds (67.7 percent) indicated the information was easy; less than one-third (29.4 percent) perceived it was easy, and a small proportion (3.0 percent) reported it was neither difficult nor easy.

**Figure 5. Perceived relevance**

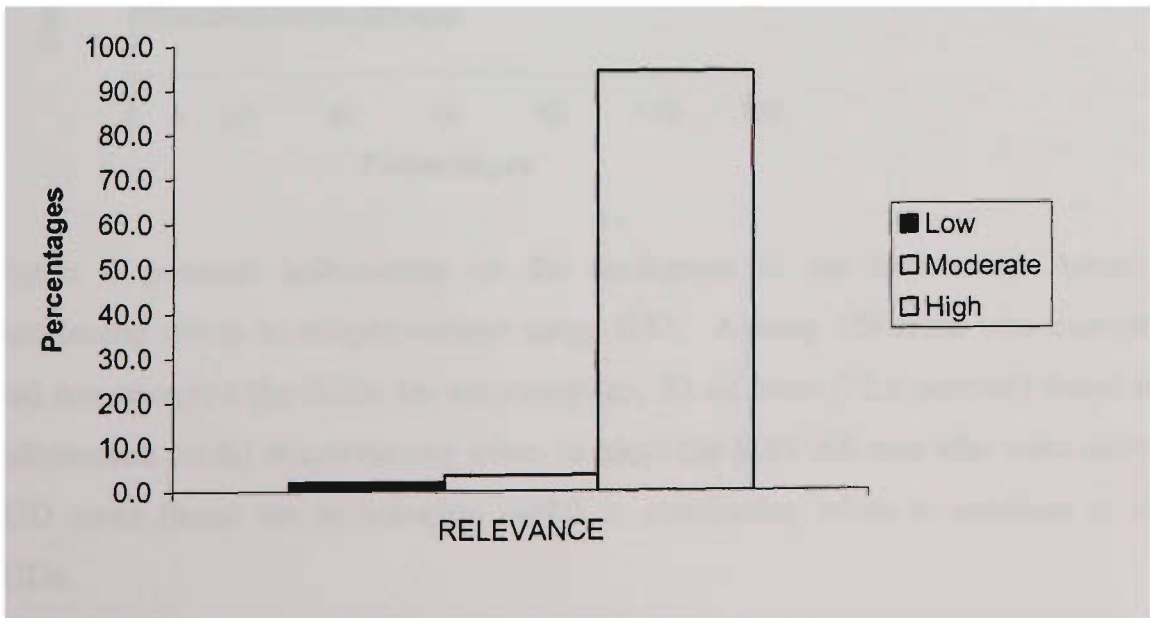


Figure 5 presents results on how relevant the letter was to the men on IUD use. The question used a rating scale from 1 to 7 (not relevant to very relevant) and the level of relevance was categorized into low, moderate and high. A majority (94.4 percent) of men perceived the letter was highly relevant to them. Very few stated its level of relevance was low or moderate (about 3 percent).

Figure 6 presents the effects of the intervention letters on whether or not the letters were showed to or discussed with others (wives, family planning collaborators, health workers, friends, family members). Less than two-thirds (62.3 percent) of men showed the letters to friends/family members, and about half (49.9 percent) showed it to health workers/family planning collaborators. Almost all participants (99.4 percent) discussed the letters with wives and less than half (43.6 percent) discussed them with others.

**Figure 6. Communication effects**

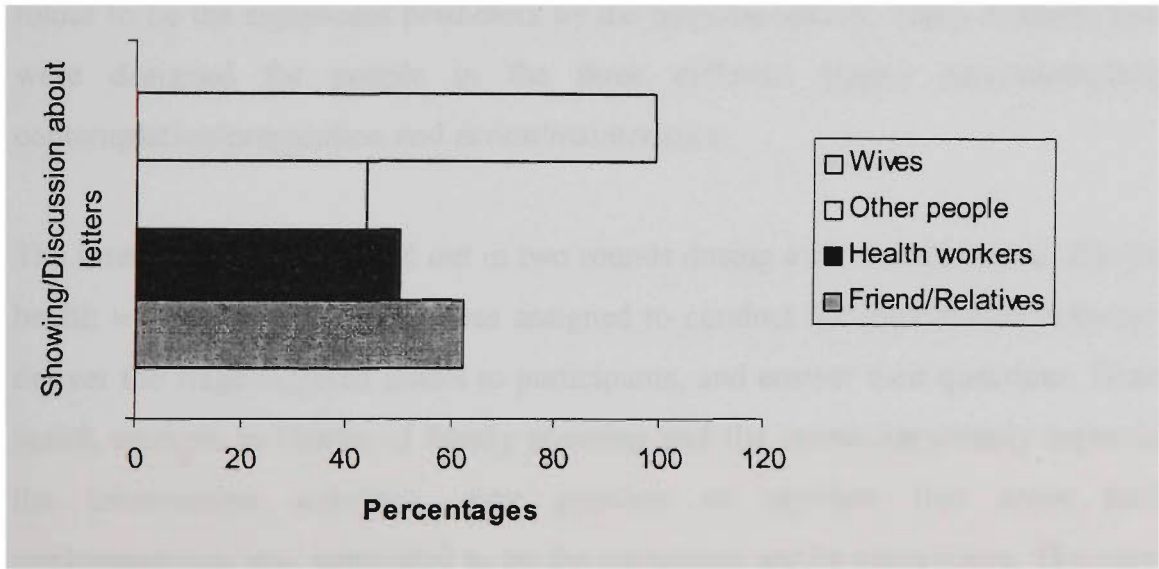
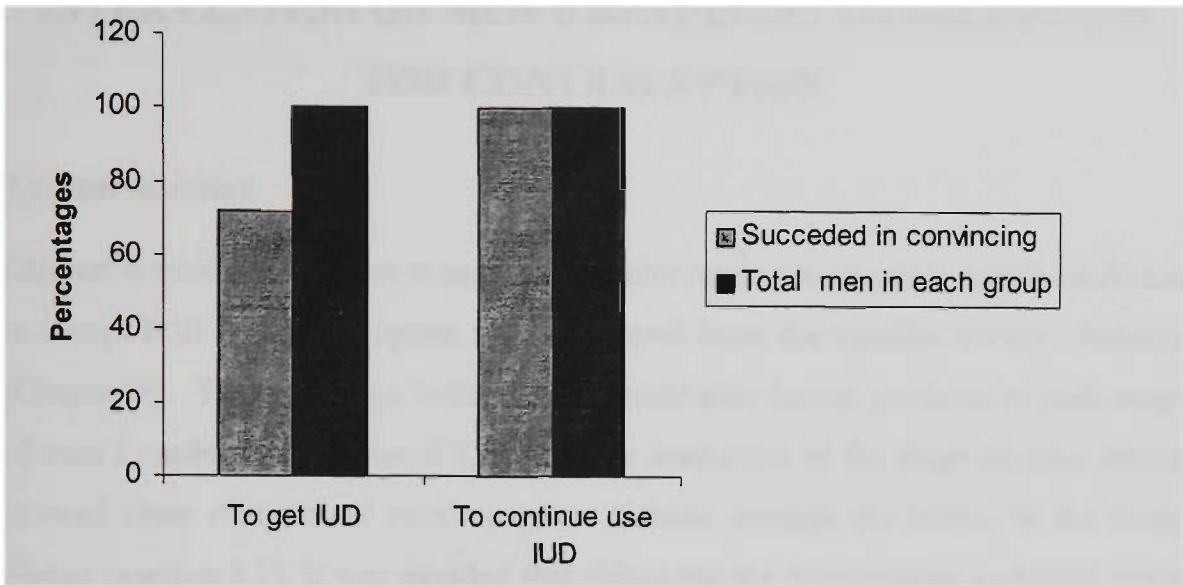


Figure 7 presents information on the usefulness of the intervention letter in convincing wives to adopt/continue using IUD. Among 129 men, who currently had not accepted the IUDs for contraception, 93 of them (72.1 percent) found the information useful in convincing wives to adopt the IUD. All men who were current IUD users found the information useful in convincing wives to continue to use IUDs.



**Figure 7. Convincing wives to get/continue use IUD**



**6.5. Conclusion**

The stage-targeted intervention was designed to promote men’s readiness to accept IUDs for contraception and it was comprised of stage-targeted letters and interpersonal counselling. The stage-targeted letters contained items of information found to be the significant predictors by the baseline survey. Three different letters were designed for people in the three different stages: precontemplation; contemplation/preparation and action/maintenance.

The intervention was carried out in two rounds during a six-month period. The local health worker in each village was assigned to conduct the intervention activity: to deliver the stage-targeted letters to participants, and answer their questions. District health workers in charge of family planning and the researcher closely supervised the intervention activities. Any question or problem that arose during implementation was responded to by the researcher and/or supervisors. The overall evaluation of the stage-targeted letter was every encouraging. The men generally reported that the letter was well written, well presented and attractive. Moreover, it encouraged men to show the letters to, and discuss the contents with, their wives and other people. The information was useful for them in convincing wives to adopt IUDs or to continue to use IUDs.

## **CHAPTER 7: IMPACT OF THE STAGE-TARGETED INTERVENTION ON MEN'S READINESS TO ACCEPT IUD FOR CONTRACEPTION**

### **7.1. Introduction**

Chapter 6 explains how the stage-targeted intervention to promote men's readiness to accept IUD for contraception was developed from the baseline survey findings (Chapter 5). These findings indicated the modifiable factors pertinent to each stage of men's readiness to accept IUD use. The evaluation of the stage-targeted letters showed clear evidence of men's positive attitude towards the letters. In the study design (section 3.1), it was decided that following the intervention a posttest study would be carried out to ascertain the impact of the intervention.

This chapter presents the impact of stage-targeted intervention on the intervention and control groups. The aim, methods of data collection, data analysis and results of the posttest study are reported. The broad aim of the posttest study was to determine whether the stage-targeted intervention based on TTM resulted in change in the men's readiness to accept IUD for contraception. The following research questions were generated from the aim.

1. To what extent has the men's knowledge on contraceptive methods improved?
2. To what extent has communication improved between men and their wives and with other people on family planning issues?
3. Has the stage of men's readiness for IUD use (SOC) changed?
4. To what extent have the pros for contraception in general and IUD use increased?
5. To what extent have the cons for contraception in general and IUD use reduced?
6. To what extent has self-efficacy for contraception in general and IUD use increased?

### ***Hypotheses***

Based on these research questions, the following specific hypotheses for the study were identified.

*Hypothesis 1.* Men, who have received the stage-targeted intervention program, are more likely to report significantly higher spontaneous recall of modern contraceptive methods than those who have not.

*Hypothesis 2.* Men, who have received the stage-targeted intervention program, are more likely to report significantly higher spontaneous recall of traditional contraceptive methods than those who have not.

*Hypothesis 3.* Men, who have received the stage-targeted intervention program, are more likely to report significantly higher communication with their wives on family planning issues than those who have not.

*Hypothesis 4.* Men, who have received the stage-targeted intervention program, are more likely to report significantly higher communication with others on family planning issues than those who have not

*Hypothesis 5.* Men, who have received the stage-targeted program, are more likely to report significant progress through the stage of change for IUD use than those who have not.

*Hypothesis 6.* Men, who have received the stage-targeted program, are more likely to report significantly higher pros for contraception in general than those who have not.

*Hypothesis 7.* Men, who have received the stage-targeted program, are more likely to report significantly higher pros for IUD use than those who have not.

*Hypothesis 8.* Men, who have received the stage-targeted program, are more likely to report significantly lower cons for contraception in general than those who have not.

*Hypothesis 9.* Men, who have received the stage-targeted program, are more likely to report significantly lower cons for IUD use than those who have not.

*Hypothesis 10.* Men, who have received the stage-targeted program, are more likely to report significantly higher self-efficacy for contraception in general than those who have not.

*Hypothesis 11.* Men, who have received the stage-targeted program, are more likely to report significantly higher self-efficacy for IUD use than those who have not.

## **7.2. Data collection**

Face-to-face interviews were carried out to collect data using a cross-sectional survey. All participants in the baseline survey in both intervention and control villages were identified and contacted for interview. The researcher conducted two-day training for interviewers, the same local health workers involved in the baseline study. The training for interviewers and the supervision procedure were similar to that of the baseline study and is described in Chapter 3 (section 3.4).

## **7.3. Measures**

Measures, similar to the baseline study measures, were used in the questionnaires of the posttest study (Appendix K). The measures were organised into the following sections:

1. socio-demographic information;
2. knowledge on family planning;
3. communication on family planning issues;
4. staging algorithm for IUD use;
5. pros and cons and self-efficacy for both contraception in general and IUD use.

The measures are described in Chapter 5 (baseline survey). The reliability and means and SD of each construct are provided in Table 7.1. The internal consistency reliability of each construct was estimated by Cronbach's  $\alpha$  coefficient, which varied from 0.79 to 0.9 for all scales. The results showed good internal consistency reliability.

**Table 7. 1. Internal consistency reliability, means and SD of scale scores at posttest**

Scales (N=610)	Cronbach's coefficient	Means	Standard Deviation
Pros for contraception in general	0.9	17.4	1.9
Cons for contraception in general	0.79	5.6	1.2
Pros for IUD use	0.87	12.5	1.8
Cons for IUD use	0.9	10.4	4.0
Self-efficacy for contraception in general	0.84	19.2	3.0
Self-efficacy for IUD use	0.89	14.9	3.6

**7.4. Data management and analysis**

For the purpose of analysis, a standard process of data quality checking and management was carried out as described in Chapter 3 (section 3.5). The data sets from baseline and posttest studies were merged to one data set (i.e., one set containing two rounds of data on respondents in the intervention and control villages). The statistical software SPSS version 11.0 was used for statistical analysis.

Descriptive analysis was used to look at the variables on socio-demographic characteristics, men’s contraceptive knowledge, communication on family planning issue, cognitive factors and stages of change for IUD use.

The first tests were for the equivalence between two groups, people who were at the posttest and those who were lost to follow-up, by their baseline characteristics, Chi-square tests were used to identify the differences between the groups for socio-demographic factors, knowledge, communication and stages of change for IUD use. Initially, MANOVA was carried out to identify any differences for pros and cons for contraception in general and for IUD use between the two groups by baseline scores. If a significant difference between the groups was detected, then a one-way ANOVA was performed to identify which variables were different. Similarly,

MANOVA and one-way ANOVA were conducted to identify baseline differences between the groups for self-efficacy for contraception in general and IUD use.

Similar tests and procedures were performed to examine the equivalence between the intervention and the control groups, at baseline, for contraceptive knowledge, communication, stages of change for IUD use, and pros and cons and self-efficacy for contraception in general and IUD use.

To test hypotheses from 1 to 5, where the dependent variable was categorical (knowledge, communication and stage of change for IUD use), a Chi-square test was used to identify the difference between the intervention and the control groups at posttest. Then, a McNemar test was carried out to detect the change between baseline and posttest for each study group. The McNemar test was used to investigate the change in responses due to intervention using a 'before-and-after' design. These tests for change in responses used the Chi-square distribution and a value less than 0.05 was considered significant (Gliner and Morgan 2000).

To test hypotheses 6 to 10, where the dependent variable was ordinal (pros, cons and self-efficacy), a series of analyses were performed. First, multivariate analysis of variance (MANOVA) was carried out to identify whether a difference existed between the intervention and the control groups on decisional balance (pros and cons) at the posttest. If there was significant difference between the two groups, then a mixed between-within subject ANOVA was carried out. The ANOVA test was performed to identify the main effect between subject (group), main effect within subject (time) and interaction (time x group) for identified significant variables. If any significant interaction was detected, then the one-way ANOVA was performed to identify the differences between groups at posttest, and repeated one-way ANOVA was carried out to identify the change from baseline to posttest. Similar tests and procedures were performed for self-efficacy for contraception in general and IUD use.

Where the measures were significantly different between the intervention and the control groups at the baseline (i.e., pros and cons for IUD), instead of ANOVA, a one-way analysis for covariance (ANCOVA) test was performed to compare the

differences of scores between the intervention group and the control group at the posttest to enable the analysis to the baseline differences.

## **7.5. Results**

The results are presented in four sections. First section presents the results of tests of equivalence: between the posttest group and lost to follow-up group and between the intervention group and the control group at the baseline study. Second section illustrates the change in contraceptive knowledge and communication from baseline to posttest. Third section reports the change in stages of readiness to accept IUD use from baseline to posttest. Finally, the fourth section presents the change in pros, cons and self-efficacy for contraception in general and IUD use from baseline to posttest.

### **7.5.1. Test of equivalence**

Of the 651 participants who completed the baseline interview, 354 were in intervention villages and 297 were in control villages. Only a total of 610 men could be followed-up at the posttest interview, with 336 men in the intervention group and 274 in the control group. A total of 41 people were lost to follow-up at the posttest survey; 18 persons were in the intervention group and 23 persons were in the control group. The follow-up rate at posttest was 95 percent for the intervention groups and 92 percent for the control groups.

#### *Test of equivalence between posttest and lost to follow-up group*

The information on the difference between those included and those lost to follow-up in the posttest by socio-demographic factors, contraceptive knowledge, communication, stages of change for IUD use and cognitive constructs are presented in Appendix J.

There was no statistically significant difference ( $P>0.05$ ) between participants in the posttest and those lost to follow-up by age, education, occupation, ethnicity, religion, abortion history, last birth wanted, knowledge on contraceptive methods

(spontaneous recall of modern and traditional methods), communication patterns with others on family planning issues or stage of change for IUD use.

Some differences were seen between the two groups on a few of the characteristics. Compared with those who remained in the posttest study, men who were lost to follow-up were significantly more likely to have one child (68.3 vs. 28.5 percent;  $P<0.05$ ); have no son (39.0 vs. 25.1 percent;  $P<0.05$ ); have high communication with wives on family planning issues (34.1 vs. 21.3 percent;  $P<0.05$ ); and less likely to desire more children (41.5 vs. 72.8 percent;  $P<0.05$ ).

There were no statistically significant differences between participants for the cognitive variables (pros and cons and self-efficacy for contraception in general and IUD use), except pros and cons for IUDs. The follow-up group reported higher pros for IUDs (50.0 vs. 49.6,  $P<0.05$ ) and lower cons for IUDs (49.8 vs. 53.6,  $P<0.05$ ) than those lost to follow-up.

In summary, those lost to follow-up were people who were more likely to have one child, less likely to have a son in the family, less likely to desire more children, more likely to have high communication with wives on family planning issues and also more likely to report lower pros and higher cons for IUDs.

#### *Test of equivalence between the intervention group and the control group*

Table 7.2 presents baseline differences between study groups (intervention and control) by socio-demographic characteristics of all participants ( $N=610$ ). There were no statistically significant differences between groups on age, having a son, desired number of children and last birth wanted. Statistically significant differences were revealed between the groups by education, occupation, number of children, and history of abortion ( $P<0.05$ ).



**Table 7. 2. Percentage distribution of socio-demographic characteristics at baseline, by study group**

Characteristics	Study group		P value
	Intervention (N= 336)	Control (N=274)	
Age groups			
19-24	2.1	2.6	0.7
25-29	15.5	13.1	
30-34	20.8	25.2	
35-39	35.1	35.4	
40-44	24.4	21.2	
45-49	2.1	2.5	
Education			
Primary	8.9	5.9	000
Lower secondary	65.5	55.5	
Upper secondary	22.9	27.7	
Higher education	2.7	10.9	
Occupation			
Government	11.9	21.9	0.00
Private	16.7	17.2	
Agricultural	67.3	54.7	
Other	4.1	6.2	
Number of children			
One	25.6	32.1	0.00
Two	51.2	55.5	
Three and more	23.2	12.4	
Having a son			
No	22.3	28.5	0.09
Yes	77.7	71.5	
Desired children			
No	75.0	70.1	0.17
Yes	25.0	29.9	
Wife's history of abortion			
No	70.2	78.8	0.02
Yes	29.8	21.2	
Last birth wanted			
No	28.9	25.5	0.2
Yes	71.1	74.5	

The intervention group had a significantly higher percentage of primary educated men than higher educated men (8.9 vs. 2.7 percent;  $P<0.05$ ) and the reverse pattern was observed for the control group (5.9 vs. 10.9 percent;  $P<0.05$ ). In the intervention group, the proportion of those with private jobs was significantly higher than those with government jobs (16.7 vs. 11.9 percent;  $P<0.05$ ), and the reverse trend was reported for the control group (17.2 vs. 21.9 percent;  $P<0.05$ ).

The proportion of men who had three and more children in the intervention group was significantly higher than in the control group (23.2 vs. 12.4 percent;  $P<0.05$ ). Furthermore, the proportion of men in the intervention group whose wives had no history of abortion was significantly lower than in the control group (70.2 vs. 78.8 percent;  $P<0.05$ ).

**Table 7. 3. Percentage distribution of knowledge, communication and stages of change for IUD use at baseline, by study group**

Variables	Study group		P value
	Intervention	Control	
	(N= 336)	(N=274)	
Spontaneous recall of modern methods			
Recall	93.2	94.9	0.3
No recall	6.8	5.1	
Spontaneous recall of traditional methods			
Recall	39.3	36.9	0.5
No recall	60.7	63.1	
Communication with other			
Low	97.9	93.1	0.003
High	2.1	6.9	
Communication with wife			
Low	80.7	76.3	0.1
High	19.3	23.7	
Stage of change for IUD use			
Precontemplation	28.6	29.2	0.78
Contemplation/Preparation	11.6	9.9	
Action/Maintenance	59.8	60.9	

Table 7.3 presents differences between study groups by knowledge, communication and stages of change for IUD use at the baseline survey. There were no statistically significant differences between the groups on contraceptive knowledge, couple communication or stage of change for IUD use. However, the proportion of men in the control group, who had high communication with others, was significantly higher than in the intervention group (6.9 vs. 2.1 percent;  $P<0.05$ ).

Table 7.4 presents the differences of decisional balance and self-efficacy scores by study group (intervention and control) at baseline survey. MANOVA tests were carried out to identify the differences between groups on pros and cons for contraception in general and IUD use. Assumptions were tested to check for

normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity (Pallant 2001). No serious violation of assumption for the MANOVA was detected. A statistically significant difference between groups on the combined dependent variables (pros and cons for IUD) ( $F(1,609) = 6.341; P<0.05$ ) was found. The results of one-way ANOVA revealed that the two groups were significantly different on pros and cons for IUDs. Men in intervention group had higher means of pros for IUDs (51.3 vs. 48.4;  $P<0.05$ ) and lower cons for IUDs (48.4 vs. 51.4;  $P<0.05$ ) than those in control group.

**Table 7. 4. Differences (Mean, SD) of TTM constructs at baseline, by study group**

Characteristics	Study group		F ratio	P value
	Intervention	Control		
	(N=336)	(N=274)		
Pros for contraception				
Mean	50.7	49.2		
SD	10.1	9.9	3.304	0.07
Cons for contraception				
Mean	49.5	50.5		
SD	10.4	8.8	1.756	0.18
Pros for IUD				
Mean	51.3	48.4		
SD	9.2	10.5	13.133	0.00
Cons for IUD				
Mean	48.4	51.4		
SD	9.3	10.5	14.090	0.00
Self-efficacy for contraception				
Mean	49.9	50.4		
SD	10.0	9.8	0.386	0.53
Self-efficacy for IUD				
Mean	50.1	49.9		
SD	10.0	10.0	0.037	0.84

MANOVA tests were carried out for self-efficacy for contraception in general and IUD use; no significant differences were detected.

7.5.2. Change in contraceptive knowledge and communication level

Four outcome measures that addressed men’s readiness to accept the IUD for contraception during the follow-up period were assessed: contraceptive knowledge (spontaneous recall of modern and traditional contraceptive methods) and communication with wives and others on family planning issues. The Chi-square tests were performed to identify the differences between the two groups at the posttest study. The results are presented in Table 7.5

Table 7. 5. Percentage distribution of contraceptive knowledge and communication at posttest survey, by study group

Outcome variables	Intervention (N=336)	Control (N=274)	Chi- square	P value
Spontaneous recall of modern methods	99.7	98.2	3.61	0.06
Spontaneous recall of traditional methods	71.7	36.9	74.47	0.00
Communication with wives				
Low	63.7	96.0		
High	36.3	4.0	92.34	0.00
Communication with others				
Low	54.5	98.9		
High	45.5	1.1	156.60	0.00

Results of McNemar test identifying the change between baseline and posttest on spontaneous recall of modern and traditional methods and communication with wives and others on family planning, for each study group, are presented in Table 7.6.

**Table 7. 6. Percentage distribution of contraceptive knowledge, communication at baseline and posttest survey, by study group**

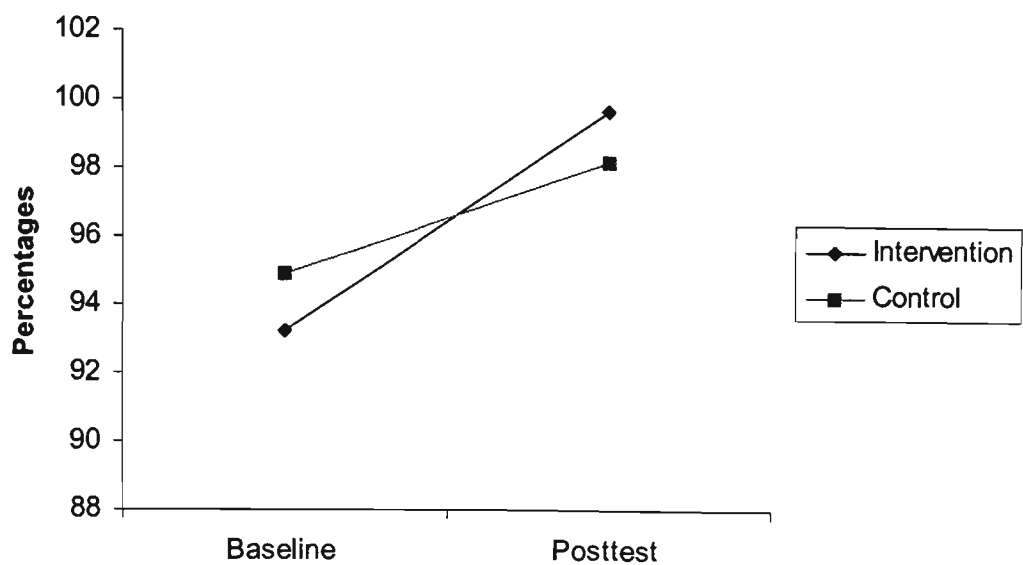
Outcome variables	Intervention (N=336)	P value	Control (N=274)	P value
Spontaneous recall of modern methods				
Baseline	93.2		94.9	
Posttest	99.7	0.00	98.2	0.05
Spontaneous recall of traditional methods				
Baseline	39.3		36.9	
Posttest	71.7	0.00	36.9	1.00
High communication with wives				
Baseline	19.3		23.7	
Posttest	36.3	0.00	4.0	0.00
High communication with others				
Baseline	2.1		6.9	
Posttest	45.5	0.00	1.1	0.00

*Change in spontaneous recall of modern contraceptive methods*

There was no significant difference of spontaneous recall of modern contraceptive methods between the intervention group and the control group at posttest ( $\chi^2$  (1,610)=3.61;  $P>0.05$ ) (Table 7.5). However, there were statistically significant differences of spontaneous recall of modern contraceptive methods between baseline and posttest for both the intervention group and the control group ( $P<0.05$ ) (Table 7.6). The level of recall significantly increased from 93.2 at baseline to 99.7 percent at posttest for the intervention group ( $P<0.05$ ), and from 94.9 to 98.2 percent for the control group ( $P<0.05$ ) (Figure 8).

Thus, the results did not support the first hypothesis: men who had received the intervention did not report significantly higher spontaneous recall of modern contraceptive methods than those who had not.

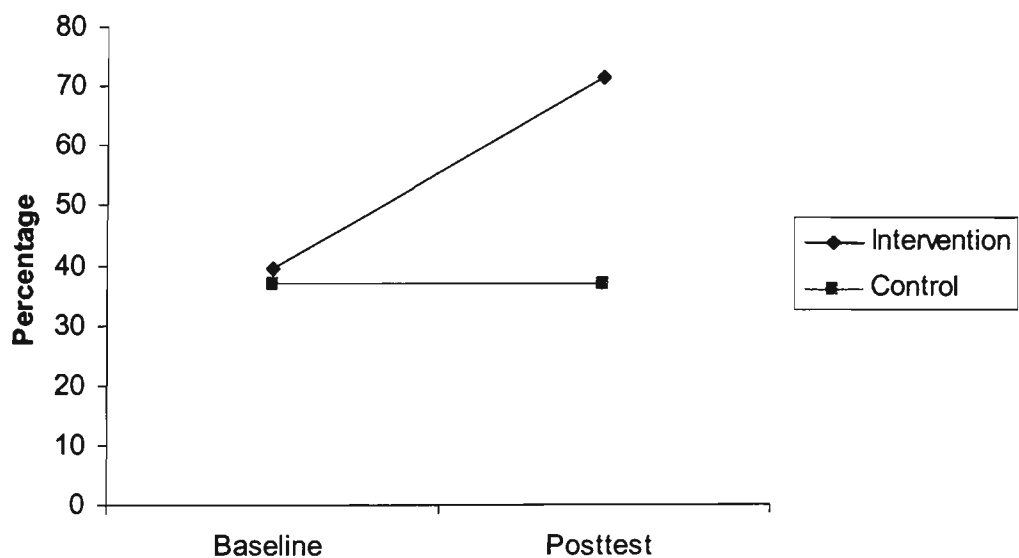
**Figure 8. Change in spontaneous recall of modern contraceptive methods**



*Change in spontaneous recall of traditional contraceptive methods*

Regarding spontaneous recall of traditional methods, there was statistically significant difference between the two groups at posttest ( $P<0.05$ ) (Table 7.5). In the intervention group, the proportion of men that spontaneously recalled traditional methods was significantly higher than those in the control group (71.7 vs. 36.9 percent,  $\chi^2(1, 610)=74.479$ ;  $P<0.05$ ).

**Figure 9. Change in spontaneous recall of traditional methods**



Significant increase of spontaneous recall of traditional methods from 39.3 percent at baseline to 71.7 percent at posttest ( $P<0.05$ ) was seen for the intervention group. The level of recall for the control group remained the same at posttest compared to baseline (36.9 percent) (Table 7.6; Figure 9).

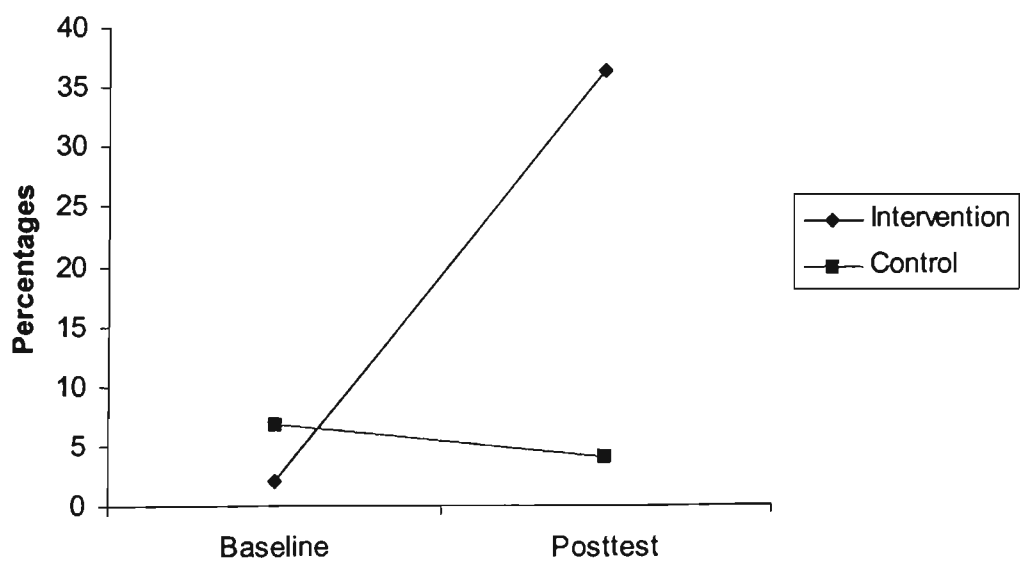
Thus, the results supported the second hypothesis: men, who had received the intervention, reported significantly higher spontaneous recall of traditional methods than those who had not.

*Change in communication with wives on family planning issues*

There was a statistically significant difference between the two groups at posttest ( $P<0.05$ ) (Table 7.5). The proportion of men who had high communication with wives in the intervention group was significantly higher than in the control group (36.0 vs. 4.0 percent;  $\chi^2(1, 610)=92.34$ ;  $P<0.05$ ).

A significant difference between baseline and posttest was shown for the two study groups ( $P<0.05$ ) (Table 7.6). The proportion of men who had high communication with wives for the intervention group significantly increased from 19.3 at baseline to 36.3 percent at posttest ( $P<0.05$ ). In contrast, the proportion of men who had high communication with wives in the control group significantly decreased from 23.7 to 4.0 percent ( $P<0.05$ ) (Figure 10).

**Figure 10. Change in high communication with wives on family planning issues**





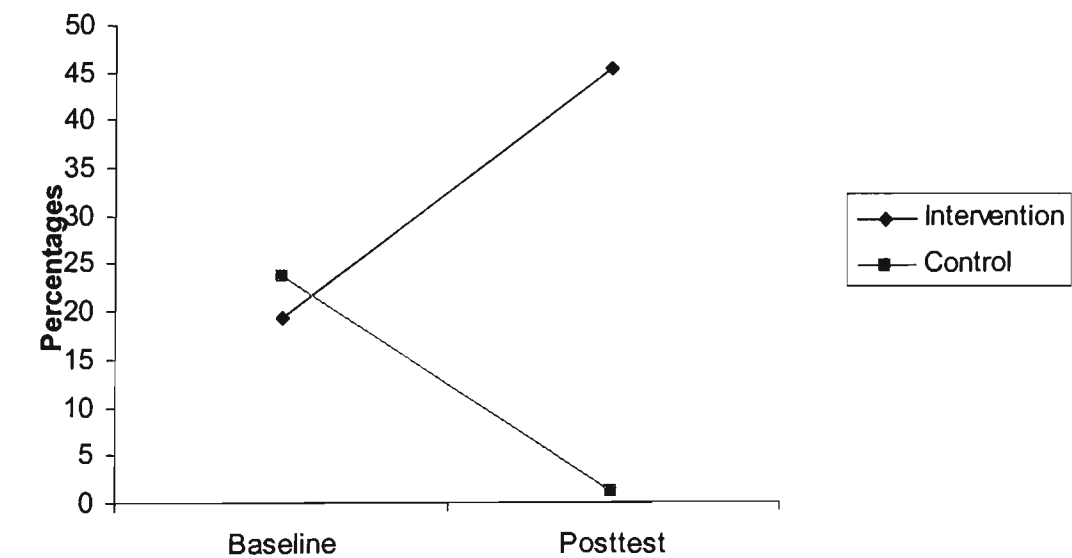
Thus, the results support the third hypothesis: men who had received intervention reported significantly higher communication with wives on family planning issues than those who had not.

*Change in communication with others on family planning issues*

Results similar to communication with wives were revealed for communication with others. There was statistically significant difference between the two groups at posttest ( $P<0.05$ ) (Table 7.5). The proportion of men who had high communication with others in the intervention group was significantly higher than in the control group (45.5 vs. 1.1. percent;  $\chi^2(1,610)= 156.60$ ;  $P<0.05$ ).

The results in Table 7.6 show the differences between baseline and posttest for the intervention group as well as for the control group. The proportion of men who had high communication with others in the intervention group significantly increased from 2.1 to 45.5 ( $P<0.05$ ). In contrast, the proportion of men who had high communication with others in the control group significantly decreased from 6.9 to 1.1 percent ( $P<0.05$ ) (Figure 11).

**Figure 11. Change in high communication with others on family planning issues**



Thus, the results support the fourth hypothesis: men who had received the intervention reported significantly higher communication with others on family planning issues than those who had not.

7.5.3. Change in stages of men’s readiness to accept IUD for contraception

One of the main outcomes of the intervention was measured by the stages of change for IUD use. Table 7.7 shows that there were statistically significant differences between the intervention group and the control group at posttest ( $P<0.05$ ).

Table 7. 7. Percentage of participants surveyed at the posttest, by stage of change for IUD

Stage of change for IUD use	Intervention (N=336)	Control (N=274)	Chi-square	P value
Precontemplation	20.2	33.9	226.432	0.00
Contemplation/Preparation	5.4	5.8		
Action/Maintenance	74.4	60.2		

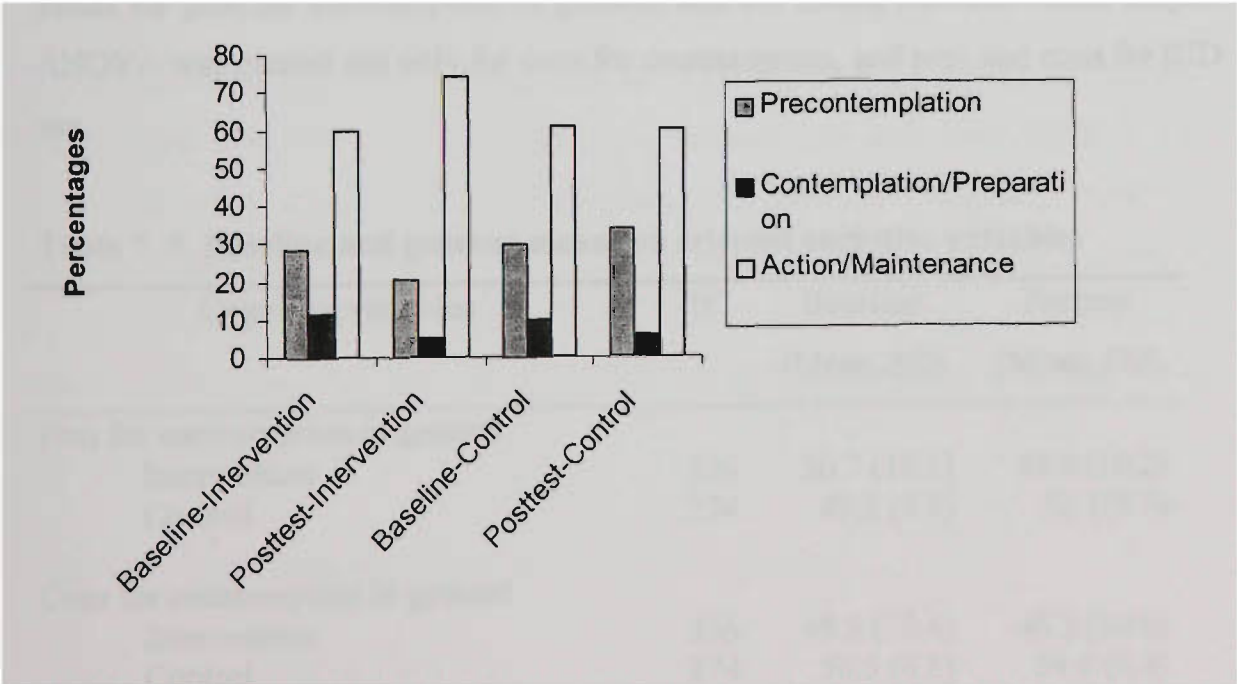
The proportion of men in the action/maintenance stage in the intervention group was significantly higher than in the control group (74.4 vs. 60.2 percent;  $P<0.05$ ) and the proportion of men in the precontemplation stage in the intervention group was significantly lower than those in the control group (20.2 vs. 33.9 percent;  $P<0.05$ ).

Table 7. 8. Percentage of participants surveyed at baseline and posttest, by stage of change for IUD use

Outcome variables	Intervention (N=336)	P value	Control (N=274)	P value
Precontemplation				
Baseline	28.6		29.6	
Posttest	20.2		33.9	
Contemplation/Preparation				
Baseline	11.6		9.9	
Posttest	5.4		5.8	
Action/Maintenance				
Baseline	59.8		60.9	
Posttest	74.4	0.00	60.2	0.54

The McNemar test showed a significant change between baseline and posttest on SOC for the intervention group ( $P<0.05$ ), but not for the control group ( $P>0.05$ ) (Table 7.8). In the intervention group, the proportion of men in the precontemplation stage decreased from 28.6 percent at baseline to 20.2 percent at posttest, and the proportion of those in the contemplation/preparation stage decreased from 11.6 to 5.4 percent. As expected, the proportion of men in the action/maintenance stage significantly rose from 59.8 to 74.4 at the posttest (Figure 12). In contrast, in the control group, the proportion of men in the precontemplation stage increased from 29.2 percent at baseline to 33.9 percent at posttest; the proportion in the contemplation/preparation stage decreased from 10.2 percent at baseline to 5.8 percent at posttest; and the proportion of men in the action/maintenance stage remained almost the same (60.6 and 60.2 percent) (Figure 12).

**Figure 12. Change in SOC for IUD use**



In summary, the results support the fifth hypothesis: men who had received the intervention were more likely to move to the action/maintenance stage and accept IUD use for contraception than those who had not.

**7.5.4. Change in decisional balance and self-efficacy for contraception and IUD use**

Six outcome measures that addressed men’s readiness to accept IUDs for contraception during the follow-up period were assessed: pros and cons for contraception in general and IUD use, and self-efficacy for contraception in general and IUD use. A MANOVA was performed to check the differences of decisional balance between the intervention group and the control group at posttest. Assumptions were tested to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity (Pallant 2001), and no serious violation were detected. There were statistically significant differences between groups on the combined dependent variables (cons for contraception in general, pros and cons for IUD use) ( $F(1,609) = 107.258; P<0.05$ ). No significant difference between two groups was found for pros for contraception in general at posttest. Therefore, no intervention effect was found for pros for contraception in general, and the mixed between-within subject ANOVA was carried out only for cons for contraception, and pros and cons for IUD use.

**Table 7. 9. Baseline and posttest means on selected cognitive variables**

Cognitive variables	N	Baseline (Mean, SD)	Posttest (Mean, SD)
Pros for contraception in general			
Intervention	336	50.7 (10.1)	49.9 (10.2)
Control	274	49.2 (9.9)	50.1(9.7)
Cons for contraception in general			
Intervention	336	49.5 (10.4)	46.3 (10.9)
Control	274	50.5 (8.8)	54.6 (6.4)
Self-efficacy for contraception in general			
Intervention	336	49.9 (10.0)	51.1(10.8)
Control	274	50.4 (9.8)	48.7 (8.8)
Self-efficacy for IUD			
Intervention	336	50.1 (10.0)	54.6 (6.3)
Control	274	49.9 (10.0)	48.4 (6.8)

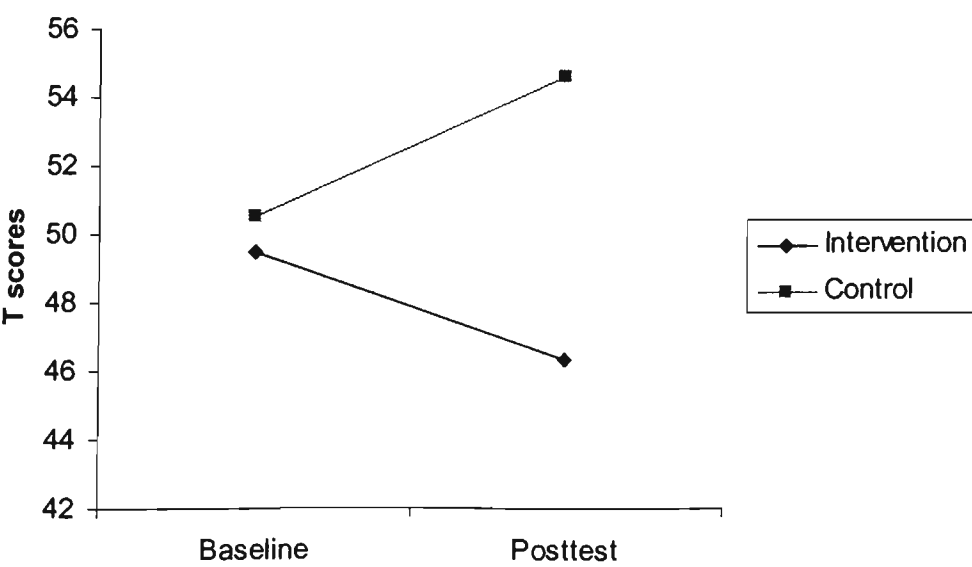
*Change in cons for contraception in general*

The results of a mixed ANOVA revealed insignificant main effect within subject (time) of cons for contraception in general. There was no statistically significant change in cons for contraception in general in time (baseline to posttest) across two study groups ( $F(1, 609)=0.670$ ;  $P>0.05$ ). The main effect between subjects (study groups) was significant ( $F(1,609)=70.783$ ;  $P<0.05$ ). Thus, there was significant difference among study groups across the baseline and posttest period in cons for contraception in general.

There was a statistically significant interaction between group and time (time x group) ( $F(1, 609)=45.311$ ;  $P<0.05$ ) and therefore, one-way ANOVA test was conducted to identify the difference between groups at posttest. The results as expected, showed that there were significant lower cons for contraception in general for the intervention group than for the control group (46.3 vs. 54.6;  $F(1, 609)=122.444$ ;  $P<0.05$ ) (Figure 13; Table 7.9).

Figure 13 shows that the trends of cons for contraception in general for the two groups from baseline to posttest were not similar. The repeated ANOVA was performed to test the time effect within each study group. As expected, there was significant decrease of cons for contraception in general from baseline to posttest for the intervention group (49.5 vs. 46.3;  $F(1, 335)= 5.866$ ;  $P<0.05$ ), but there was a significant increase from baseline to posttest for the control group ( 50.5 vs. 54.6;  $F(1, 273)=36.549$ ;  $P<0.05$ ) (Figure 13).

**Figure 13. Change in cons for contraception in general**



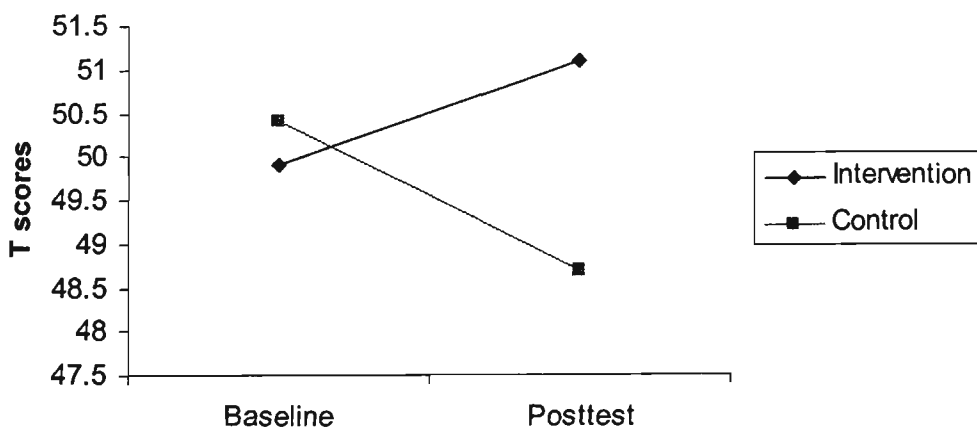
Thus, the results support the eighth hypothesis: men who had received the intervention, were significantly more likely to report lower cons for contraception in general than those who had not received the intervention.

*Change in self-efficacy for contraception in general*

The results of a mixed ANOVA revealed the main effect within subject (time) was not significant for self-efficacy for contraception in general. Thus, no significant change from baseline to posttest across the two study groups was detected ( $F(1, 609)=0.215$ ;  $P>0.05$ ). Similarly, the main effect between subjects (study groups) was not significant ( $F(1,609)=2.411$ ;  $P>0.05$ ); therefore, there was no significant difference among study groups on self-efficacy for contraception in general across the baseline and posttest period.

There was statistically significant interaction between group and time (time x group) ( $F(1, 609)=6.831$ ;  $P<0.05$ ), therefore, one-way ANOVA test was conducted to identify the difference between the groups at posttest. The results, as expected, showed that there was statistically significant higher self-efficacy for contraception in general for the intervention group than the control group (51.1 vs. 48.7;  $F(1, 609)=8.397$ ;  $P<0.05$ ) (Figure 14; Table 7.9)

**Figure 14. Change in self-efficacy for contraception in general**



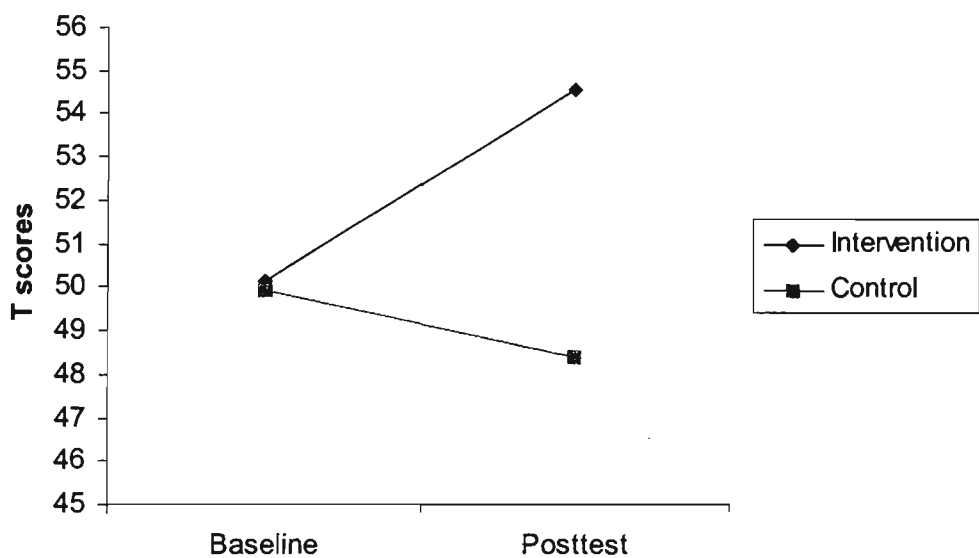
The repeated ANOVA was performed to test the simple effect of test time within each study group. However, there was no significant increase of self-efficacy from

baseline to posttest for the intervention group (49.9 vs. 51.1;  $F(1, 335)= 2.499$ ;  $P>0.05$ ), however, there was a significant decrease from baseline to posttest for the control group (50.4 vs. 48.7;  $F(1, 273)=4.465$ ;  $P<0.05$ ) (Figure 14; Table 7.9).

Thus, the results showed no support for the tenth hypothesis: men who had received the intervention did not report significantly higher self-efficacy for contraception in general than those who had not received the intervention. Although the posttest score of the intervention group was significantly higher than the control group, there was no significant increase from baseline to posttest on self-efficacy for contraception in general for the intervention group.

*Change in self-efficacy for IUD use*

**Figure 15. Change in self-efficacy for IUD use**



The results of a mixed ANOVA showed the statistically significant main effect within subject (time) for self-efficacy for IUD use; therefore, there was a significant change from baseline to posttest across the two study groups ( $F(1, 608)=14.887$ ;  $P<0.05$ ). The main effect between subjects (study groups) was also significant ( $F(1,608)=32.801$ ;  $P<0.05$ ). Hence, there was significant difference among study groups across the baseline and posttest period.

Furthermore, there was statistically significant interaction between group and time (time x group) ( $F(1, 608)=56.585$ ;  $P<0.05$ ), therefore, ANOVA test was performed

to identify the difference between the groups at the posttest. Results, as expected, showed that there was significantly higher self-efficacy for IUD use reported for the intervention group than the control group (54.6 vs. 48.4;  $F(1, 608)=135.611$ ;  $P<0.05$ ) (Figure 15; Table 7.9).

Figure 15 shows that the trends of self-efficacy for IUD use for the two groups from baseline to posttest were not similar. The repeated ANOVA was performed to test the simple effect of test time within each study group. As expected, there was significant increase from baseline to posttest for the intervention group (50.1 vs. 54.6;  $F(1, 335)= 5.866$ ;  $P<0.05$ ), and the significant decrease from baseline to posttest for the control group ( 49.9 vs. 48.4;  $F(1, 273)=74.433$ ;  $P<0.05$ ) (Figure 15).

Thus, the results showed support for eleventh hypothesis: men who had received the intervention, were significantly more likely to report higher self-efficacy for IUD use than those who had not received the intervention.

*Change in pros and cons for IUD use*

**Table 7. 10. Baseline and posttest means on pros and cons for IUD use**

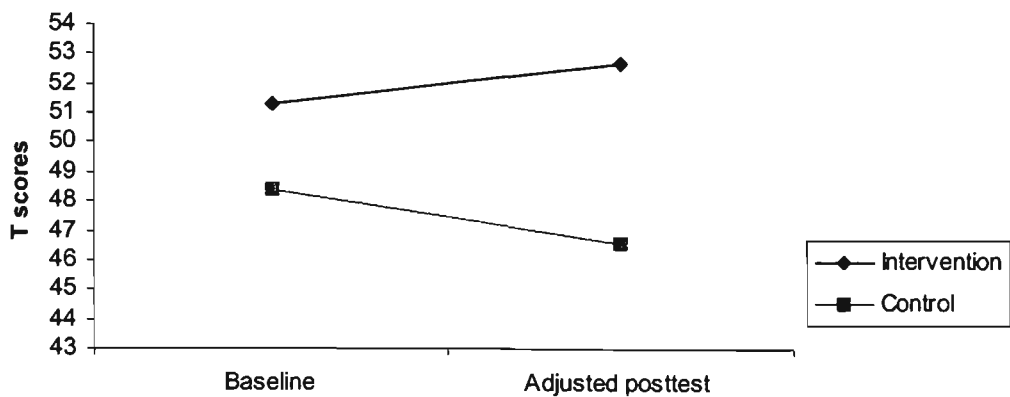
Group	N	Baseline (Mean, SD)	Posttest (Mean, SD)	Adjusted posttest (Mean, SE)
Pros for IUD				
Intervention	336	51.3 (9.2)	53.0 (8.1)	52.7 (0.50)
Control	274	48.4 (10.5)	46.3 (10.8)	46.6 (0.55)
Cons for IUD				
Intervention	336	48.4 (9.3)	44.8 (6.6)	45.0 (0.44)
Control	274	51.4 (10.5)	56.3 (9.8)	56.0 (0.48)

One-way between groups analysis of covariance (ANCOVA) was conducted to compare the intervention effect in changes of pros for IUDs (Table 7.10). The independent variable was the study group (intervention and control), and the dependent variable was scores of pros for IUD at the posttest. Participants' baseline scores were used as the covariate in this analysis (as there was significant difference between groups at baseline on pros for IUDs; Table 7.4). After adjusting for



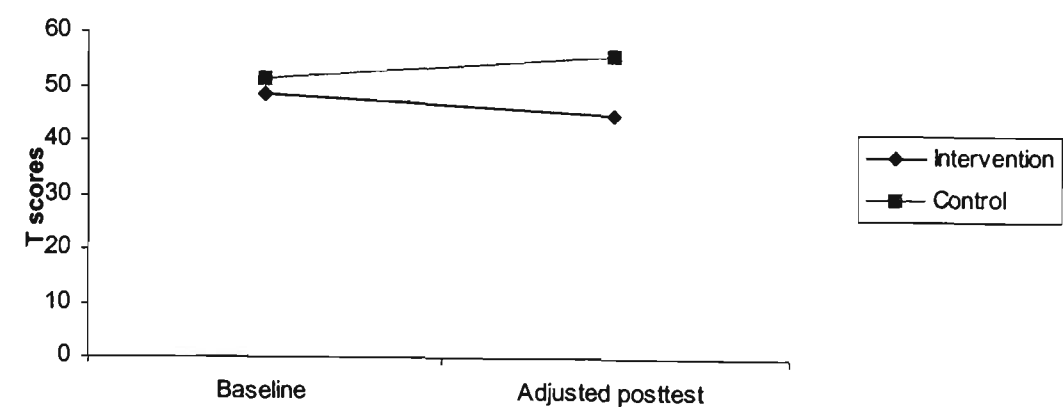
baseline scores, there was significant higher pros for IUD in the intervention group than the control group on posttest scores (52.7 vs. 46.6;  $F(1, 608)=65.965$ ;  $P<0.05$ ) (Figure 16).

**Figure 16. Change in pros for IUD use**



Similarly, an ANCOVA test carried out to identify the intervention effect on cons for IUD use, the independent variable was the study group (intervention and control), and the dependent variable was scores of cons for IUD use at the posttest. Participants' scores on the baseline were used as the covariate in this analysis (as there was significant difference between groups at baseline scores on cons for IUD use). After adjusting for baseline scores, there was a significantly lower cons for IUD use in the intervention group than the control group on posttest scores (45.0 vs. 56.0;  $F(1, 608)=280.739$ ;  $P<0.05$ ) (Figure 17; Table 7.10).

**Figure 17. Change in cons for IUD use**



Thus, the results showed support for the seventh and ninth hypotheses: men who had received the intervention were significantly more likely to report higher pros for IUD use and lower cons for IUD use than those who had not received the intervention.

**7.6. Summary of findings**

This quasi-experimental design study demonstrated the feasibility of delivering a stage-targeted intervention to married men in rural Vietnam to promote men’s readiness to accept IUDs for contraception. The study followed-up 610 of the 651 participants to provide a 92.0 and 95.0 percent follow-up rate for the control group and the intervention group, respectively. Those lost to follow-up were people who were more likely to have one child, less likely to have a son in the family, less likely to desire more children, more likely to have high communication with wives on family planning issues and also more likely to report higher cons for IUDs.

**Table 7. 11. Summary of findings on hypotheses testing**

Hypothesis	Results
Men, who have received the stage-targeted intervention program, are more likely to report significantly higher spontaneous recall of modern contraceptive methods than those who have not.	Not supported
Men, who have received the stage-targeted intervention program, are more likely to report significantly higher spontaneous recall of traditional contraceptive methods than those who have not.	Supported

Men, who have received the stage-targeted intervention program, are more likely to report significantly higher communication with their wife on family planning issues than those who have not.	Supported
Men, who have received the stage-targeted intervention program, are more likely to report significantly higher communication with others on family planning issues than those who have not.	Supported
Men, who have received the stage-targeted program, are more likely to report significant progress through the stage of change for IUD use than those who have not.	Supported
Men, who have received the stage-targeted program, are more likely to report significantly higher pros for contraception in general than those who have not.	Not supported
Men, who have received the stage-targeted program, are more likely to report significantly higher pros for IUD use than those who have not.	Supported
Men, who have received the stage-targeted program, are more likely to report significantly lower cons for contraception in general than those who have not.	Supported
Men, who have received the stage-targeted program, are more likely to report significantly lower cons for IUD use than those who have not.	Supported
Men, who have received the stage-targeted program, are more likely to report significantly higher self-efficacy for contraception in general than those who have not.	Not supported
Men, who have received the stage-targeted program, are more likely to report significantly higher self-efficacy for IUD use than those who have not.	Supported

At baseline, some differences between intervention and control groups were seen by education level, occupation, parity, communication with others, pros for contraception in general and pros and cons for IUDs. The differences for pros and cons for IUDs were controlled for in the posttest analyses.

The intervention improved the recall of modern contraceptive methods in the intervention group; however, there was no significant difference between groups at posttest. In contrast, the intervention significantly increased recall of traditional methods of men in the intervention group.

The intervention facilitated higher communication with others and wives on family planning issues. One purpose of the message in the stage-targeted letter delivered to participants, was to encourage discussion between men and wives and others on family planning (as well as on IUD use). This message produced a significant impact on communication. While at baseline the percentage of men who had high communication with wives as well as with others was lower for the intervention group, at posttest, the intervention group reported significantly higher communication than reported by the control group.

This posttest study provides strong support for the TTM-inspired stage-targeted intervention to promote IUD acceptance. Intervention effects were revealed for lowering cons for contraception in general and IUD use in particular and for increasing pros and self-efficacy for IUD use. However, no intervention effect was found for increasing pros and self-efficacy for contraception. As hypothesized, men in the intervention group reported significantly lower cons for contraception in general and IUD use and significantly higher pros for IUD use at posttest compared to baseline, even after controlling for baseline differences (pros and cons for IUD use). The men in the intervention group also reported significantly lower cons for contraception in general and higher self-efficacy for IUD use than those in the control group at posttest.

An important outcome of the intervention was the movement through stages of change for IUD use. It was hypothesized that men who received the intervention were significantly more likely to progress from the lower to higher stages of change for IUD use. The proportion of men in the action/maintenance group in the intervention group showed a significant increase from 59.8 to 74.4 percent at posttest, while there was no change for the control group.

In conclusion, findings strongly support stage-targeted intervention using a TTM framework in promoting men's readiness to accept the IUD for contraception.

## CHAPTER 8: DISCUSSION

This chapter is organised into five sections. The first section provides a brief review of the main features of the study. The second presents the key findings of the study in relation to the wider literature, giving particular attention to methodological issues and limitations of the study. In the final section, recommendations for further research and family planning services in Vietnam are proposed.

### 8.1. Overview

Men are significantly involved in family planning decision-making processes (Salway 1994; Biddlecom et al. 1996; Bankole and Singh 1998). The husband's approval is considered by many researchers to be the most important predictor of contraceptive use (Joesoef et al. 1988; Lasee and Becker 1997; Kamal 2000). The overall goal of the study was to identify methods by which targeted health behavioural change programs might be best developed and implemented to increase acceptance of modern contraception in rural Vietnam.

Among all modern contraception, the IUD is the most commonly used method in Vietnam and about two-thirds of people report that they ever-used IUDs (NCPFP 1999). The IUD is a very effective reversible method for prevention of pregnancy and it is suitable for couples who have at least one child and low exposure to STD/HIV/AIDS (Treiman et al. 1995; Trussell et al. 1995; Hicks 1998). Obtaining an IUD is very convenient and it is provided free of charge in any commune health centre in Vietnam. Based on these reasons, the IUD was selected as the contraceptive method for the study.

The study had three research questions: (1) to identify measures of men's readiness to accept the IUD for contraception in rural Vietnam; (2) to identify potential modifiable factors to each stage of men's readiness to accept the IUD for contraception; and (3) to test whether an intervention targeted at each stage of readiness will result in an increase in men's acceptance of the IUD for contraception.

The study used a quasi-experimental design. Two rural communes, An Hong and Quoc Tuan, in An Hai District, Hai Phong Province, were involved in the study. Two rounds of intervention were carried out in six months of follow-up. Participants in six villages in the intervention group received stage-targeted letters and interpersonal counselling. Participants in the other six villages, constituting the control group, received neither letters nor counselling.

A review of literature on men's involvement in family planning revealed a number of factors related to contraceptive behaviour. At the individual level, factors included knowledge, approval, communication, reproductive preferences, and socio-demographic factors (i.e. age, income, education and occupation). At the program level, the factors included accessibility, availability, costs, and quality of services. At the community level, the factors included family planning and population policy, religion, social norms, etc. By selecting participants from the same village, the study design controlled for many of the program and community level factors.

In Chapter 2, the main theories of behaviour change were reviewed and TTM was chosen as the appropriate model for the study. Three constructs from TTM were used in the study: (1) stages of readiness to accept contraceptive methods and IUDs; (2) decisional balance (pros and cons for contraception in general and IUD use); and (3) self-efficacy for contraception in general and IUD use. Findings from a pilot study showed that these constructs were valid and reliable in examining men's readiness to accept IUD for contraception in rural Vietnam (Chapter 4). Contraceptive knowledge and communication on family planning issues were identified for inclusion in the study as factors influencing men's acceptance of contraceptive methods. In addition to socio-demographic variables, other important factors that influenced men's acceptance of contraception in the study were fertility intention, having a son, last birth intention, number of children and wife's abortion history. The assumption of the study is that the more ready men are to accept IUDs for contraception, the more likely they are to convince their wives to use, or to continue to use, IUDs for contraception.

The baseline survey was carried out in March-April 2001 to obtain information from eligible men in the intervention and control villages. The collected information covered: (1) socio-demographic characteristics; (2) contraceptive knowledge; (3) communication with wives and with others on family planning issues; (4) stages of readiness to accept IUDs for contraception; and (5) decisional balance (pros and cons) and self-efficacy for contraception and IUD use.

The results of the baseline study revealed six significant predictors in each stage of men's readiness to accept IUDs for contraception. The predictors included TTM constructs (cons and self-efficacy for IUD); socio-demographic characteristics (history of having an abortion and having a son); contraceptive knowledge (spontaneous recall of traditional methods) and communication on family planning (couple communication). These findings were used to design an intervention targeting the stages of men's readiness to accept IUDs for contraception.

The intervention consisted of stage-targeted letters and interpersonal counselling. The letters were developed using the principles of targeted health messages from Kreuter et al (1999). The process assessment revealed that the stage-targeted letters were well designed, with information relevant to the men, and had significant impact in facilitating men's communication with wives and other people on family planning (Chapter 6).

A posttest study was carried out after six months follow-up and showed support for the stage-targeted intervention. The level of spontaneous recall of traditional methods rose significantly from 39.3 to 71.7 percent from baseline to posttest. Likewise, the level of high communication with wives increased significantly from 19.3 to 36.3 percent, and high communication with others rose from 2.1 to 45.5 percent. The mean pros for IUD use in the intervention group rose from 51.3 to 52.7, while cons for IUD decreased from 48.4 to 44.8. The mean self-efficacy for IUD increased from 50.1 to 54.6, while mean cons for contraception in general decreased from 49.5 to 46.3. The intervention also had a significant impact on moving people towards the action/maintenance stage of men's readiness to accept IUDs for contraception. The proportion of men in the action/maintenance stage rose from 59.8 to 74.4 percent (Chapter 7).

## **8.2. Factors related to men's readiness to accept IUD for contraception**

Findings from this study are consistent with current literature on contraceptive acceptance. A few findings, however, run counter to the literature and are discussed in detail.

### **8.2.1. Characteristics of study population**

A total of 651 men participated in the baseline survey and 610 of them were reached at the posttest survey. The follow-up rate was high for the two groups (above 92 percent). About two-thirds of participants were farmers, a composition similar to the district figure (An Hai District Health Centre 2001).

Those lost to follow-up were people who were more likely to have one child, less likely to have a son in the family, less likely to desire more children, more likely to have high communication with wives on family planning issues and also more likely to report higher cons for IUDs. Some of the characteristics of the lost to follow-up indicated that they would have been more likely to adopt IUD than those who participated in posttest. Therefore, a bias due to lost to follow-up would be minimal.

The mean number of living children was 1.88, which was similar to a level reported in a study conducted in two mainland provinces in Vietnam (Mai et al. 2001). However, the mean was lower than that reported by Mai and Montague (1998) in a study conducted in mountain villages. The sample consisted of men mainly from the Kinh ethnic group with no religious affiliation. A larger proportion of men in the Mai and Montague (1998) study were men from a minority ethnic group and were Catholic. Minority ethnic people and Catholic people in Vietnam often have a higher number of living children than Kinh people (Mai and Montague 1998).

Mean number of children desired was 2.1 and it was much lower than other countries (Ezeh et al. 1996). It reflects the trend in fertility decline in Vietnam (NCPFP 1999). In early 1980s, the 'one or two child policy' in Vietnam was strongly recommended by government (Phai et al. 1996). The oldest men in our



sample was 29 years old at that time, therefore, this policy influenced a majority of participants and may have contributed to the small number of living children, and a small family size.

Over two-thirds of men did not want to have any more children. This finding was consistent with finding by Mai et al. (2001). In the past, before the market economy was introduced in 1986, each additional child was seen as a blessing and an economic asset. Children are no longer seen as economic assets, they are expensive to bring up and to educate, and they require care when parents are at work. The school fees, health care, and other expenditures related to child upbringing are a heavy financial burden for parents. Therefore, a large proportion of men did not wish to have any more children (Johansson et al. 1998b).

The desire to have no more children usually is positively associated with contraceptive use. The use of contraception is higher among people who want to stop childbearing (Bongaarts 1992). However, in the study, no significant relationship between desire to have more children and stage of change for IUD use was found. The reason may be related to the difference of analytical approach. In other studies, contraceptive use was dichotomised (yes/no), while in this study the use of the IUD was categorized by three stages of readiness to accept the IUD for contraception. The 'no' category was similar to the combination of precontemplation and contemplation/preparation stages.

In South East Asian countries, a son is preferred because they can inherit wealth, provide security for parents in older age, and continue the family name (Wongboonsin and Ruffolo 1995; Haughton and Haughton 1995). Son preference is prevalent in Vietnam (Haughton and Haughton 1995). In this study, more than two-thirds of men had a son in their family, and more than half of them also desired more sons than daughters. A majority of men desired only one son and the maximum desired number was three, which was much lower than found in Bangladesh and Pakistan (Hussain et al. 2000; Nosaka 2000).

According to Nosaka (2000), in populations where contraceptive prevalence is high, a desire for a son will have a significant effect on use of modern contraceptives.

Studies have shown that couples who have a son are more likely to practice contraception than those who have not (Oyeka 1989; Stash 1996). Men who have accepted IUDs for contraception are almost two times more likely to have a son in the family than those have not. Although some recent studies have shown that son preference is less prominent in Vietnam (Haughton 2000; Mai et al. 2001), results from this study still show support for the association of son preference and contraceptive use.

One-fourth of men in this study's sample had wives who had undergone abortion. The maximum number of abortions was four. Men who accepted the IUD for contraception were more likely to have wives who had not had an abortion. Abortion has an inverse relationship with IUD adoption and the use of IUD reduces the risk of abortion. This finding is consistent with other studies. Gorbach et al. (1998) examined contraception and abortion in two Vietnamese communes and found the use of the IUD reduced the likelihood of subsequent abortions in these communes by 70 percent. For rural people, the use of traditional methods increased the likelihood of abortion by 1.66.

Although most of Vietnamese people officially are not claimed to be Buddhists, they were brought up with Buddhists beliefs as Buddhist's followers (Belenger and Hong 1998). According to the ethics of lay Buddhists in Vietnam, abortion is seen as a severe sin. However, in societies where the contraceptive choice is limited, abortion is likely to remain an important option for limiting family size (Kulszycki et al. 1996).

#### **8.2.2. Measures of men's readiness to accept IUD for contraception**

A detailed review of the literature on behaviour change and contraception revealed that perceived benefits, costs and self-efficacy are important social cognitive factors in predicting contraceptive use. Contraceptive knowledge and couple communication are positively associated with contraceptive use.

### *TTM constructs*

The central construct of TTM is stage of change. Men were categorized into five stages of readiness to accept IUDs for contraception by assessing their intention of accepting IUDs for contraception. The staging algorithm adapted from Grimley and Lee (1997) was used in a pilot study (Chapter 4). The appeal of the SOC is that it conceptualises change as a process of movement through a sequence of five stages (Prochaska et al. 1992). It was found that SOC measures based on TTM provide sensitive assessment of readiness to accept the IUD for contraception (Chapter 4). The SOC construct has also been used for selecting appropriate intervention. By locating a person in a specific stage of the change process, a targeted intervention can be provided by customizing the message to meet his current needs, rather than expecting his needs to match an action-oriented intervention program (Velicer et al. 2000).

In the sample population, the baseline survey found above half in the action/maintenance stage; less than one-third was in the precontemplation stage and a very small proportion was in the contemplation/preparation stage. This distribution is not consistent with other studies, where the highest proportion of people was in the precontemplation or contemplation stages for condoms or the pill (Grimley et al.1995; Galavotti et al.1995; Grimley and Lee 1997; Stark et al.1998). The difference reflects the long history of the IUD as the dominant method of contraception in Vietnam. Although other modern contraceptive methods have been introduced in Vietnam, the IUD is still the most common method in the current decade (NCPFP 1999).

The intermediate (dependent) constructs of TTM are decisional balance and self-efficacy. These measures are sensitive to progress through all stages (Velicer et al. 2000). In this study, the decisional balance construct examined the perceived payoff for the men for adopting and continuing IUD use (i.e. decisional balance or the pros and cons of accepting contraception and IUD use), and examined the men's ability to perform and maintain behaviour (self-efficacy in convincing wives to start or to continue IUD use). The use of measures of decisional balance and self-efficacy

for contraception have been reported and validated in other studies, but mainly for HIV/AIDS prevention (Grimley et al.1995; Galavotti et al.1995; Grimley and Lee 1997; Stark et al.1998). The review of the literature did not reveal any measures for IUD use at the time the study was designed. Given no existing measures (scales) and the need for such measures to be specific for the behaviour (IUD acceptance) and context (a rural Vietnam community), the pilot study was conducted to develop reliable and valid measures for the two rural communes. Reliable and valid measures for the readiness of rural Vietnamese men to accept IUD use were developed and validated in the pilot study (Ha et al. in press).

Contraceptive behaviour is influenced by the dyadic relationship between couples. The literature suggests that husband's approval is the most important factor in contraceptive use (Joesoef et al. 1988; Lasee and Becker 1997; Kamal 2000) and husband's approval will increase the odds of using an IUD by 5.42 times (Kamal 2000). In developing the scales for pros and cons, focus group discussion and in-depth interviews were conducted to ascertain relevant salient beliefs. The developed scale took into account the attitudes and behaviour of a wife who may have been influencing her husband's IUD acceptance. For example, the cons for IUD use, which included wives' concern about possible side effects (bleeding, abdominal pain, etc.), were found as significant predictors for delayed progress from the contemplation/preparation to the action/maintenance stage. Those who reported less concern about side effects were more likely to accept the IUD for contraception than those who reported high concern for the IUD. This finding was consistent with other studies in family planning, where contraceptive users tend to report less barriers than non-users (Lowe and Radius 1987; Keith et al. 1991). Studies also show that side effects are the main barrier for contraceptive adoption (Bongaart and Bruce 1995).

TTM, the model for which both 'strong and weak principles of progress' govern the pros and cons constructs, posits that progress from the precontemplation stage to the action stage involves approximately 1 standard deviation (SD) increase in the pros (strong principle) and approximately a 0.5 SD decrease in the cons (weak principle) (Prochaska et al. 1992). Results from the baseline survey, along with the means and standard deviations of these constructs across the stages, did not provide direct

support for this principle (Table 5.17). However, consistent with the model, pros for IUDs were significantly ( $P<0.05$ ) higher for those men in the action/maintenance than those in the precontemplation stage, while cons for IUD use were significantly ( $P<0.05$ ) lower for those in the action/maintenance stage than for those in the precontemplation. But this direction was not found for pros and cons for contraception in general

Interpersonal and social/situational aspects that may affect willingness or ability to accept the IUD for contraception were captured by using the construct of self-efficacy. Self-efficacy for IUD use assessed men's confidence to convince wives to use, or to continue using, the IUD despite concerns about headache, bleeding, abdominal pain and difficulty in sexual intercourse. People who were more confident in convincing wives to use, or to continue using, an IUD were almost 3 times more likely to accept an IUD for contraception than those who were less confident. The finding is consistent with other studies. It has been argued that self-efficacy is the most important prerequisite for behavioural change (Bandura 1986), and it has been studied with respect to prevention of unwanted pregnancies and shown to be a significant predictor of contraceptive behaviour (Levinson et al. 1998; Cecil and Pinkerton 1998).

In the baseline study, self-efficacy for IUD use increased from the precontemplation stage to the action/maintenance stage (Table 5.17), consistent with other TTM studies. An increase in self-efficacy has been consistently observed in cross-sectional studies that show good discrimination between stages, with individuals in higher stages exhibiting higher self-efficacy than those in lower stage (Velicer et al. 2000).

In both pilot and baseline studies, none of the measures for contraception in general were found to be significant predictors of men's readiness to accept IUDs for contraception. This result is inconsistent with other studies where pros and cons and self-efficacy were significantly associated with stage of change for contraception (Grimley et al. 1995; Galavotti et al. 1995; Stark et al. 1998).

Each contraceptive method requires specific skills and knowledge for its use. Knowledge and skills for IUD use are very different from those required for the use of condoms or the pill. Women who accept IUDs for contraception need to get the IUD inserted only once, and they need not worry about giving it any further technical attention. The use of condoms and the pill, however, require continual preparation and effort such as purchasing the item, getting the condom ready before intercourse and taking the pill everyday. Moreover, people who miss a dose or two of the pill need to have the knowledge to deal with this situation. Therefore, the intermediate constructs of TTM (decisional balance and self-efficacy), as measures for general contraceptive use are not significant predictors of men's readiness to accept the IUD for contraception, as they do not capture the specific skills and knowledge for its use.

Maibach and Murphy (1995) recommend three factors that should be considered when measuring self-efficacy: the behaviour, the specific situation and time frame. People tend to avoid the task that they believe exceeds their capability. People will not accept a contraceptive method if they feel the use of the method requires effort that exceeds their capability. Therefore, in order to assess the readiness to accept a specific contraceptive method, people need to be asked specific items measuring the pros/cons and confidence related to that method in particular, not items measuring contraception in general.

### *Contraceptive knowledge*

Knowledge of a contraceptive method can be measured by assessing what a participant recalls spontaneously and what s/he recalls with prompting (Ezeh et al. 1996). In the study sample, participants' knowledge of contraceptive methods was very high (99.4 percent) and was similar to levels found in a national health demographic survey in 1997. In Vietnam, the recall of at least one contraceptive method was found to be 98.7 percent (NCPFP 1999). The level of recall in the study was higher (99.4 vs. 96.3 percent) than in another study conducted in mountain villages (Mai and Montague 1998). The geographic difference and accessibility were given as the main reasons for the differences in knowledge about contraceptive methods between the two geographic regions (NCPFP 1999).

Participants in this study had higher knowledge than those in West Africa (85 percent) and East African (98.8 percent), but were similar to those in a Bangladeshi study (99.7 percent) (Ezeh et al. 1996). The most widely known method was the IUD, followed by condoms and the pill, while in other countries the best known was the pill, followed by condoms and sterilisation (Ezeh et al. 1996). This reflects the difference in contraceptive methods used in these countries. In Vietnam, the IUD is the most commonly used contraceptive method, while in other countries the pill and condoms are the two most widely used modern methods.

Different knowledge indicators were measured in the study i.e., spontaneous, prompted and total recall of modern, traditional and at least one contraceptive method. However, only spontaneous recall of traditional methods was found a significant predictor of stage of change for IUD use. The finding is inconsistent with other studies, where knowledge of modern contraceptive methods was reported as a significant predictor in modern contraceptive use (National Research Council 1993). Difference by stage may not have found, as there is a high level of contraceptive knowledge at baseline.

#### *Communication on family planning issues*

Couple communication is a significant predictor of contraceptive use. It allows shared decision-making and more equitable gender roles (Drennan 1998). More than two-thirds of couples communicated on family planning in the year that preceded the baseline survey. More frequent communication was found on topics such as the use of contraception, sex and family size, and less communication on spacing of births and abortion. It seems that as more than two-thirds of men did not want to have any more children, the question of spacing and abortion did not deserve attention. The frequency of communication is similar to other studies in Vietnam (Mai and Montague 1998; Mai 2001) and India (Jolly 1976), but it was higher than that in Pakistan (Mahmood and Ringheim 1997).

The first step in a rational process of fertility decision-making in a family involves communication between spouses. Such communication should be the most

important precursor of lower desired family size and increased contraceptive use. Research shows that discussion between partners is a positive predictor of current contraceptive use (Odimegwe 1999). However, in this study, couple communication was negatively associated with men's acceptance of the IUD for contraception. Those people, who had accepted the IUD for contraception for six months or longer were 1.8 times more likely to have a low level of communication with wives on family planning than those who had not accepted the IUD. The highest proportion with a high level of communication (34.8 percent) was found among men belonging to the contemplation/preparation stage. A lower proportion was reported among those in the precontemplation stage (27.1 percent). The proportion of high communication in the precontemplation stage was still higher than in the action/maintenance stage (27.1 vs. 17.4 percent).

One possible explanation of this finding is that, once IUD use is established, the need for discussing family planning is minimal, as it is a reasonably stable method. Therefore, more communication between the partners on family planning is to be expected among those in the precontemplation and the contemplation/preparation groups.

The baseline survey revealed that about 90.0 percent of men did not communicate with people other than their wives on family planning issues. Despite a long history of the family planning program, men still were reluctant to discuss such issues with other people since it is perceived as belonging to 'women's matters'.

In summary, TTM provided a useful framework for understanding how men intentionally changed their acceptance of the IUD. The model defines change as a gradual, continuous and dynamic process (Prochaska et al. 1994). The SOC provides information on when a particular shift in pros, cons and self-efficacy, and behaviour may occur. Findings from the baseline study confirmed that the pros and cons and self-efficacy for IUD use appear to be useful measures of readiness to accept IUDs, with the capacity to discriminate among people in different stages. People in the action/maintenance stage were more likely to have higher self-efficacy and lower cons for IUD use than those in the two lower stages. Measures specific for IUD use were more sensitive to men's readiness to accept the IUD than



measures for contraception in general. In addition to TTM constructs, contraceptive knowledge and communication on family planning were also found to be useful measures for men's readiness to accept the IUD for contraception. Those who accepted the IUD for contraception were less likely to recall traditional methods and less likely to discuss family planning issues with their wives.

### **8.2.3. Stage-targeted intervention and its effects on men's readiness to accept IUD for contraception**

Studies have shown that health education interventions with an action-oriented approach increase contraceptive knowledge, contraceptive uptake and reduce unwanted pregnancy in Zimbabwe and Nigeria (Mbizvo et al. 1997; Brieger et al. 2001). Action-oriented intervention programs are delivered without identifying people who are ready for action and those who are not; they are often ineffective with individuals who are not ready (Prochaska et al. 1992).

In the literature on TTM, it is argued that stage-targeted interventions are more effective (Weinstein et al. 1998; Velicer et al. 2000). Some intervention programs to increase contraceptive use have used the SOC construct to identify groups to be targeted (Cabral et al. 1996; Collins et al. 1999; Fishbein et al. 1999; Malotte et al. 2000). In these studies, the participants were classified by their stage of change of contraceptive use and the intervention was targeted to meet their needs. However, in most of these studies, condom use was studied for the purpose of preventing HIV/AIDS.

The interventions based on TTM have been able to combine good efficacy rates and good participation rates and can be disseminated to whole populations (Velicer et al. 2000). In this study, a stage-targeted strategy, where a common content of intervention was delivered to all people in the same stage, was used (Rakowski et al. 1998). The intervention material and information was provided more than once, on the premise that behaviour change is best fostered in gradual steps. If participants changed their stage of readiness to accept the IUD for contraception between two intervention rounds (e.g., moving from the precontemplation to the contemplation/preparation stage), they received a second intervention letter

corresponding to their new stage of readiness to accept IUDs (contemplation/preparation stage).

Some intervention programs to improve husbands' family planning involvement have also achieved significant results by increasing contraceptive use (Terefe and Larson 1993; Ozgue et al. 2000); by lowering contraceptive dropout rates (Amatya et al. 1994); and by reducing abortion rates (Wang et al. 1998). Acknowledging the important role of husbands in contraceptive use, this study hypothesized that men who have received the intervention would be more likely to report higher benefits (pros) and less costs (cons) for contraception in general and IUD use; be more confident (self-efficacy) in convincing their wives to use, or continue to use, IUDs; be more knowledgeable about contraception; be more communicative on family planning; and report higher IUD acceptance.

### *Knowledge*

In a majority of intervention studies, after exposure to an intervention, a significant increase in knowledge of reproductive health issues has been reported (Eisen et al. 1992; Speizer et al. 2001; Brieger et al. 2001). In this study, a significant increase was only seen in recall of traditional methods for the intervention group. The intervention letters included messages that identified traditional methods and stated that traditional methods had low effectiveness for prevention of pregnancy. Those who were exposed to the letters (intervention group) were therefore more likely to recall traditional methods at the follow-up survey. However, no increase in recall of modern contraceptive methods was found. This could be due to participants' very high level of knowledge of modern contraception at the baseline survey (94.0 percent).

### *Communication*

Couple communication has been reported as the most important factor in predicting contraceptive use (Drennan 1998). It allows people to share beliefs and preferences, to release fears related to using a method and to find ways to overcome the barriers that they face in adopting a method. Couple communication increased by 84.0 percent following the communication campaign promoting vasectomy in three Latin

American countries (Verno 1996). In another study in Tanzania, women who were exposed to a communication intervention were 1.9 times more likely to discuss family planning with their spouses, and were 1.7 times more likely to adopt a contraceptive method (Jato et al. 1999).

In this study, significant increase in couple communication on family planning and IUD acceptance were reported. Encouragement for men's communication with their wives and other people was conveyed in the letters as well as reinforced by the local health workers. Though the study did not evaluate the content of communication between the husbands and wives, it was assumed that the increase in the level of communication occurred on topics related to the intervention. The intervention was designed to increase communication on family planning and IUD use. Findings showed that the intervention was successful in terms of facilitating communication between men and their wives and other people on such a private topic.

#### *TTM constructs: decisional balance and self-efficacy*

The pros and cons of the decisional balance construct are similar to the perceived benefit and perceived barrier constructs in the Health Belief Model (Rosenstock 1974). HBM suggests that individuals weigh potential benefits of the behaviour against its psychological, physical and financial barriers. In TTM, the perceived benefits/costs are conceptualised as the pros and cons of the behaviour. The balance of pros and cons depends on the stage that individuals belong to (Prochaska et al. 1994). In the early stages of this study, men judged that the pros of accepting IUDs were outweighed by the cons. In the later stages, the opposite pattern occurred. The crossover took place before the action stage.

Past studies have reported effects for either pros or cons but not both in the same study. In a quasi-experimental study to assess the impact of adolescent sexual health interventions in Cameroon, only the effect on lowering perceived barriers to condom use for the intervention group was reported (Agha 2002). On the other hand, only the effect for increasing pros (advantages) for condoms was found in an intervention study among people at HIV risk (Fogarty et al. 2001). The perceived

barriers (cons) have been identified as significant predictors of contraceptive behaviour in many HBM studies (Conner and Norman 1995). This may indicate that for contraceptive behaviour, perceived barriers (cons) are more important than perceived benefits (pros).

In this study, effects were found for both lowering cons for IUD use and increasing pros for IUD use. These effects may be attributable to the clearly conceptualised messages about the IUD method (i.e. effectiveness, other benefits, and mildness of expected side effects) provided in the stage-targeted letters. Men, who received the intervention, may have achieved a better understanding of the effectiveness of the method, its availability and expected side effects. Therefore, this may have contributed to positive perceptions of the IUD, and to increased IUD acceptance.

Bandura (1986) has argued that self-efficacy is the most important prerequisite for behavioural change, and a significant increase in self-efficacy is frequently reported in both action-oriented and stage-targeted intervention studies (Eisen et al. 1992; Brieger et al. 2001; Fogarty et al. 2001). In this study, self-efficacy significantly increased from baseline to posttest. After the intervention, men reported higher confidence in convincing their wives to use, or continue to use, the IUD. This may be due to the intervention letters, where information relating to the IUD was given. Discussion with wives and other people, sharing experiences and reducing the fear related to IUD use would have contributed to an increase in the self-efficacy.

It was observed that the scores for pros and cons and self-efficacy in the control group at posttest were lower compared to the baseline. The long interval between the baseline and posttest (more than one year from March 2001 to June 2002) may have contributed to the variation in the answers (De Vaus 1995).

### *Stage of change for IUD*

The aim of the intervention was to promote effective contraceptive use, leading to an increase in contraceptive prevalence. The study showed compelling evidence that the intervention increased the prevalence of IUD use from 60.9 to 74.4 percent in the intervention group, while the control group remained without changes.

The purpose of the study was to design a stage-targeted intervention to increase participants' readiness to accept the IUD for contraception. The study used stage of change to categorize participants into groups based on their readiness to accept the IUD for contraception. Two constructs (decisional balance and self-efficacy) were used to modify the readiness to change. Contraceptive knowledge and communication were used as additional modifiable factors in the intervention study. The result provides additional empirical evidence for the efficacy of the strategy of involving men in family planning to increase contraceptive use in rural Vietnam (Terefe and Larson 1993; Ozgue et al. 2000) and it also supports stage-targeted intervention (Malotte et al. 2000; Fogarty et al. 2001). In order to increase contraceptive acceptance, family planning programs should target men. The intervention should target men with different messages according to their needs of change. Participants in the precontemplation stage should be provided with basic information on the behaviour change, while those in the contemplation/preparation stage should be provided with information aiming to increase self-efficacy.

#### **8.2.4. Methodological issues**

TTM has demonstrated both good efficacy rates and good participation rates (Velicer et al. 2000). Therefore, it was chosen as the model to develop the intervention. The intervention protocol developed for this study by the researcher was assessed to be a useful tool for local health workers in carrying out intervention activities, and it also was used by supervisors to check whether the health workers correctly conducted intervention activities (Chapter 6).

The intervention utilized the stage of change classification to identify men who were in need of change, and targeted them with specific messages and interpersonal counselling. The outcome assessment included social cognitive factors (ie. decisional balance and self-efficacy and stage of change); contraceptive knowledge; and communication.

The study employed local health workers to deliver the intervention under the supervision of district health workers in charge of the family planning program. The

study alerts others to the possibility of conducting intervention programs with the active participation of local health workers. These people are experienced in conducting health surveys for national health programs as part of their routine work. Involvement of local health workers helps the researcher win the confidence of the participants, and obtain truthful answers to sensitive questions such as those related to sexual matters. In addition, local health workers were able to verify the accuracy of the study's information regarding current IUD acceptance by comparing it to their own statistics.

In addition to the above-mentioned strengths of the design and implementation of the intervention, other methodological issues need discussion. Cook and Campbell (1979:37) defined internal validity as "the approximate validity with which we can infer that a relationship is causal". In a quasi-experimental study, some factors could be a threat to internal validity such as equivalence of participants' characteristics, and extraneous experience or environmental effects.

The equivalence of participants' characteristics refers to the difference between people who were in the intervention and the control groups, as well as the difference between people who were in the posttest and those who were lost to follow-up. The best design to obtain two study groups that are equivalent is to randomly assign people to these study groups; however, it cannot be done in a quasi-experimental study (Gliner and Morgan 2000). Therefore, the first key question is whether the intervention and control groups were equivalent in all respects prior to the intervention. To address this question, the study used two methods. Firstly, the baseline differences were identified and, secondly, the identified baseline differences were statistically controlled (using ANCOVA) to adjust for covariate variables.

In a longitudinal study, as a group of people is followed over time, there is almost always some dropouts or loss of cases. However, in this study, the proportion that was lost to follow-up was small (less than 7 percent). Therefore, a loss to follow-up (or mortality bias) was unlikely to be an issue in the study.

A selection bias may have occurred in the study due to non-random selection of participants. However, any bias was minimal as the study included all participants who fulfilled inclusion criteria from all the villages chosen for this study. The selection of intervention and control groups was based on geographic location, aimed to reduce contamination between study groups. Acknowledging that contamination cannot be eliminated, the study attempted to reduce its influence by locating the intervention group in villages that were separated by a distance of 2-3 km from the control group villages. Nevertheless, some exchange of information between intervention and control villages may have taken place. Communication between study groups may have affected the performance of the control group and, consequently, the results of the study. It is possible that if participants learn that they are in the control group, they may give-up or not try as hard, exaggerating differences between the intervention group and control groups (Gliner and Morgan 2000). This may be one explanation to the decline of communication in control group after intervention period. The other could be a response bias where the interviewers took more effort to obtain valid responses from the intervention group in relation to the control group.

As participants become more knowledgeable about the study measures and issues, a maturation effect can be produced that is independent of the changes, which the intervention is designed to produce (Gliner and Morgan 2000). People in the intervention group were intensively exposed to the intervention messages; therefore, the levels of contraceptive knowledge at posttest were more likely to be better than at baseline.

Field studies carry with them inherent problems. Many forces can affect the results of the study. For example, any external influence other than the intervention, such as messages on family planning from radio, television, and new family planning projects, may have affected results. A monitoring form was designed where all activities related to family planning in the local areas were recorded. This helped the researcher to ensure the changes in measures were attributable to the intervention and not to chance. No additional family planning program or activities other than routine activities took place in the study areas. There was no major change in the local health staff in either control or intervention villages during the intervention

period. Therefore, extraneous factors were unlikely to have affected the study results.

Many questions were repeated to the same group of people, and the same local health workers conducted the baseline and the posttest surveys. The interviewers were more skilled in the posttest survey than in the baseline survey (as they used the same questions), and respondents were more likely to be familiar with the questions and have prepared answers. However, it is likely that these effects were minimal in this study as there was a long interval between baseline and posttest surveys (Gliner and Morgan 2000).

#### **8.2.5. Limitations**

A weakness of the study was that all measures were based on self-report. However, the reliance on self-report data was necessary because contraceptive behaviour is a private issue. The self-reported change in social cognitive factors (pros, cons and self-efficacy) corresponded with the change in observed IUD acceptance. An effect of over-reporting due to the tendency to give socially desirable responses was unlikely to have occurred in the study because the local health workers were knowledgeable about the contraceptive behaviour of households. The increase in IUD acceptance in the intervention group at posttest was not significantly due to biased self-reporting but to actual intervention effects.

A second possible weakness was that all local health workers who conducted the intervention also evaluated the intervention at posttest. They may have tended to overestimate the participants' responses. Employment of independent evaluators blind to the intervention was not possible due to limited resources. However, supervisors verified the participants' responses and ensured that no systematic over-reporting occurred (Chapter 6; Appendix G).

Another possible limitation was that the study did not assess change by each of the five stages of transition. As presented earlier (Chapter 4), it was decided to compare the transitions from the precontemplation to the contemplation/preparation stage and from the contemplation/preparation to the action/maintenance stage.



Combining stages is an appropriate strategy when designing a stage-targeted intervention providing the modified stages of change retain the capacity to capture the nuances of change (Norman et al. 2000).

The two communes were not assumed to be a representative sample of a larger set of communities or population at risk. Further studies are required to assess the external validity of the findings of this study.

The measurement scales were found to have reasonable internal consistency reliability (Cronbach's alpha coefficient). However, further tests for construct validity were not possible. Many studies have used Cronbach's alpha coefficient as an indicator of construct validity (Gliner and Morgan 2000). The test-retest reliability in this study was not as high as the internal consistency. This was lower than internal consistency, and it could be related to the lower scores on social cognitive factors (pros, cons and self-efficacy) for the control group at posttest; this could have been the reason for this deficiency.

The study showed that the decisional balance and self-efficacy measures for IUDs were sensitive for assessing men's readiness to accept the IUD for contraception (Chapter 4 and 5). The time period used to categorize people to different stages of change may not be appropriate in the case of the IUD use. Using six months as the time period in the staging algorithm is arbitrary for this behaviour; it is noted that most surveys of contraceptive methods use a twelve-month period for assessing discontinuation rates (Hicks 1998). Moreover, people who have used an IUD for a long period (up to 10 years) may have different perceived pros, cons and self-efficacy for IUD use from those who have recently adopted the IUD.

At analysis of the posttest, baseline differences of socio-demographic characteristics such as number of children and history of abortion at the posttest analysis were not controlled for. Further analyses, which control for the baseline differences are required.

Finally, the study was not designed to separate effects of the different intervention components (i.e. interpersonal counselling and targeted letters). It was possible that

one intervention component had lower (or no) effectiveness compared with the overall effectiveness. However, the main purpose of the study was to test an intervention suitable for a rural community in Vietnam. Therefore, the issue about the most effective component of the intervention was not considered to be important.

### **8.3. Recommendation and conclusions**

This part presents recommendations for further research and improvement to family planning program in Vietnam.

#### **8.3.1. Recommendations for further research**

This study provides additional evidence for the use of behavioural theory-based interventions in programs promoting the acceptability of a modern contraceptive method. The findings are consistent with previous studies that showed husband involvement was likely to result in higher effective modern contraception (Terefe and Larson 1993; Wang et al. 1998), and effectiveness of stage-targeted intervention in changing behaviour (Velicer et al. 2000).

This research provides the first reported evidence of the efficacy of stage-targeted interventions for increasing men's acceptance of the IUD for contraception. The constructs, self-efficacy and decisional balance, were found useful in shaping the contents of targeted letters in the delivery of the intervention.

Further studies could test TTM stage-targeted interventions for other contraceptive methods such as condoms and the pill in similar rural settings. Condoms and the pill have been promoted in Vietnam for a long time, but their prevalence is rather low. Further research to identify the distribution of people by their readiness to accept these methods is needed. In this study, the five-stage model of change had questionable application for IUD use. Further research is needed to validate staging algorithms and time periods (6 months or one year or longer) for IUDs as well as for other contraceptive methods.

The study, undertaken in two rural Vietnamese communes, focused on the individual level. There is need for further research to include group and community levels.

Finally, it is important to view the results of the study in the context of other current social-cognitive models of health behaviour change. Research evaluating the ability of other theories and models to explain health behaviour change (e.g. contraceptive behaviour change) is also needed. Research that integrates constructs from other theories and models is worthy of investigation.

### **8.3.2. Impact of the study on family planning services**

Contraceptive use in Vietnam is dominated by the IUD, which accounts for two-thirds of modern contraception. On the other hand, there is a high rate (25 percent) of use of traditional methods despite their high failure rate (NCPFP 1999). The use of other methods like the pill, condoms and female sterilization are low, at 5- 6 percent. The use of injectables, male sterilization and vaginal methods is negligible.

Vietnam is among the countries with the highest abortion rate; 2.5 abortions per woman life time (Goodkind 1994) and a substantial proportion of women uses abortion as a substitute for contraception (Hieu et al. 1993). As promotion of IUD use targets women, there is lack of attention given to men and to their role in family planning acceptance. Therefore, it is suggested that a stronger focus on men would be an effective strategy. The present population policy on male participation in reproductive health and family planning programs should be strengthened.

Couple communication is reported to be the most important factor in contraceptive use (Drennan 1998). In rural settings, communication occurs but, because men are seen as the main decision-makers (Nustas 1999; Becker and Costenbader 2001) and the husbands' contraceptive preferences are likely to prevail (Mason and Smith 2000), couples may not reach a decision together. This study provides empirical evidence of the low level of communication between the men and their spouses. Using stage-targeted messages informing recipients of the benefits of the IUD and importance of couple communication feasibly shifted the communication from a

low to a high level. The resulting increase in contraceptive use in the intervention group suggests that providing men with more information on the importance of communication on family planning, helping them overcome cultural barriers on son preference, providing counselling on the risk of unwanted pregnancy and abortion, would help them be more supportive and more aware of the concept of shared decision-making in family planning (Wells 1997).

In the case of IUD use, husbands may be unaware of the method, unconcerned about the side effects and therefore not ready to accept the IUD for contraception (precontemplation group). A screening instrument based on a stage of change algorithm would be a practical tool that family planning counsellors could use in field situations in Vietnam. A short form of the instrument with few practical and easy-to-use questions would be helpful for family planning counsellors. The training course for those counsellors on how to identify the men in different stage of readiness to accept IUD, with role-play as conducted in this study is a practical method to implement this change.

Once identified, the precontemplation group should be provided with basic information about IUDs, i.e. how to use it, its potential side effects and how to manage side effects. When men become more conscious of the above issues and decide to use the IUD, they should be provided with messages that help to increase their confidence (self-efficacy) in persuading their wives to accept IUD use (contemplation/preparation group). The message given to the men should be short and easy-to-understand, using local language. The study has provided additional empirical evidence of the value of increasing men's self-efficacy in increasing wives' acceptance of the IUD (Kim et al.1998).

From a service delivery perspective, findings from the study have important implications for the efficient and effective delivery of family planning programs in rural areas. The challenge for family planning in Vietnam is not only to promote contraceptive-mix by increasing the use of modern methods such as condoms and the pill. The adoption of such an approach would be helpful in implementing family planning programs in Vietnam but it is also necessary to target men to

increase their acceptance of modern contraception. This will result in an increase in contraceptive use and reduce the abortion rate.

### **8.3.3. Conclusions**

Findings from the study provide evidence to support the claim that improving male involvement will increase contraceptive use. Targeting men with appropriate messages corresponding to their stage of readiness to accept the IUD for contraception increased their acceptance of the IUD and contraceptive prevalence in the two rural communes in Vietnam.

The study supports application of TTM constructs in investigating men's readiness to accept the IUD for contraception in rural Vietnam. Findings revealed that measures specific for IUD use are more sensitive in assessing the stages than measures for general contraception. Therefore, it is recommended that in such studies specific measures for each contraceptive method need to be developed.

This is the first time that the TTM has been used as a theoretical framework for understanding men's contraceptive behaviour in Vietnam. The application of social cognitive theory in behaviour change communication programs can assist the population strategy of 'small sized and healthy families' and 'prosperous and happy life' by the year 2010 in Vietnam. Given the popularity of TTM in public health programs for reproductive health, findings of the study will hopefully contribute to an understanding of men's roles in acceptance of contraceptive methods in Vietnam.

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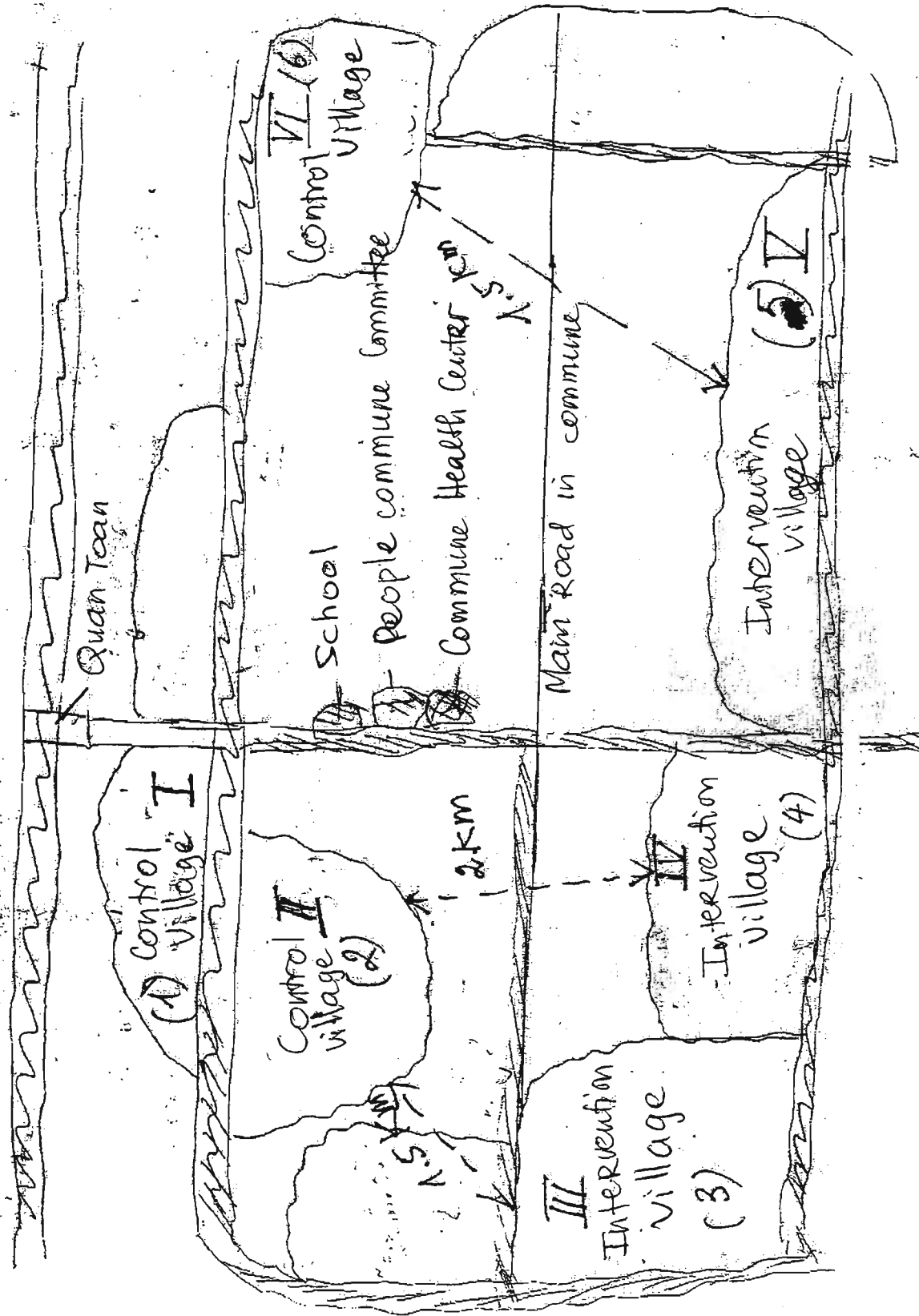
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**APPENDIX A: Maps of An Hong and Quoc Tuan communes.**

# AN HONG commune

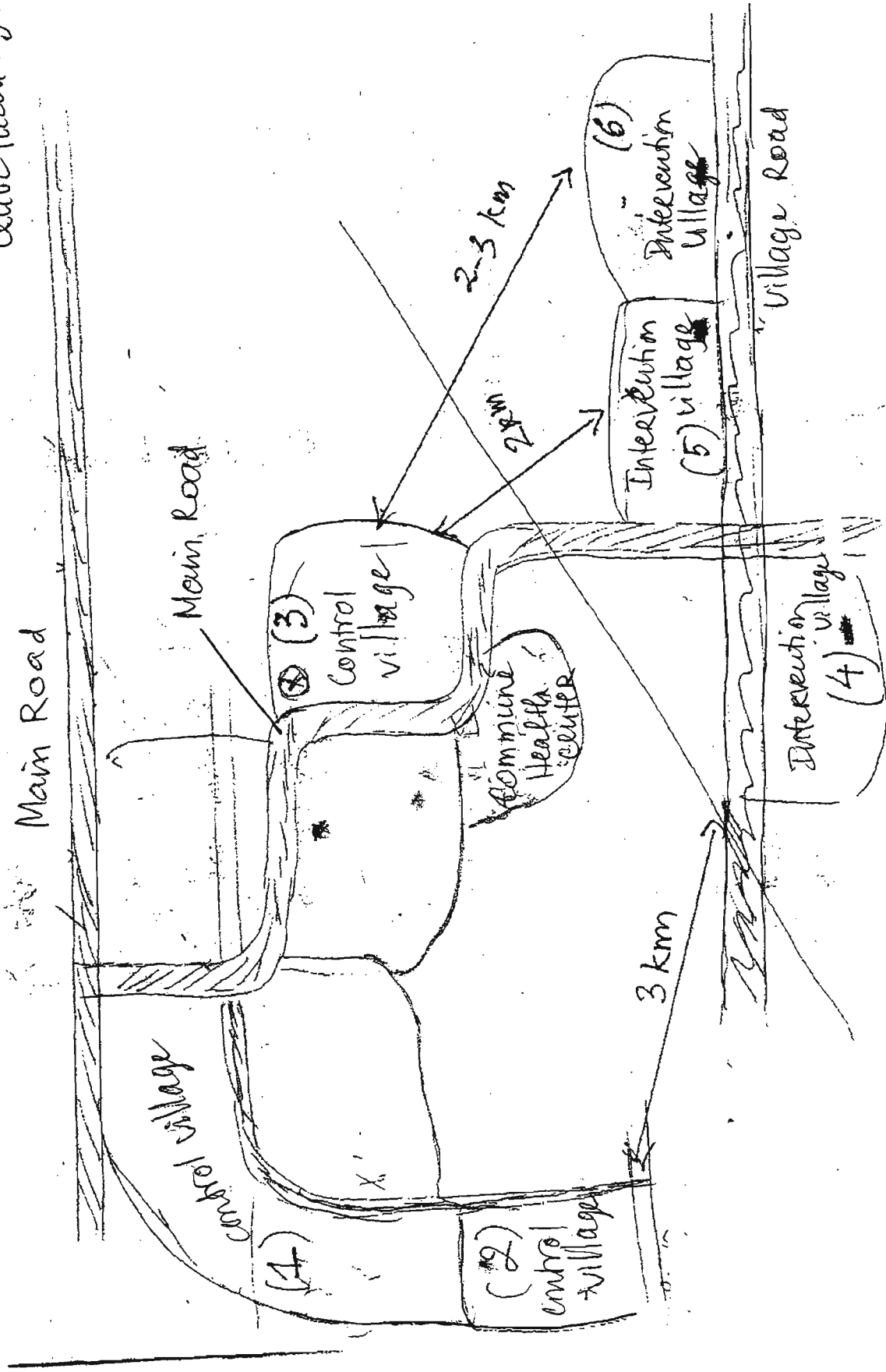
Distance between Suur Tuuā - Anhō  
8 km.

High way No. 5



# Quoc Tuan Commune

Distance between  
Quoc Tuan - An Hong: 8 km.



**APPENDIX B: Ethic approval**

- 1. University of Wollongong approval
- 2. Hanoi School of Public Health approval





**EXPEDITED REVIEW**

**In reply please quote: SD:KM HE00/198**

**Further Enquiries: Karen McRae (PH: 42214457)**

7 November 2000

Mrs B. Ha  
Graduate School of Public Health  
University of Wollongong

Dear Mrs Ha ,

I am pleased to advise that the following Human Research Ethics application has been **approved**. As a condition of approval, the Human Research Ethics Committee requires that researchers immediately report anything which might warrant review of ethical approval of the protocol, including: serious or unexpected adverse effects on participants, proposed changes to the protocol, unforeseen events that might affect continued ethical acceptability of the project and discontinuation of the research project before the expected date of completion.

Ethics Number: HE00/198

Project Title: Male involvement in family planning in rural Vietnam

Name of Researchers: Mrs B. Ha

Approval Date: 1 November 2000

Duration of Clearance: 31 October 2001

Please note that experiments of long duration must be reviewed annually by the Committee and it will be necessary for you to apply for renewal of this application if experimentation is to continue beyond one year.

Professor G.D. Calvert  
Chairperson  
Human Research Ethics Committee

**AUSTRALIA'S UNIVERSITY OF THE YEAR 2000-2001**

Joint Winner – Preparing Graduates for the e-World 'Good Universities Guides'

**AUSTRALIA'S UNIVERSITY OF THE YEAR 1999-2000**

Joint Winner – Outstanding Research & Development Partnerships 'Good Universities Guides'

**RENEWAL**

**In reply please quote: SD:KM HE00/198**  
 Further Enquiries: Karen McRae (PH: 42214457)

Good Universities Guides

**AUSTRALIA'S UNIVERSITY OF THE YEAR**Preparing Graduates for the e-World — Joint Winner **2000-2001**Outstanding R&D Partnerships — Joint Winner **1999-2000**

31 July 2001

Mrs B. Ha  
 Graduate School of Public Health  
 University of Wollongong

Dear Mrs Ha ,

I am pleased to advise that **renewal** of the following Human Research Ethics application has been **approved**. As a condition of approval, the Human Research Ethics Committee requires that researchers immediately report anything which might warrant review of ethical approval of the protocol, including: serious or unexpected adverse effects on participants, proposed changes to the protocol, unforeseen events that might affect continued ethical acceptability of the project and discontinuation of the research project before the expected date of completion.

Ethics Number: HE00/198  
 Project Title: Male involvement in family planning in rural Vietnam  
 Name of Researchers: Mrs B. Ha  
 Approval Date: 27 July 2001  
 Duration of Clearance: 26 July 2002

Please note that experiments of long duration must be reviewed annually by the Committee and it will be necessary for you to apply for renewal of this application if experimentation is to continue beyond one year.

Assoc. Prof. Colin Thomson  
 Chairperson, Human Research Ethics Committee

*P.S. Please forward a copy of amended questionnaire.*





## RENEWAL

In reply please quote: SD:KM HE00/198

Further Enquiries: Karen McRae (PH: 42214457)

9 September 2002

Mrs B. Ha  
Graduate School of Public Health  
University of Wollongong

Dear Mrs Ha ,

I am pleased to advise that **renewal** of the following Human Research Ethics application has been **approved**. As a condition of approval, the Human Research Ethics Committee requires that researchers immediately report anything which might warrant review of ethical approval of the protocol, including: serious or unexpected adverse effects on participants, proposed changes to the protocol, unforeseen events that might affect continued ethical acceptability of the project and discontinuation of the research project before the expected date of completion.

Ethics Number: HE00/198

Project Title: Male involvement in family planning in rural Vietnam

Name of Researcher/s: Mrs B. Ha

Final Approval Date: 5 September 2002

Duration of Renewal: 30 December 2002

This certificate relates to the research protocol submitted in your original application and includes all approved amendments to date. Please note that research projects of long duration must be reviewed annually by the Committee and it will be necessary for you to apply for renewal of this application if experimentation is to continue beyond one year.

/  
Assoc. Prof. Sue Dodds

**Chairperson,  
Human Research Ethics Committee**



**TRƯỜNG CÁN BỘ QUẢN LÝ Y TẾ**  
**HANOI SCHOOL OF PUBLIC HEALTH**

138 Giảng Võ, Hà Nội, Việt Nam: Tel : (04) 8.452822; Fax : 84-4-8452738; Email : cbqlyt @ netnam.org.vn

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October 13, 2000

Chairperson  
Human Research Ethic Committee,  
**University of Wollongong, NSW 2522, Australia.**

**Tel: (02) 4221 3386**

Fax: (02) 4221 4338.

Dear Professor Calvert:

I am pleased to advise that the Human Research Ethic application from Dr. BUI THI THU HA has been approved. This research will be carried out in a field district of Hanoi School of Public Health.

Project title: Male involvement in family planning in rural Vietnam.

Place: An Hai district, Hai phong province.

Target population: Male aged 19-45 years old.

Name of researcher: Mrs. Bui Thi Thu Ha.

Approval date: October 5, 2000

Duration of clearance: 5 October, 2002.

Please note that in regard to this research all ethic requirements such as subject consent, privacy and confidentiality of respondents will be ensured.

Sincerely,

LE VU ANH, Ph.D.  
Dean of Hanoi School of Public Health.  
Chairperson, Human Research Ethic committee.

**APPENDIX C: Participant’s consent form for interview**

## CONSENT FORM

### MALE INVOLVEMENT IN FAMILY PLANNING IN RURAL VIETNAM

I \_\_\_\_\_ have read the Male involvement in family planning in rural Vietnam study information sheet. I understand that participation in the study is voluntary and that I am free to terminate the interview at any stage, I am aware that the interview will be recorded and that this recording will remain confidential. I am aware that recorded questionnaire will be coded to ensure my anonymity.

I understand that the interview will take approximately 30 minutes and will take place at a time and location at are suitable for me. I am aware that the interview has no bearing on my current or future life.

I understand that the information gained from the interview will be used to write Ph.D thesis and that the information may be published in appropriate journals and in conference proceedings.

I have discussed with Mrs Bui Thi Thu Ha my participation in the study and I have had the opportunity to ask questions.

I am aware that I can contact either Mrs Bui Thi Thu Ha (84 4 8452 822) or Dr Le Vu Anh (84 4 8452 822) if I have any further questions relating to the study.

If I have any concerns or complains about the conducts of the study I will contact the Ethics Officers at the University of Wollongong on 02 4221 3386, Dr Rohan Jayasuriya on 02 4221 3344 and Hanoi School of Public Health; Dr Le Vu Anh on 84 4 8452 822

I agree to participate in this study.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Print name:

**APPENDIX D: Training manual for interviews**

**Hanoi School of Public Health**

**TRAINING PROGRAM**

**MEN'S READINESS TO ACCEPT IUD FOR CONTRACEPTION  
IN RURAL VIETNAM**

**Time: 2/2001-7/2002**

**Location: An Hai, Hai Phong**

**Investigator. Bui Thi Thu Ha**

**Hanoi February 2001**



MEN’S READINESS TO ACCEPT IUD FOR CONTRACEPTION  
IN RURAL VIETNAM

Introduction of the research

- This is an intervention study, which is aimed to evaluate the role and contribution of men in family planning. The more actively men participate in family planning, the more effective contraceptive use will be reported, particularly in reference to IUD use. The study used the transtheoretical model of behaviour change as the underlying framework.
- Time: 2/2001-7/2002.
- Stages
  - 1- Pilot study: 2/2001.
  - 2- Baseline : 3-4/2001.
  - 3- Intervention: 11/2001 - 6/2002
  - 4- Posttest: 6-7/2002.
- Location

**An hai- Hai Phong**  
Two communes, Quoc Tuan and An Hong, and 6 villages from each commune were selected

1.	Commune:	Quoc Tuan (1)		An Hong (2)	
2.	Village:	1 Kieu ha-X7 2 Kieu ha-X6 3 Van xa - D1	4 Nhu Kieu 5 Nhu Kieu 6 Kieu thuong	1 Pham Dung 2 Tat xung 3 Le Lac 2	4 Le Lac 1 5 Ngo Hung 6 Le sang
3.	Household number:				
4.	Name of men				
5.	Group	Intervention 1: 1.3 (C1) ; 1.4 ( C2); 1.6 (C3); 2.2 (C4); 2.5 (C5) ; 2.6 (C6) Control 2: 1.1 (D1); 1.2 (D2); 1.5(D3); 2.1 (D4); 2.3 (D5); 2.4 (D6)			
6.	ID number	C V G MONTH YEAR BIRTH			

- 1. Objective of first period (baseline)
  - To identify the men’s knowledge of, communication about, perception and practiceof, family planning
  - To identify their roles (contribution to) in family planning areas
- 2. Objective of second period (intervention)
  - To promote men’s contribution to family planning and, subsequently, to increase IUD use among couples

How to ask the questions and record the answers

Identification part

ID: how to write the ID number for each participant

For example: first column (commune), number ‘1’ will be written for Quoc Tuan commune, and number ‘2’ will be written for An Hong commune

1								
---	--	--	--	--	--	--	--	--

2								
---	--	--	--	--	--	--	--	--

The second column (village), look at the identification part to know the code of each village. For example, if the participant comes from Van xa village, then number 3 will be written in the second column next to the first column of number ‘1’

1	3							
---	---	--	--	--	--	--	--	--

Third column (study group). There are two study groups, intervention group and control group. The abbreviation for the intervention group is C and D for the control group. If the men come from Quoc Tuan commune, Van xa village, then the number should be 1.3. C. 1.

1	3	C	1					
---	---	---	---	--	--	--	--	--

The next column will record the name of participant. Each column records only one letter. Remember to write only name, not surname nor middle name. For example, if the name of participant was Nam, then record only NAM in the next three columns

1	3	C	1	N	A	M		
---	---	---	---	---	---	---	--	--

The last two columns are for recording the year of birth. For example, if the year was 1957, then the 57 will be recorded in the last two columns.

1	3	C	1	N	A	M	5	7
---	---	---	---	---	---	---	---	---

Results of interview

This part is designed for interviewer to use after finishing interview. In addition to writing the name and date of interview, it is also necessary to summarise the work that they have done in this interview.

- If the interview was completed, circle the number 1. If the participant was absent, circle the number 2. If the participant was not available, and the interviewer needs to come back to do the interview, circle the number 3. If the man refuses to answer the questions, circle the number 4. For any other cases, please write in the result box.

Supervision

This part is designed for supervisor. The task of supervisor is to check whether interviewer correctly asked the questions and recorded the answers. The supervisor has two tasks:

1. To check at the end of each day all collected questionnaires to see whether results are correct. Check every part, every question to find any mistakes. If something is not clear, they need to check with interviewer the next day. Check all answers in the results part, if something is wrong, please mark in red.
2. Random supervision: a total of 20% of all questionnaires will be randomly re-checked. If any interviewer had a total of 10% of questionnaires wrongly recorded, he/she will be requested to re-administer all questionnaires again. Interviewers receive the allowance only after confirmation of supervisor.

Screening questions

The sample list was previously collected. However, interviewers need to check the suitability of participants again before conducting the interviews. If any of the following criteria are detected, then the interviewer should stop the interview.

1. Participant over 45 or younger than 19 years old
2. Participant married but not living with wife in the same house for the last 3 months
3. The participant's wife currently is pregnant
4. The participant is planning to have next child in the next 6 months
5. The participant consistently use condoms
6. The participant consistently use the pill

SECTION 1. SOCIO-DEMOGRAPHIC INFORMATION

This part is information on participant and his wife about birth, education, occupation, number of children, etc.

**Q 101:** The question is to obtain date of birth of participants. Please record last two numbers of the year only. For example, if the participant was born in November 1957, then record 11 for the month, and 57 for the year. Please look at the following box:

Q 101	What is your birth date?	<div>MONTH: [ _1_ / _1_ ] DK 98 NO RESPONSE 99  YEAR [ _5_ / _7_ ] DK 98 NO RESPONSE 99</div>	
-------	--------------------------	---	--

**Q 102** This question is to re-check the accuracy of answers because many people may give the date according to the lunar calendar which will cause a difference of one year.

Q 102	What is your current age? (compare and correct Q 101 if needed)	<div>AGE IN COMPLETED YEARS [ _4_ / _4_ ] DK 98 NO RESPONSE 99 ESTIMATE BEST ANSWER</div>	
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The person who is cleaning data will be responsible for identifying accurate answer.

**Q 103 - Q 105:** these three questions ask about the educational level of participants

**Q 103:** If the man answers that he did not study at all, then skip to question Q 106, and record in the respective space the number ‘2’. If the answer is yes, then record the number ‘1’ and ask next question.

Q 103	Have you ever attended school?	YES 1 NO 2 NO RESPONSE 99	} Q 106
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Question **Q104** asks about the educational level. Please record the respective number of educational level. For example, if the educational level was lower secondary education, then record number ‘3’

Q 104	What is the highest level of school you have completed : primary, lower , upper secondary or higher?	ILLITERATE 1 PRIMARY 2 LOWER SECONDARY 3 UPPER SECONDARY 4 HIGHER 5 DON'T KNOWN 98 NO RESPONSE 99	
	CIRCLE ONE		

**Q 105:** this question asks the participant to estimate total years of education that he has had. Here are some possible estimations:

- Primary education: 5 years
- Lower secondary education: 4 years
- Upper secondary education: 3 years
- Higher education: need to check how many years in university or college. For example: College: 2 years  
University: 4- 6 years  
Postgraduate education: 2 – 3 years

Then the interviewer needs to write up the total years in the respective box. For example, ifthe participant finished only lower secondary education, then the total years of education will be 9, so write the number ‘9’ in the box

Q 105	How many total years of education have you completed up to now?	YEARS COMPLETED [_0_/_9_] NO RESPONSE 99	
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Some people do not remember the total years and do not answer this question; when this happens,circle the number ‘99’

**Q 106:** this question asks the participant about the length of time he has lived in the commune. If he has lived there less than one year, then circle the number ‘00’. If he does know or remember, then circle the number 98; if he does not answer the question, then circle the number 99. For example, if he has lived about 30 years in the commune, then write the number ‘30’. Do not count the time that he lived away from the commune.

Q 106	How long have you lived here in this commune?	NUMBER OF YEARS [ ]/[ ] IF LESS THAN 1 YEAR 00 DK 98 NO RESPONSE 99	
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**Q 107:** this question asks the participant about his religion. If the answer is different from religions given here, then circle 'other'; if 'no religion', then circle the number '0'. If he does not answer, then circle the number '99'

Q 107	What religion are you?	BUDDHIST 1 CATHOLIC 2 CHRISTIAN 3 OTHER (SPECIFY) _____ NO RELIGION 0 NO RESPONSE 99	
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**Q 108:** this question asks the participant about his ethnicity. If it is mixed, then circle the number 8.

Q 108	To which ethnic group do you belong?	KINH 1 HOA 2 MUONG 3 NUNG 4 HMONG 5 OTHER (SPECIFY) _____ MIXED ETHNICITY 8 NO RESPONSE 99	
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**Q 109:** this question asks the participant about his age when he married his current wife. If he does not remember, circle number 98; if he does not answer, circle number 99. Please ask the years by Western calendar, do not ask year by lunar calendar. For example, if he married when he was 24, then write number 24 in the box.

Q 109	How old were you at the time of your current marriage?	AGE IN COMPLETED YEARS [ ]/[ ] DK 98 NO RESPONSE 99	
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**Q 110:** If the man has more than one wife, then ask the age when he married his first wife. If he has only one wife, then the year should be similar to Q109. Please ask age by Western calendar

Q 110	How old were you at the time of first marriage?	AGE IN COMPLETED YEARS [ ]/[ ] DK 98 NO RESPONSE 99	
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**Q 111:** This question asks the participant about his occupation. If he is a government officer, then circle number 1; if he has another profession than those mentioned here, then please write down the occupation. For example, if he is working in a joint venture company, then write down in 'other' : joint-venture company

Q 111	What is your current occupation?	GOVERNMENT STAFF 1 PRIVATE BUSINESS 2 AGRICULTURAL /FARMING JOB 3 HOUSE-HUSBAND 4 OTHER (SPECIFY) Joint-venture company----- DK 98 NO RESPONSE 99	
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**Q 112:** This question asks the participant about total number of children (living and dead) that he has ever had. For example, if the total number of births was 3, then write the number ‘3’

Q 112	How many live births have you had?	TOTAL BIRTHS: 3 NONE 0 DK 98 NO RESPONSE 99	
-------	------------------------------------	--	--

**Q 113:** this question asks the participant about the total number of children that he hashad with his current wife (sons, daughters, and total children). If there is one daughter, one son, then the total will be two.

Q 113	How many are now surviving with your current wife?	TOTAL SONS: 1 TOTAL DAUGHTERS 1 TOTAL CHILDREN 2 NONE 0 DK 98 NO RESPONSE 99	
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**Q 114:** this question asks the participant about the time of his the last birth, estimated by year. For example, if the last birth was 5 year ago, then record number 5. If he also knows the month, then record this, for example, 5 years and 6 months. The month could be rounded up.

Q 114	When was your last birth?	YEARS 5 MONTHS: 6 DK 98 NO RESPONSE 99	
-------	---------------------------	---	--

**Q 115:** this question asks the participant about his wife’s abortion history. If she has had an abortion, then circle number 1. If she has had no abortions, then circle number 2. If he does not know, or remember, then skip to **Q 117**. If his wife has had an abortion, then ask next question Q 116.

Q 115	Has your wife ever had an abortion?	YES 1 NO 2 DK 98 NO RESPONSE 99	} ⇒ Q 117
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**Q 117- Q 123:** these questions asks the participant for information about his wife, similar to the information asked about him. Please refer to instructions for **Q 101-104-107-108-109**. **Remember to record year by Western calendar**

**Q 201:** this question asks the participant about the safe (non-conception) period of the menstrual cycle, i.e. the times of the month that couple can have sexual intercourse without fears of pregnancy. The answers are multiple. Read the question and answers to the men, then ask them to choose the answer. There are 4 possible answers. If the participant mentions other answers, then record them in 'other' answers. If he does not know, then circle number '98', if he does not answer, then circle number '99'. For example, if man answers SEVERAL DAYS BEFORE MENSTRUATION PERIOD and SOME DAYS AFTER MENSTRUATION PERIOD, then circle number 1 and 3 in the respective boxes.

Q 201	Which days of the woman's menstrual period do you feel are safe to have intercourse with your wife if you do not want her to conceive?	SEVERAL DAYS BEFORE MENSTRUATION PERIOD 1 DURING MENSTRUATION PERIOD 2 SOME DAYS AFTER MENSTRUATION PERIOD 3 MID-CYCLE BETWEEN MENSTRUATION PERIOD 4 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99
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Q 202	Now I would like to ask you about a different topic. Have you heard about family planning (contraceptive methods) before?	YES 1 NO 2	→ Section 5
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Q 203	Do you know any family planning method?	YES 1 NO 2	→ <b>Section 3</b>
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Q 204	Can you name the FP methods that you know? (spontaneous answer)	PILL 1 CONDOMS 2 IUD 3 VASECTOMY 4 TUBECTOMY 5 INJECTABLES 6 RHYTHMS 7 WITHDRAWAL 8 OTHERS (SPECIFY) _____ DK 98 NO RESPONSE 99
-------	---	---

For example, if he can list two methods, e.g. oral pill and IUD, then circle numbers 1 and 3

**Q 205:** In the participant does not give the name of any method himself, then you need to prompt him for the answer, and circle the method that he remembers in the respective box. For example, after prompting, he may remember the condom method; record the number 2 in the respective box.

**Q 206** asks the participant about the sources of information. The answers could be multiple. A similar approach is applied to **Q 207**.



**SECTION 3. COMMUNICATION ON FAMILY PLANNING**

This part is collects information on frequency of communication between men and other people on family planning issues. For example,

**Q 301:** In the past year, how often did you discuss with your friends about family planning issues? If the answer is yes, then asked how often, and circle the number 1 or, if the frequency is between 1-3 times, circle number 2. If he does know or does not answer, then circle number 98 or 99.

Q 301	In the past year, how often did you discuss with your friends about family planning issues?	NEVER	0	
		Yes		
		1-3 times	1	
		> 3 times	2	
		DK	98	
		NO RESPONSE	99	

The same approach is used to ask the other questions in this part.

SECTION 4: PRACTICE OF CONTRACEPTIVE METHODS

**Q 401:** if the participant does not use any contraceptive method, then skip to question Q 403.

**Q 402:** this question collects information on the participant’s contraceptive practice in the last month. The answer could be multiple. For example, he could use condoms with withdrawal or periodic abstinence. Remember to ask and record the right answers. Please remember there could be some cases, where the participant gives the name of a contraceptive method that he and his wife currently are using. However, in the Q202 and Q 203, he said he had not heard about any contraceptive method. In such cases, you should ask Q 204 and Q 205 again.

**Q 403:** If the participant states he does not use any contraceptive method in Q402, then ask him the reasons for not using a contraceptive method. Please ask the question and record the answers. The answers could be multiple. Use card 6 for people to select the answers from the respective boxes.

**Q 404:** this question asks the participant about the desired number of children that he wants. If the answer is 2, then write the number 2. If he does not know, circle number 98; and if he does not answer, then circle number 99.

Q 404	If you could chose the number of children you could have, how many would you have ?	Total number <u>  2  </u> Other _____	
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**Q 405:** this question asks the participant how many sons and how many daughters he desires, and whether sex makes any difference. For example, if he desires one daughter and one son, then write the number 1, and 2. If he does not know, circle number 98; and if he does not answer, then circle number 99.

Q 405	If you could select the sex of your children, what would you prefer to have - son or daughter ?	HAVE A SON 1 HAVE A DAUGHTER 2 NO DIFFERENCE HAVE BOTH SONS AND DAUGHTER 3 OTHER (SPECIFY)  DK 98 NO RESPONSE 99	
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**Q 406:** this question asks the participant whether he wants to have any more children. If yes, then write number 1; if no, then write number 2. If the answer is different, then skip to question Q 408.

Q 406	Would you like to have another child or would you prefer not to have any more children?	HAVE A ANOTHER CHILD 1 NO MORE/NONE 2 Other _____  DK 98 NO RESPONSE 99	} → Q 408
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**Q 407:** if the participant wants to have another child, then ask how long from now that he wants to have the next child. For example, if he wants to have a child in the next 2 years, then write the number 2.

Q 407	How long from now would you like to have a child?	<div>&gt; 2 YEARS 1</div> <div>= &lt; 2 YEAR 2</div> <div>CAN'T GET PREGNANT 3</div> <div>OTHER SPECIFY</div> <div>DK 98</div> <div>NO RESPONSE 99</div>	
-------	---	--	--

**Q 408:** this question asks the participant about his last birth intention, to see whether he wanted to have the last child or not. If the answer is yes, then circle the number '1', if he wanted to have the child later, then circle number 2; if he did not want to have the last child at all, then circle number 3.

Q 408	Thinking back to the time of your wife's most recent pregnancy, would you say that you wanted her to become pregnant then, later, or not at al?l	<div>THEN 1</div> <div>LATER 2</div> <div>NOT AT ALL 3</div>	
-------	--	--	--

Q 409	<b>PEOPLE WHO ARE USING IUD.</b> For how long have you been using IUD?	<div>&lt; 6 months AC 1</div> <div>=&gt; 6 months M 2</div>	
-------	---	---	--

**Q 409:** this question asks the participant if he is currently using an IUD. Re-check with Q 402 to see whether the answer is consistent. If the answer is inconsistent, then ask Q410. If the participant's wife has used IUD for less than 6 months, then circle number 1; if they have used it for more than 6 months, then circle number 2.

Q 410	Are you considering starting to use IUD within the next 6 months?	<div>YES C 1</div> <div>NO PC 2</div>	<div>→ Q 411</div> <div>→ Section 5</div>
-------	---	---------------------------------------	---

**Q 410:** if the participant is currently not use IUD, then ask him if he and his wife intend using an IUD in the next 6 months. If they are intending to use IUD, then circle number 1 and ask question Q411. If the answer is no, then circle number 2 and move to the part 6.

Q 411	Are you planning to start using IUD within the next 30 days	<div>YES PR 1</div> <div>NO C 2</div>	
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**Q 411:** this question asks the participant who is intending to use IUD in the next 6 months whether he is planning to use it in the next 30 days. If this is his plan, then circle number 1; if not then circle number 2.

SECTION 5. DECISIONAL BALANCE AND SECTION 6. SELF-EFFICACY

This part asks participants about their perceptions concerning benefits and costs of using contraception to the family. This part and the next part are difficult to ask and to get the answer. If the interviewer does not carefully ask question, then the participant will have difficulties in anwering and may give the wrong answer.

	SECTION 5					
	DECISIONAL BALANCE					
	Read the statement and ask how important is the statement to the participant's decision to use contraceptives					
	Statements	Not very important 1	Not important 2	Do not know 3	Important 4	Very important 5
	<b>Benefits of contraception</b>					
	How important is each of these advantages to you in deciding whether or not to use family planning methods for prevention of pregnancy using 5 point scale					
Q 501	FP helps you to be more responsible in decision about having children					
Q 502	FP helps you avoid the results of unwanted pregnancy					
Q 503	Your wife would not have to worry about becoming pregnant if using contraception					
Q 504	FP helps to limit size of the family					

**Q 501 - Q 504:** these questions were designed to examine men’s perception on benefits of contraceptive methods and to evaluate the importance to themof each benefit Use **CARD 7**.

For example, in Q501, the interviewer will read the question to the man: FP helps you to be more *responsible in decisions about having children*. Ask the man how important to him is the point ‘*responsible in decisions about having children*’ in deciding to use or not use contraception. The answer varies from 1 to 5 (from not very important to very important). It could be asked in different ways, such as, ‘when you are deciding to use a contraceptive method, then how important is the issue of being ‘*responsible in decisions about having children*’?’ If the man is not very sure about importance, then the number 3 will be recorded. Give the card to the man so he can choose the number himselfes after hearing the question and statement.

- **If the man can choose himself the importance, the interviewer will record in the respective box. If the man cannot choose himself the number, then the interviewer needs to ask the man again, ask him to choose himself the level between 1 and 5. This is the basic principle for all questions for part 5 and 6.**
- After reading the question, the interviewer needs to summarise the ideas behind the question. The main idea of the statement is printed Bold and Italic, to make it easier for the interviewers to summarise the ideas of statement.
- Similar principle is applied in asking and recording the answers for the other questions in part 5 and 6.

APPENDIX E: Rotated factor solutions for decisional balance items

Total factor variance decisional balance items for contraception in general and IUD

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.6295	20.85	20.85	5.6295	20.85	20.85
2	3.536022	13.09638	33.94638	3.536022	13.09638	33.94638
3	2.153871	7.977299	41.92368	2.153871	7.977299	41.92368
4	1.712544	6.342757	48.26643	1.712544	6.342757	48.26643
5	1.38612	5.133777	53.40021	1.38612	5.133777	53.40021
6	1.099731	4.073076	57.47329	1.099731	4.073076	57.47329
7	0.973877	3.606953	61.08024			
8	0.904202	3.348896	64.42914			
9	0.880701	3.261854	67.69099			
10	0.862067	3.19284	70.88383			
Extraction Method: Principal Component Analysis.						

**APPENDIX F: Samples of stage-targeted letters**

English translation

Project “ Male involvement in family planning in An Hai district”

To Mr. .... Commune:..... (Precontemplation group)

**IUDs’ UPDATE INFORMATION**

Please see print copy for image

“We have used an IUD since we had our first baby. After 5 years, my wife had the IUD removed to have our second child. After our second child, she had another IUD inserted. I often think how lucky I am to have an IUD. I can enjoy my life more, and do not have to worry about unwanted pregnancy.”

**WHAT ARE THE FACTS?**

In our survey many of you knew of the different modern contraceptive methods available in An Hai District such as IUDs, the pill, condoms, and sterilisations, and these can be easily obtained in the district health centre or commune health centres. They are all effective methods. Traditional methods like withdrawal and periodic abstinence are not very effective. About 30% of people using these methods have pregnancies that end in abortions.

Most of surveyed men know that IUDs help to prevent unwanted pregnancy. In fact, IUD is one of the most effective reversible contraceptive methods in the world, with

effectiveness up to 99%, and minimum side effects. That means, only one person can get pregnant among 100 women using IUDs. The IUD versions Tcu-380A available in An Hai District at this time can be effective for 10 years. IUD is very convenient to use; your wife needs to have it inserted ONCE only, after which you do not need to worry about unwanted pregnancy any more. It is provided free of charge at any district health centre and commune health centre, and can be removed any time upon request. An IUD can be inserted 42 days after a birth or an abortion, it helps to prevent ectopic pregnancy when it is in place, and is very safe for women with low risk of STDs or HIV/AIDS like women in the An Hong and Quoc Tuan communes. *NOW IT IS THE TIME FOR YOU TO THINK ABOUT IUDS.*

### CAN IT HAPPEN TO YOU?

About one-fourth of men in An Hong and Quoc Tuan communes have wives that have undergone abortion; and, for a similar number of you, your last births were unwanted. Many of you did not use effective contraceptive methods at all, because you have sex irregularly or because you think you are too old. As you know, pregnancy can occur in 85% of all couples who are not using contraception, and many unwanted pregnancies end in abortion. According to worldwide statistics, about 350 women die per 100,000 induced abortions. About one-third of Vietnamese women who have had abortions have health problems, such as reproductive tract infection, secondary infertility, and miscarriage. What happens to poor unwanted children? They often lack parental care because parents have neither time nor resources to take care of them. Will those children have good educational opportunities? More than likely, they will not.

**“I WANT MY WIFE TO TRY AN IUD TO SET A GOOD EXAMPLE FOR MY FAMILY AND MY FRIENDS”**

You would do anything to keep your family happy and healthy, because you are a pillar of the family. Do you know that two-thirds of married men in Quoc Tuan and An Hong communes have wives who use IUDs. You are not so different from most of the other men in these communes. You probably know a lot about IUDs and other contraceptive methods. Maybe you think you will be embarrassed if you talk about contraception with your wife or other people. Don't be. It may help if you

think of contraception as just another topic of daily discussion. And think of how much it is going to help you and your wife – no more worries about unwanted pregnancies. That is important, because your efforts to keep your family happier and healthier can make a difference. By sharing this, you are making a good model husband.

You are not thinking about using an IUD now, but that may change in the future. If it does, you will find an IUD will help make your life more enjoyable, and help ensure a good future for your children. That's why the government of Vietnam encourages couples to use IUDs as part of its family planning program.

Please contact us if you have any more enquiries.

HANOI SCHOOL OF PUBLIC HEALTH.

138 GIANG V, BADINH, HANOI.

Tel/ Fax: 84 4 8231 743



Project “ Male involvement in family planning in An Hai district”

To Mr. .... Commune:..... (Contemplation/Preparation group)

Please see print copy for image

“ We have had IUD since we have first baby. After 5 years, my wife took out IUD to have my second child. After second child, she has IUD inserted again. I have thought I am so lucky to have an IUD. I can enjoy my life more, and do not have to worry about unwanted pregnancy”

#### WHAT ARE THE FACTS

In the survey you filled out, you told us you would think about convincing you wife to adopt an IUD. We think that’s great. Did you know in our communes, about one-fourth of men have wives who have undergone abortion and whose last birth was unwanted. Many of you did not use effective contraceptive methods at all, because you were having sex irregularly or because you thought you were too old. As you know, pregnancy can occur in 85% of all couples who are not using contraception, and many unwanted pregnancies end in abortion. About 350 women die per 100,000 induced abortions. About one-third of Vietnamese women who have had abortions have health problems such as reproductive tract infection, secondary infertility, and miscarriage. What happens to poor unwanted children?. They often lack care, because parents have neither time nor resources to take care of them. Will

those children have good educational opportunity in the future? It is unlikely that they will.

In our survey many of you knew about traditional methods like withdrawal and periodic abstinence in addition to modern contraceptive methods. But traditional methods are often not very effective. About 30% of people using these methods have pregnancies that end in abortions.

### WHY AN IUD? WEIGH THE BENEFITS

You may have heard that IUDs can cause bleeding and pain. While it is true that after insertion, in the first few months, women can have abdominal pain, irregular menstrual periods, but these symptoms will disappear in the next two or three months, and they are not signs of illness. *DON'T LET THESE RUMOURS HOLD YOU BACK!*

### “I WANT MY WIFE TO TRY AN IUD TO SET A GOOD EXAMPLE FOR MY FAMILY AND MY FRIENDS”

You would do anything to keep your family happy and healthy, because you are a pillar of the family. Do you know that two-thirds of married men in Quoc Tuan and An Hong communes have wives who use IUDs. You are not so different from most of other men in these communes. You probably know a lot about contraception and IUDs. Maybe you think you will be embarrassed if you talk about IUDS with your wife or other people. Don't be. It may help if you think of using IUDs as just another topic of daily discussion. And think of how much it is going to help you and your wife – no more worries about unwanted pregnancies. That is important, because your efforts to keep your family happier and healthier can make a difference. By sharing your knowledge and opinions, you are making yourself a good model husband.

Please contact us if you have any more enquiries.

HANOI SCHOOL OF PUBLIC HEALTH.


138 GIANG VO – BADINH –HANOI.

Tel/ Fax: 84 4 8231 743

**Project “ Male involvement in family planning in An Hai district”**

**To Mr. .Commune: (Action/ Maintenance group)**

**Please see print copy for image**



**Congratulation for choosing to use an IUD!**

**Do you feel good about using an IUD?. We believe that you are happy with your choice and you will remain so. Please share your experiences with other people. If you have any more questions regarding IUDs, please contact us.**

**Our address:**

**HANOI SCHOOL OF PUBLIC HEALTH**

**138 GIANG VO- BADINH. HANOI.**

**TEL/FAX: 84 4 8231 743**

# NGHIÊN CỨU

## VAI TRÒ CỦA NAM GIỚI TRONG CÔNG TÁC KHHGĐ TẠI HUYỆN AN HẢI

Kính gửi anh:.....

Xã:..... Thôn:.....

### NHỮNG THÔNG TIN MỚI NHẤT VỀ ĐẶT VÒNG TRÁNH THAI



#### MỘT SỐ VẤN ĐỀ LIÊN QUAN ĐẾN CÁC BIỆN PHÁP TRÁNH THAI (BPTT)

Trong nghiên cứu của chúng tôi, hầu hết các đối tượng phỏng vấn đều biết nhiều về biện pháp tránh thai hiện đại đang được cung cấp ở huyện An Hải như vòng tránh thai, thuốc uống tránh thai, bao cao su và triệt sản. Đây là những biện pháp tránh thai hiện đại có hiệu quả và luôn có sẵn tại trung tâm y tế huyện hoặc trạm y tế xã. Bên cạnh đó, những biện pháp tránh thai truyền thống như xuất tinh ngoài âm đạo hay tính vòng kinh đều có hiệu quả tương đối thấp. Có tới 30% số người áp dụng biện pháp tránh thai truyền thống đã có thai ngoài ý muốn và họ đã phải đi nạo phá thai.

Hầu hết những người đàn ông khi được phỏng vấn chỉ biết rằng vòng tránh thai giúp ngăn ngừa việc có thai ngoài ý muốn. Trên thực tế, vòng tránh thai là một biện pháp có hiệu quả tránh thai vào loại cao nhất trên thế giới, hiệu quả của nó đạt tới 99% và ít có tác dụng phụ. Điều đó có nghĩa là cứ trong 100 người sử dụng vòng tránh thai, chỉ có 1 người có thể có thai ngoài ý muốn. Loại vòng tránh thai TCU-380A - hiện đang lưu hành ở huyện An Hải - có hiệu quả tác dụng trong vòng 10 năm. Vòng tránh thai rất thuận tiện trong việc sử dụng, người phụ nữ chỉ cần đặt vòng một lần nhưng nó có tác dụng phòng tránh thai trong nhiều năm. Như vậy, các cặp vợ chồng không phải lo lắng về việc có thai ngoài ý muốn. Vòng tránh thai được cung cấp rộng rãi tại tất cả các trung tâm y tế và các trạm y tế xã của huyện An Hải. Vòng tránh thai có thể tháo ra bất cứ lúc nào nếu muốn. Hơn nữa, vòng tránh thai có thể đặt ngay sau khi sinh con 42 ngày hoặc sau nạo hút thai cho nên rất có lợi trong việc phòng tránh thai. Vòng tránh thai là một biện pháp rất an toàn cho những phụ nữ không bị mắc các bệnh lây truyền qua đường tình dục hoặc HIV/AIDS, giống như những người phụ nữ tại hai xã An Hồng và Quốc Tuấn, huyện An Hải, TP Hải Phòng.....

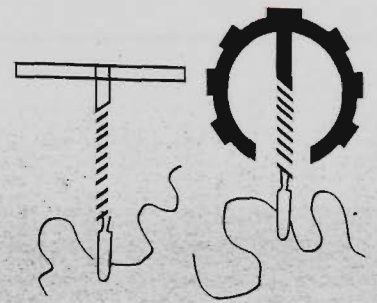
**BÂY GIỜ CHÍNH LÀ LÚC ĐỂ ANH NGHĨ VỀ VÒNG TRÁNH THAI.**



## MANG THAI NGOÀI Ý MUỐN CÓ THỂ XẢY RA VỚI VỢ CHỒNG ANH KHÔNG?

Khoảng một phần tư các bà vợ của các đối tượng phỏng vấn ở xã An Hồng và xã Quốc Tuấn đã từng nạo hút thai hoặc có lần sinh cuối cùng là do vỡ kế hoạch. Rất nhiều người trong số họ đã không sử dụng các BPTT hiện đại vì cho rằng họ khó có thai do ít quan hệ tình dục và tuổi cũng đã cao. Nhưng thực tế, có tới 85% số các cặp vợ chồng không sử dụng BPTT là có nguy cơ mang thai và hàng loạt các trường hợp có thai ngoài ý muốn đều đi đến giải pháp là nạo hút thai. Cứ trong 100.000 ca nạo hút thai

thì có tới 350 ca bị tử vong. Có khoảng 1/3 số phụ nữ nạo hút thai ở Việt nam đã gặp phải những vấn đề sức khỏe như: nhiễm khuẩn đường sinh dục, ồm yếu và có thể dẫn đến vô sinh.... Và điều gì sẽ xảy ra đối với những đứa trẻ sinh ra do bị lỡ kế hoạch? Chúng thường thiếu vắng sự chăm sóc của cha mẹ vì các bậc cha mẹ thường không có nhiều thời gian hoặc có điều kiện kinh tế để chăm sóc con cái. Như vậy, liệu rằng những đứa trẻ này sẽ có cơ hội được giáo dục tốt trong tương lai không? Câu trả lời ở đây thường là "không".



Vòng tránh thai

### "TÔI MUỐN VỢ MÌNH ĐẠT VÒNG TRÁNH THAI ĐỂ LÀM GUỒNG CHO GIA ĐÌNH VÀ BẠN BÈ."

Người đàn ông thường làm mọi việc để gia đình được hạnh phúc và khỏe mạnh vì họ là những thành viên trụ cột của gia đình. Anh biết không, có tới 2/3 số cặp vợ chồng ở xã An Hồng và xã Quốc Tuấn đã áp dụng các biện pháp tránh thai để kế hoạch hoá gia đình. Vợ chồng anh cũng có thể dùng vòng tránh thai vì anh chị cũng giống như các cặp vợ chồng khác trong xã. Anh nên nghĩ đến vòng tránh thai để kế hoạch hoá gia đình. Mới đầu có thể anh sẽ cảm thấy xấu hổ khi thảo luận với vợ hoặc những người xung quanh về vòng tránh thai, nhưng sau một vài lần chúng tôi tin rằng anh sẽ quen ngay. Anh đừng ngại ngùng khi thảo luận về vấn đề này. Thảo luận với vợ và những người xung quanh về vòng tránh thai là rất hữu ích nếu như anh cho rằng nó cũng giống như thảo luận về các vấn đề khác trong cuộc sống hàng ngày. Việc trao đổi và thảo luận với vợ và những người khác về vòng tránh thai là rất cần thiết vì nó có thể làm cho cuộc sống của gia đình anh hạnh phúc và tốt đẹp hơn. Khi anh chia sẻ thông tin về biện pháp tránh thai với vợ thì anh đã thực sự là một người chồng hiện đại của thiên niên kỷ mới.

*Hiện tại có thể anh chưa nghĩ đến việc sử dụng vòng tránh thai nhưng sau này thì rất có thể. Nếu như vợ chồng anh áp dụng vòng tránh thai, anh sẽ thấy vòng tránh thai giúp cho cuộc sống của anh chị hạnh phúc hơn và đảm bảo một tương lai tốt đẹp cho con cái anh chị. Chính vì vậy, chính phủ Việt nam đã khuyến khích các cặp vợ chồng sử dụng vòng tránh thai trong chương trình dân số-kế hoạch hoá gia đình.*

Nếu có thắc mắc gì, hoặc chưa rõ về vòng tránh thai, hãy liên lạc với chúng tôi theo địa chỉ:

**TRƯỜNG ĐẠI HỌC Y TẾ CÔNG CỘNG**

138 Giảng Võ - Ba Đình - Hà Nội

Bùi Thị Thu Hà

Tel: 04 - 823 1743



# NGHIÊN CỨU

## VAI TRÒ CỦA NAM GIỚI TRONG CÔNG TÁC KHHGD TẠI HUYỆN AN HẢI

Kính gửi anh:.....

Xã:..... Thôn:.....

### MỘT SỐ VẤN ĐỀ LIÊN QUAN ĐẾN CÁC BIỆN PHÁP TRÁNH THAI (BPTT)



Khi chúng tôi phỏng vấn anh, anh có nói với chúng tôi là sẽ thuyết phục chị nhà đi đặt vòng tránh thai. Chúng tôi thấy điều đó thật tuyệt vời. Anh biết không, khoảng 1/4 các bà vợ ở hai xã An Hồng và Quốc Tuấn đã từng đi nạo phá thai hoặc sinh đứa con út là do bị võ kế hoạch. Rất nhiều người đã không sử dụng các BPTT hiện đại bởi họ nghĩ tuổi họ đã cao hay hiểm khi sinh hoạt tình dục nên không thể có thai được.

Nhưng thực tế, có tới 85% số các cặp vợ chồng không sử dụng BPTT là có nguy cơ có thai và hàng loạt các trường hợp có thai ngoài mong muốn đều đi đến giải pháp là nạo hút thai. Cứ trong 100.000 ca nạo hút thai thì có tới 350 ca bị tử vong. Có khoảng 1/3 số phụ nữ nạo hút thai ở Việt nam đã gặp phải những vấn đề sức khỏe như: nhiễm khuẩn đường sinh dục, ốm yếu và có thể dẫn đến vô sinh.... Và điều gì sẽ xảy ra đối với những đứa trẻ sinh ra do bị lỡ kế hoạch? Chúng thường thiếu vắng sự chăm sóc của cha mẹ vì các bậc cha mẹ thường không có nhiều thời gian hoặc có điều kiện kinh tế để chăm sóc con cái. Như vậy, liệu rằng những đứa trẻ này sẽ có cơ hội được giáo dục tốt trong tương lai không? Câu trả lời ở đây thường là "Không".

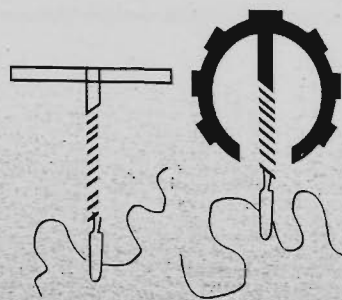
Qua nghiên cứu, rất nhiều nam giới biết rằng bên cạnh các BPTT hiện đại còn có BPTT truyền thống như xuất tinh ngoài âm đạo hay tính vòng kinh. Nhưng các BPTT truyền thống có hiệu quả tương đối thấp trong việc tránh thai. Có tới 30% số người áp dụng biện pháp tránh thai truyền thống đã có thai ngoài ý muốn và họ đã phải đi nạo phá thai.



## VÌ SAO NÊN DỪNG VÒNG TRÁNH THAI ?

### NHỮNG LỢI ÍCH CỦA VÒNG TRÁNH THAI

Có lẽ anh đã biết rằng vòng tránh thai có thể gây chảy máu và đau bụng. Trong vài tháng đầu sau khi đặt vòng, người phụ nữ có thể bị đau bụng, đau lưng hay có kinh nguyệt bất thường. Nhưng các triệu chứng này thường sẽ mất dần trong hai hoặc ba tháng sau khi đặt vòng, chúng không phải là các dấu hiệu của bệnh tật.



Vòng tránh thai

### DỪNG ĐỂ CÁC LỜI ĐỒN CẢN BƯỚC ANH .

**"TÔI MUỐN VỢ MÌNH ĐẶT VÒNG TRÁNH THAI ĐỂ LÀM GUƠNG CHO GIA ĐÌNH VÀ BẠN BÈ."**

Người đàn ông thường làm mọi việc để gia đình được hạnh phúc và khoẻ mạnh vì họ là những thành viên trụ cột của gia đình. Anh biết không, có tới 2/3 số cặp vợ chồng ở xã An Hồng và xã Quốc Tuấn đã áp dụng các biện pháp tránh thai để kế hoạch hoá gia đình. Vợ chồng anh cũng có thể dùng vòng tránh thai vì anh chị cũng giống như các cặp vợ chồng khác trong xã. Anh nên nghĩ đến vòng tránh thai để kế hoạch hoá gia đình. Mới đầu có thể anh sẽ cảm thấy xấu hổ khi thảo luận với vợ hoặc những người xung quanh về vòng tránh thai, nhưng sau một vài lần chúng tôi tin rằng anh sẽ quen ngay. Anh đừng ngại ngùng khi thảo luận về vấn đề này. Thảo luận với vợ và những người xung quanh về vòng tránh thai là rất hữu ích nếu như anh cho rằng nó cũng giống như thảo luận về các vấn đề khác trong cuộc sống hàng ngày. Việc trao đổi và thảo luận với vợ và những người khác về vòng tránh thai là rất cần thiết vì nó có thể làm cho cuộc sống của gia đình anh hạnh phúc và tốt đẹp hơn. Khi anh chia sẻ thông tin về biện pháp thai với vợ thì anh đã thực sự là một người chồng hiện đại của thiên niên kỷ mới.

Nếu có thắc mắc gì, hoặc chưa rõ về vòng tránh thai, hãy liên lạc với chúng tôi theo địa chỉ:

**TRƯỜNG ĐẠI HỌC Y TẾ CÔNG CỘNG**

138 Giảng Võ- Ba Đình - Hà Nội

Bùi Thị Thu Hà

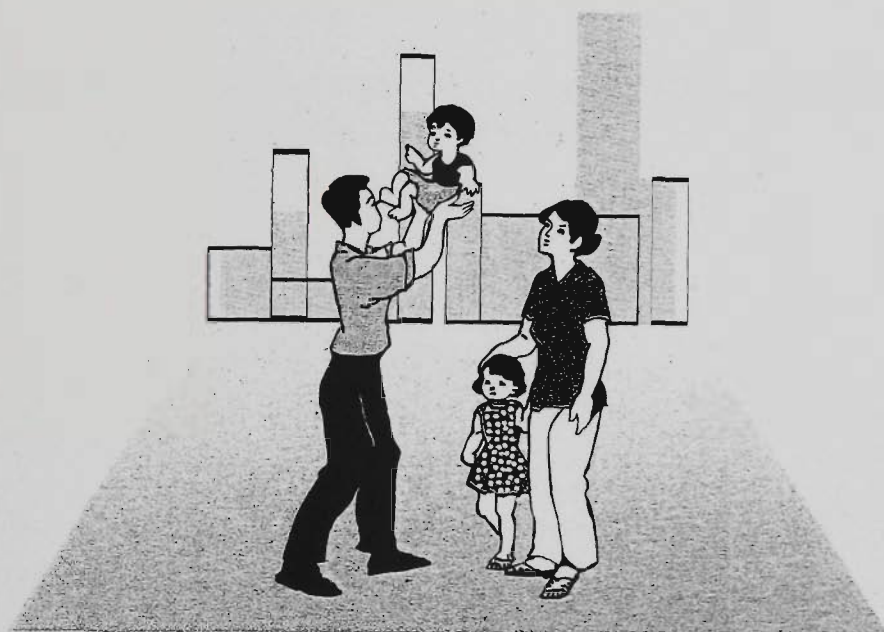
Tel: 04 -8231743

# **NGHIÊN CỨU**

## **VAI TRÒ CỦA NAM GIỚI TRONG CÔNG TÁC KHHGĐ TẠI HUYỆN AN HẢI**

Kính gửi anh:.....

Xã:..... Thôn:.....



**Xin chúc mừng anh đã chọn vòng tránh thai để kế hoạch hoá gia đình.**

Các anh chị có cảm thấy an toàn khi dùng vòng tránh thai không?

Chúng tôi hy vọng rằng:

Anh chị hài lòng với sự lựa chọn của mình và sẽ tiếp tục duy trì sử dụng vòng tránh thai.

Anh hãy chia sẻ những kinh nghiệm của mình về sử dụng vòng tránh thai với mọi người.

Nếu có thắc mắc gì hoặc chưa rõ về vòng tránh thai, hãy liên lạc với chúng tôi theo địa chỉ:

**TRƯỜNG ĐẠI HỌC Y TẾ CÔNG CỘNG**

138 Giảng Võ- Ba Đình - Hà Nội

Bùi Thị Thu Hà

Tel: 04 -8231743



**APPENDIX G: Intervention protocol**

**Hanoi School of Public Health**

## **TRAINING PROGRAM**

### **MEN'S READINESS TO ACCEPT IUD FOR CONTRACEPTION IN RURAL VIETNAM**

Time

11-13/11/2001 (first round)

9-11/3/2002 (second round)

Location: An Hai, Hai Phong

**Hanoi 2001**

CONTENTS

1. Brief about the research project

1.1. Objectives

*Overall objectives*

To promote men’s participation in reproductive health and the family planning decision-making process

*Specific objective*

- 1. To increase men’s awareness on contraceptive methods, particularly modern methods
- 2. To increase IUD use
- 3. To reduce myths/perception related to side effects of IUDs
- 4. To reinforce couple communication and communication with other people in the community network on family planning and IUDs
- 5. To create opportunities for people to facilitate the behavior changes in IUD acceptance among men and couples

1.2. Plan for intervention

Three villages in each commune will be chosen for the intervention and three villages in each commune will be selected for the control group. A total of 6 villages will be in the intervention group and 6 villages will be in control group. The intervention group will receive appropriate messages corresponding to the stages of men’s readiness to accept IUD for contraception. The control group will not receive any message. The evaluation will be carried out after 6 months

*Intervention group : total number of men in each village and stage*

Commune	Intervention village	Stage 1	Stage 2	Stage 3	Total
Quoc Tuan	Van Xa	12	9	29	50
	Kieu Ha 1 (X7)	2	2	9	13
	Kieu Ha 2 (X6)	6	8	27	41
An Hong	Tat Xung	32	10	48	90
	Ngo Hung	16	2	42	60
	Le Sang	31	8	61	100
Tæng		99	39	216	354

*Control villages*

Quoc Tuan: Nhu Kieu 1, Nhu Kieu 2, Kieu Thuong  
An Hong: Pham Dung, Le Lac 2, Le Lac 1

The design of the messages was developed from the results of baseline survey in April 2001. Three different messages will be provided to men in 3 different stages of readiness: precontemplation (stage 1); contemplation/preparation (stage 2); and

action/maintenance stage (stage 3). Each of the messages is relevant to the men's stage of change.

### **1.3. Intervention plan**

Two intervention rounds will be carried out in 6 months.

The first round will be carried out in November 2001. Objective of this round is to motivate men to participate in the study, to reduce misconceptions about side-effects and increase awareness of the effectiveness of IUD, to help them to start looking at the IUD option.

The second module will be implemented after 3 months (about in February 2002). All participants will receive relevant information for their stage of change for IUD. Objective of this module was to reinforce the change, promote communication and acceptance of IUD

## **2. Intervention activities**

November: first round

First home visit

First return home visit

February: second round

Second home visit

Second return home visit

The content of each visit is described in the intervention protocol.

## **3. Supervision**

Supervisor should follow the program of previous data collection phases. A total of 20 percent of participants will be randomly checked to see whether interviewer was correctly performing the intervention protocol. In cases where 5 percent of participants of one interviewer was not correctly administering the procedure, that interviewer will be requested to do interview again all participants that he/she is in charge of.

## **4. Training program on intervention activities**

### **4.1. Objectives**

After this training program, the collaborators should be able

1. To understand the procedures of first intervention round (2 home visits in November).
2. To understand the procedures of second intervention round (2 home visits in March).
3. To implement all activities required for the intervention round
4. To conduct all activities under supervision of district health workers.

### **4.2. Contents**

4.2.1. To introduce the intervention program: objectives, time, select study population and study group.

4.2.2. To explain how to identify people in different groups by using staging algorithm

Stage 1 (precontemplation): people are not ready to change, they lack basic knowledge of contraceptive method, do not know about the probability of getting pregnancy and severity of risks of abortion

Stage 2 (contemplation/preparation): people intend to change (in 30 days to 6 months)

Stage 3 (action/maintenance stage): people have already changed behavior and have been using IUD for at least 6 months.

#### 4.2.3. Intervention components

- Stage-targeted letters. The objective of letters was to provide information to men on IUD method. The content of letters was developed following the results of baseline in April 2001.
- Screening form (1.1): to check the stage of change for IUD use
- Consent form: (form 1.2): consentee is willing to participate in the study, and knows he can withdraw at any time if he does not want to continue. Those who accept to participate in the study need to sign the form
- Notification of home visit (form 1.3): the form should record the time (date) that interviewer visits the men, the proposed time for the next visit and supervision comments.
- Questionnaire to assess men's perception regarding stage-targeted letters (form 1.4).
- Monitoring form (form 1.5). This form is delivered to all collaborators in intervention and control groups. They are supposed to report every month on any activities or occurrence of any event that happens in the local village that they are in charge of. For example, new IUD campaign, new reproductive health project, change of health personnel, any family planning program contest etc. This form should be collected and sent to Hanoi School of Public Health every month.

INTERVENTION PROTOCOL

Overview

- 1. Prepare list of all members in intervention group with respective stages
- 2. Assign family planning collaborators (FPC) to village that they will be in charge of
- 3. Train FPC in district health centre (DHC) on counselling and procedure for each intervention visit
- 4. Prepare field supervision guideline
- 5. Provide incentives for participants after first and second visit
- 6. Complete intervention module 1: first visit and return visit
- 7. Complete the evaluation form of targeted letters 1
- 8. Complete intervention module 2: first visit and return visit
- 9. Complete the evaluation form of targeted letters 2
- 10. Complete the monitoring form

List of participants with respective baseline stage of change

Control group	Intervention group (SOC)
Nhu Kieu 1	Van Xa - D1
Nhu Kieu 2	Kieu Ha- X6
Kieu Thuong	Kieu Ha 1- X7
Pham Dung	Tat Xung
Le Lac 2	Ngo Hung
Le Lac 1	Le Sang

Date

October: module 1

First visit

First return visit after one week

January: module 2

First visit

Second return visit after one week

List of FPC in charge of each village

Village	Name of FPC
1. Van Xa - D1	1.
2. Kieu Ha- X6	2.
3. Kieu Thuong	3.
4. Tat Xung	4.
5. Ngo Hung	5.
6. Le Sang	6.

### **Consent form**

- If the participant agreed to participate in this trial, the intervention must be performed.
- At the end of the first or second visit, arrange time with participant for return visits

### **Monitoring form**

- To record any event in the local area related to family planning activities (IUD campaign, any contest related to family planning in the village, change of local FP collaborators etc) that could affect the results of intervention.

## FIRST HOME VISIT

### Overview

1. Complete the initial screening form
  2. Complete the consent form
  3. Complete first visit counselling
  4. Provide letter to participants according to their stages of change group (baseline survey)
  5. Arrange time for first return visit
- 

### Initial screening form

An initial screening form must be filled out to determine the suitability of participants

- 1- Participants are married and have lived with wives in the same house for the last 3 months
- 2- Participants currently do not use consistently the pill or condoms for prevention of pregnancy
- 3- Questions to assess the current SOC

### Consent form

Once the initial screening form is completed, the FPC must obtain the signature of potential participant on the initial screening consent form. Once the signature is secured, the first intervention procedure must be performed.

### First visit counselling

#### I. Precontemplation group – knowledge raising

- 1- Thank you for completing questionnaire, this is a feedback. This letter includes information that we would like you to read.
- 2- Explain about the group structure (P; CR; and AM), and that man belongs to P group.
- 3- Emphasise the importance of IUD (effectiveness, minor side effects, convenience, no costs)→ refer to letter.
- 4- Emphasise the role of men for the well being of family, wives and children. The importance of sharing information between spouses and with other people in the same village. Encourage men to bring up the issues with wives and others
- 5- Ask men to record any questions.
- 6- Arrange time for first return visit after one week.

#### II. Contemplation/ Preparation group – motivational focus

- 1- Thank you for completing questionnaire, this is a feedback. This letter includes information that we would like you to read.
- 2- Explain about the group structure (P; CR; and AM). Man belongs to CR group.



## 3- Assess the personalised risk

- Refer back to vital information: number of children, abortion (if yes), unwanted last birth (if yes), economic status (poor or rich), social norm (about two third of men's wives adopted IUDs).
- Emphasise high susceptibility to unwanted pregnancy and severity of risks of abortion
- Compare the costs of contraception and costs of unwanted pregnancy and abortion

## 4- Ask about the personal experiences with contraceptive use

Have you used IUD before?

- Yes → reasons of removing (there were some reasons that make men not want to use IUD again). Explain about the problems the wife could have with IUD insertion in the first few months. Try to convince them that these were normal, not sign of illness → encourage for trial
- No → encourage for trial because men already stated some intentions

## 5- Emphasise the role of men for the well- being of family, wives and children. The importance of sharing information between spouses and with other people in the same village. Encourage men to bring up the issues with wives and others

## 6- Ask men to record any questions

## 7- Arrange time for first return visit after one week.

III. Action and Maintenance group- rewarding

1. Thank you for completing questionnaire, this is a feedback. This letter includes information that we would like you to read.
  - For those newly adopted IUD after baseline (positive AM group), try to reward those people.
2. Emphasise the importance of IUD adoption.
3. Emphasise the importance of sharing experiences with those who have not used IUD. Ask them if they have any problems or concerns about method, and try to provide the answers
4. Ask men to record any questions
5. Arrange time for first return visit after one week

## FIRST RETURN HOME VISIT

### Overview

1. Complete first return visit counselling
  2. Complete the evaluation questionnaire of the targeted letters
  3. Arrange time for second visit
- 

#### I. Precontemplation group

- 1- Greeting
- 2- Ask for the questions
- 3- Try to answers questions
  - Question regarding side effects (the most concern) → try to convince men these are temporary problems and will go away in time.
  - Compare the costs of bearing some minor side effects with other costs such as worries of getting unwanted pregnancy, or abortion. List the advantages of IUD, e.g. time saved for other works etc.
  - Compare the advantages of IUD with other modern methods available in the district (convenience, costs, side effects, sexual pleasure, social acceptance)
  - Ask men to think about IUD option
- 4- For the question that can not be answered, please record and promise to give them feedback very soon.
  - There is a possibility to get the feedback by print materials or in person contact (person in charge of FP program will come and discuss with them)
- 5- Complete the evaluation questionnaires of the tailoring message

#### II. Contemplation / Preparation group

- 1- Greeting
- 2- Ask for the questions
- 3- Try to answers questions
  - Question regarding side effects (the most concern) → try to convince men these are temporary problems and will go away in time.
  - Compare the costs of bearing some minor side effects with other costs such as worries of getting unwanted pregnancy, or abortion. List the advantages of IUD, e.g. time saved for other works etc.
  - Compare the advantages of IUD with other modern methods available in the district (convenience, costs, side effects, sexual pleasure, social acceptance)
  - Convince men to undertake a trial and to check with other people who have used IUD

- 4- For the question that can not be answered, please record and promise to give them feedback very soon.
  - There is a possibility to get the feedback by print materials or in person contact (person in charge of FP program will come and discuss with them)
- 5- Complete evaluation questionnaires of the tailoring message

### III. Action/ Maintenance group

1. Try to answers questions
  - Question regarding side effects (the most concern) → try to convince men these are temporary problems and will go away in time.
  - Ask men to compare the costs of IUD with other costs such as worries of getting unwanted pregnancy, or abortion. List the advantages of IUD, e.g. save time for other works etc.
  - Ask men to list the advantages of using IUD
  - Encourage men to get wives to continue to use IUD, and ask them to share information/feelings with wives if there is any bad feeling related to IUD use.
2. For the question that can not be answered, please record and promise to give them feedback very soon.
  - There is a possibility to get the feedback by print materials or in person contact (person in charge of FP program will come and discuss with them)
3. Complete evaluation questionnaires of the tailoring message

SECOND HOME VISIT

Overview

- 1. Complete the second screening form
- 2. Complete the second consent form
- 3. Complete second visit counselling
- 4. Provide letter to participant according to their second screening group
- 5. Arrange time for second return visit

Second screening form

A second screening form must be filled out to determine the suitability of participants

- 1. Participants must be married and have lived with wives in the same house for the last 3 months
- 2. Participants must not be currently using consistently the pill or condoms for prevention of pregnancy
- 3. Staging algorithm to define new stages of change for IUD group after 3 months

Second consent form

Once the second screening form is completed, the FPC must obtain the signature of potential participant on the initial screening consent form. Once the signature is secured, the second intervention procedure must be performed.

Possibility for the second module

Intervention module 1	Intervention module 2 (after 3 months intervention)
P	P→ CR (positive group)
	P→ AM (positive group)
	P→ P
CR	CR→ AM (positive group)
	CR→ CR
	CR→ P (relapse group)
AM	AM→ AM
	AM→ CR (relapse group)
	AM→ P (relapse group)

Second visit counselling

I. Precontemplation

Group P→P

- 1. Arrange group discussion for these people, and speaker will be successful adopter of IUD.
- 2. Try to compare the costs of IUD use with other costs (unwanted pregnancy, severity of abortion etc)
- 3. Try to convince man with advantages of IUD with other methods (traditional not effective, other methods: inconvenience, etc)

4. Ask men to consider the IUD option
5. Ask to record questions
6. Arrange time for second return visit

*Relapse group (CR → P and AM → P)*

1. Ask the reasons why they have removed the IUD, or stop thinking about IUD. Try to dispel myths, reduce the cons.
2. Ask them to have further discussion with wives and other people.
3. Try to compare the costs of IUD use with other costs (unwanted pregnancy, severity of abortion etc)
4. Try to convince men with advantages of IUD with other methods (traditional not effective, other methods: inconvenience, etc)
5. Encourage for trial of IUD again
6. Provide the P letter
7. Ask to record questions
8. Arrange time for second return visit

## II. Contemplation / Preparation

*Group CR → CR*

- Arrange group discussion for those people, and speaker will be successful adopter of IUD.
- Encourage sharing experiences with wives and other people.
- Try to convince the advantages of IUD over other methods, and costs of IUD use with other costs (unwanted pregnancy, abortion)
- Encourage trial soon
- Ask to record questions
- Arrange time for second return visit

*Positive group P → CR*

- Reward thinking about IUD adoption.
- Provide letter for CR group
- Ask for any more concerns; try to explain
- Encourage to share information with wives, and other
- Encourage to take IUD soon
- Ask to record questions
- Arrange time for second return visit

*Relapse group AM → CR*

- Ask the reasons why they have removed the IUD, or stop thinking about IUD. Try to dispel myths, reduce the cons.

- Encourage further discussion with wives and other people.
- Try to compare the costs of IUD use with other costs (unwanted pregnancy, severity of abortion etc)
- Try to convince men with advantages of IUD over other methods (traditional not effective, other methods: inconvenience, etc)
- Provide the letter CR
- Ask to record questions
- Arrange time for second return visit

### III. Action/ Maintenance group

*Positive group P → AM and CR → AM*

- Reward with congratulations for adoption of IUD
- Ask for experiences of getting IUD, and questions related to IUD use.
- Ask to compare experiences of having IUD with previous experiences (worries etc)
- Try to answer questions, reward the couples for choosing the method
- Ask to record questions
- Arrange time for second return visit

*Action/Maintenance group AM → AM*

- Try to reward for remaining users of IUD, and ask for any more question, or concerns, try to answers if its possible.
- Ask to record questions
- Arrange time for second return visit

## SECOND RETURN HOME VISIT

### Overview

1. Complete second return visit counselling
  2. Complete the evaluation questionnaire of the targeted letters
- 

### I. Precontemplation group

1. Greeting
2. Ask for the questions and try to answers questions
  - Question regarding side effects (the most common concern) → try to convince men these are temporary problems and will go away in time.
  - Compare the costs of bearing some minor side effects with other costs such as worries of getting unwanted pregnancy, or abortion.
  - Compare the advantages of IUD over other modern methods available in the district (convenience, costs, side effects, sexual pleasure, social acceptance)
3. For the questions that can notbe answered, please record and promise to give them feedback very soon.
  - There is a possibility to get the feedback by print materials or in person contact (person in charge of FP program will come and discuss with them)
4. Ask that consideration be given to IUD adoption
5. Complete evaluation questionnaires of the tailoring message

### II. Contemplation / Preparation group

1. Greeting
2. Ask for the questions and try to answers questions
  - Question regarding side effects (the most concern) → try to convince men these are temporary problems and will go away in time.
  - Compare the costs of bearing some minor side effects with other costs such as worries of getting unwanted pregnancy, or abortion.
  - Compare the advantages of IUD over other modern methods available in the district (convenience, costs, side effects, sexual pleasure, social acceptance)
3. For the question that can not be answered, please record and promise to give them feedback very soon.
  - There is a possibility to get the feedback by print materials or in person contact (person in charge of FP program will come and discuss with them)

4. Convince men to accept a trial and to check with other people that have used IUD
5. Complete evaluation questionnaires of the tailoring message

### III. Action/ Maintenance group

1. Rewarding of adoption of IUD
2. Try to answer the questions
3. Those questions that can not be answered, try to record and will provide feedback soon
4. Complete evaluation questionnaires of the tailoring message



**SCREENING FORM (FORM 1.1)**

1. Have you been living with your current wife in the same house for the last 3 months
  1. Yes
  2. No
2. Is your wife currently pregnant?
  1. Yes
  2. No
3. Are you currently using condoms consistently for family planning?
  1. Yes
  2. No
4. Is your wife currently using the pill consistently for family planning?
  1. Yes
  2. No

**5. Staging algorithm**

Precontemplation group

Have you and your wife started using an IUD in last 3 months?

Yes → AM group

No → Are you planning to use an IUD in the next 60 days? → Yes → Change to CR group

→ No → Still in P group

Contemplation/Preparation group

Have you and your wife started using an IUD in last 3 months?

Yes → AM group

No → Are you planning to use an IUD in the next 60 days? → Yes → CR group

→ No → Relapse to P group

Action/ Maintenance group

Are you still using an IUD?

Yes → AM group

No → Are you planning to use an IUD in the next 60 days? → Yes → Relapse CR group

→ No → Relapse P group

**CONSENT FORM (FORM 1.2)**

My name is \_\_\_\_\_. I am willing to take part in this research study. I am fully aware that I can drop the study at any time I want to.

Signature

HOME VISIT NOTIFICATION (FORM 1.3)

Name of family planning collaborator:

Name of participant:

Address:

An Hong : .....Quoc Tuan: .....

Date of of date :

<b>First visit</b>	<b>First return visit</b>	<b>Second visit</b>	<b>Second return visit</b>
Date :	Date :	Date :	Date :
Time:	Time:	Time:	Time:
Results:	Results:	Results:	Results:
<i>Complete</i>	<i>Complete</i>	<i>Complete</i>	<i>Complete</i>
<i>Absent</i>	<i>Absent</i>	<i>Absent</i>	<i>Absent</i>
<i>Postpone</i>	<i>Postpone</i>	<i>Postpone</i>	<i>Postpone</i>
<i>Refuse</i>	<i>Refuse</i>	<i>Refuse</i>	<i>Refuse</i>
<i>Other</i>	<i>Other</i>	<i>Other</i>	<i>Other</i>
Supervision	Supervision	Supervision	Supervision
Name of supervisor	Name of supervisor	Name of supervisor	Name of supervisor
_____	_____	_____	_____
Date	Date	Date	Date
Results	Results	Results	Results
<i>Good</i>	<i>Good</i>	<i>Good</i>	<i>Good</i>
<i>Acceptable</i>	<i>Acceptable</i>	<i>Acceptable</i>	<i>Acceptable</i>
<i>Poor</i>	<i>Poor</i>	<i>Poor</i>	<i>Poor</i>
<i>Request for re-administrate</i>	<i>Request for re-administrate</i>	<i>Request for re-administrate</i>	<i>Request for re-administrate</i>
Spot check	Spot check	Spot check	Spot check
Name	Name	Name	Name
_____	_____	_____	_____
Date :	Date :	Date :	Date :
Results	Results	Results	Results

Additional notes

\_\_\_\_\_

5. Any other special events (festival, contest, campaign etc)

## APPENDIX H : Evaluation questions of the stage-targeted letters

### EVALUATION QUESTIONNAIRE OF TARGETED MESSAGES

(FORM 1.4)

1	Exposure and reading
Q1.1	In the last 3 months, did you received any printed information on IUDs from the project “ Male involvement in family planning in An Hai district” Yes No
Q 1.2	What kind of information did you receive on IUD effectiveness on IUD possible side effects on pregnancy susceptibility on abortion’s severity on communication for IUD on IUD adoption others
Q 1.3	How much, if any, of the information did you read? none some of it most of it all of it
2	Reaction to appearance
Q 2.1	Did the IUD materials catch your attention? Not at all 1 2 3 4 5 6 7 Very much
Q 2.2	How attractive was the IUD information material? Not at all attractive 1 2 3 4 5 6 7 Very attractive
3	Reaction to content
Q3.1	How interesting was the health information you received Not at all interesting 1 2 3 4 5 6 7 Very interesting
Q3.2	How useful was the health information you received? Not at all useful 1 2 3 4 5 6 7 Very useful
Q3.3	How much of the information was new for you None of it Some of it Most of it All of it
Q3.4	Were you already familiar with the information Not at all familiar 1 2 3 4 5 6 7 Very familiar
Q 3.5	How difficult or easy to understand was the information Very difficult Difficult Neither difficult nor easy Easy Very easy
Q 3.6	How much did you like the information Not at all 1 2 3 4 5 6 7 Very much

Q 3.7	Do you still have information you received Yes No
4	Perceived personal relevance
Q 4.1	How well did the information you received apply to you It didn't apply to me at all It could have applied to anyone It applied to me specifically
Q 4.2	How much did the information in the materials apply to your life? Not at all 1 2 3 4 5 6 7 Very much
Q 4.3	How personally relevant was the health information you received? Not relevant 1 2 3 4 5 6 7 Very relevant
5	Effects on communication with others
Q 5.1	Did you show the information to any friends or family members? Yes No
Q 5.2	Did you show the information to health workers /family planning collaborators? Yes No
Q 5.3	Have you discussed the information with others? Yes No
Q 5.4	Have you discussed the information with your wives Yes No
6	Perceived usefulness of the information
Q 6.1.	How useful would the material be helping you to convince wife to adopt IUD? Yes No
Q 6.2	How useful would the material be helping you to convince wife to continue to use IUD? Yes No
Q 6.3	As a result of the IUD information have you changed your opinions about IUD method? Yes No

**APPENDIX I: Results of the second round of evaluation of the stage-targeted letters**

Table 6. 1a. Percentage distribution of information recalled by participants

Recall information (N=327)	Percentage (%)
Effectiveness of IUD	100.0
Side effects of IUD	99.7
Pregnancy susceptibility	93.0
Abortion severity	98.8
Communication on IUD	69.4
Adoption of IUD	63.0
Others	26.0

Table 6. 2a. Men’s perception of the stage-targeted letters

Evaluation items (N=327)	Mean	SD
Appearance (not attractive to very attractive)	6.1	0.7
Interesting (not interesting to very interesting)	6.1	0.7
Usefulness (not useful to very useful)	6.1	0.7

Figure 4a. Perception on understanding level

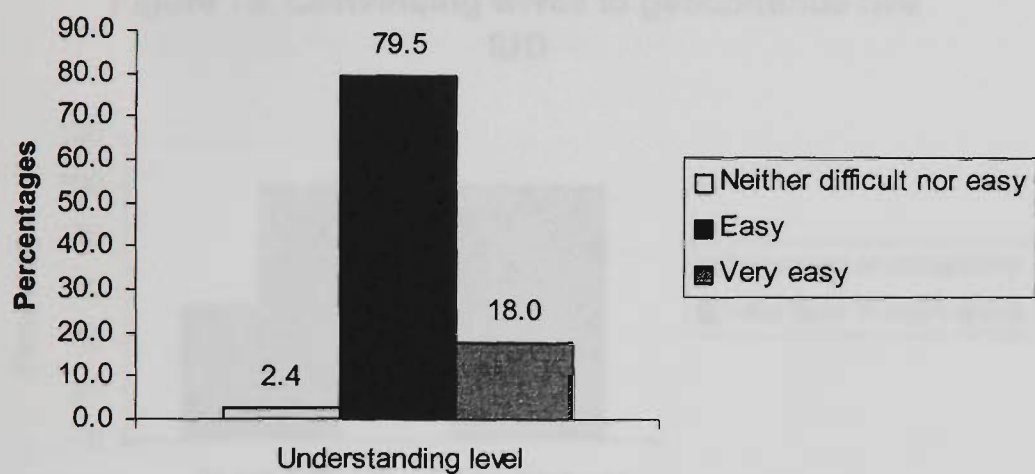


Figure 5a. Perceived relevance

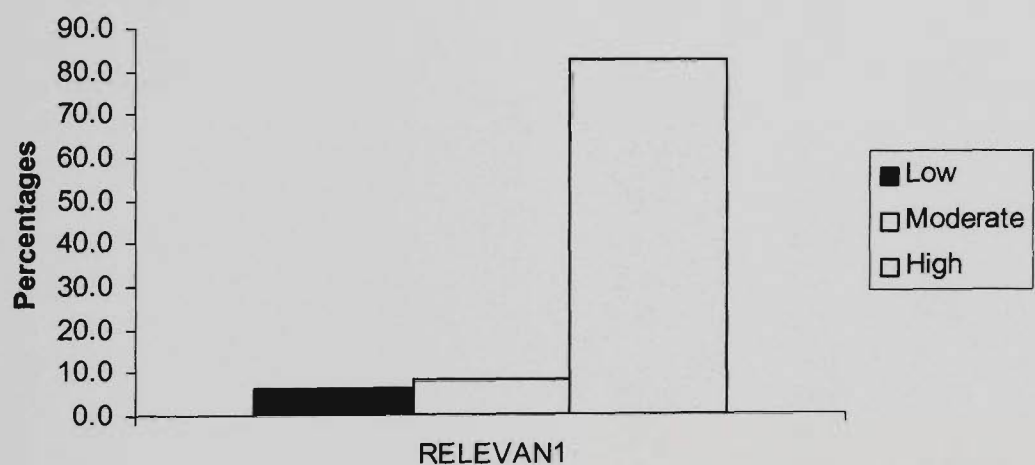
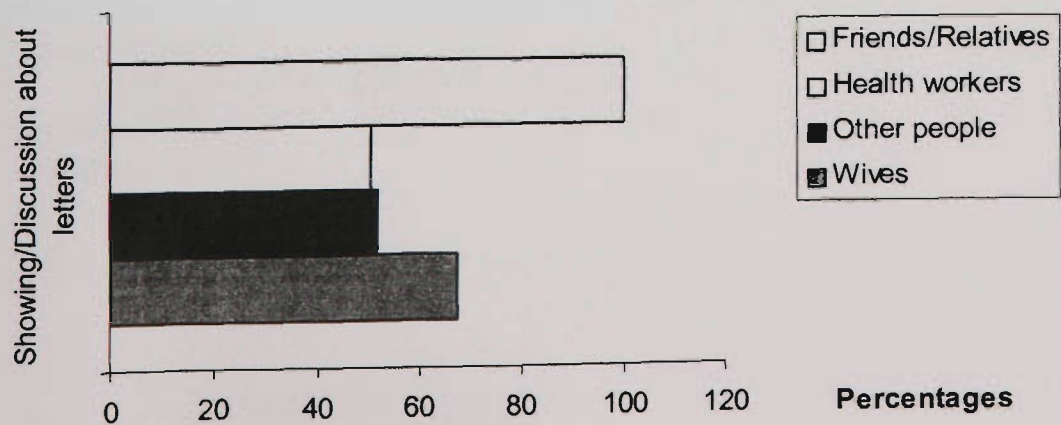
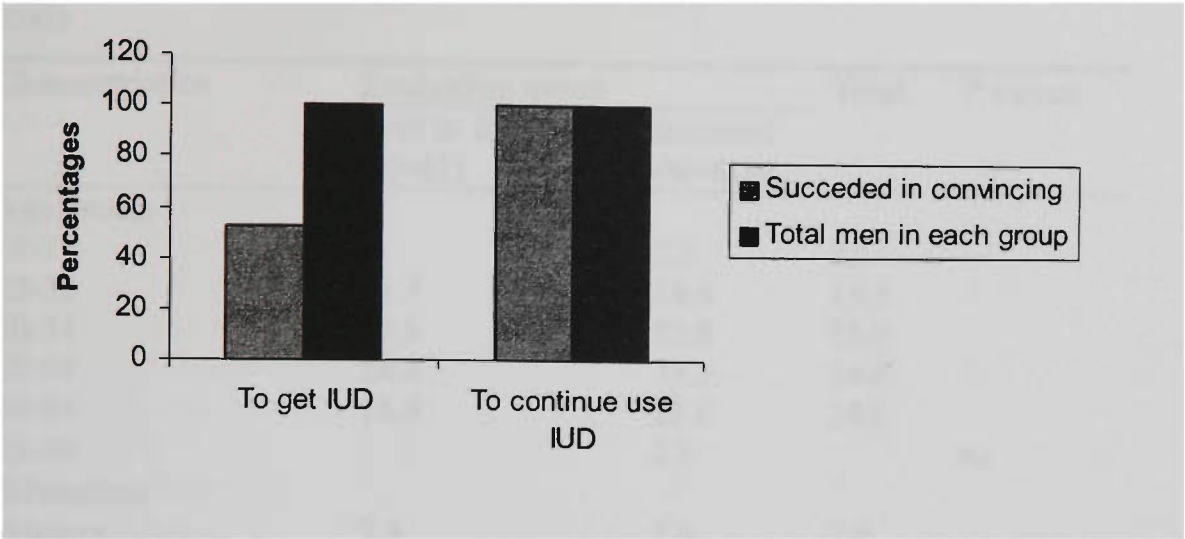


Figure 6a. Communication effects





**Figure 7a. Convincing wives to get/continue use IUD**



**APPENDIX J: Test of equivalence for posttest and lost to follow-up groups**

Table 7.12. Differences between posttest and lost to follow-up groups at baseline study

Characteristics	Evaluation group		Total	P values
	Lost to follow -up (N=41)	Included (N=610)		
<b>Age group</b>				
19-24	0	2.3	2.2	
25-29	31.7	14.4	15.5	
30-34	29.3	22.8	23.2	
35-39	24.4	35.2	34.6	
40-44	14.6	23.0	24.6	
45-49		2.3		na
<b>Education</b>				
Primary	7.3	7.6	7.6	0.63
Lower secondary	53.7	61.0	60.5	
Upper secondary	34.1	25.1	25.7	
Higher education	4.9	6.4	6.3	
<b>Occupation</b>				
Government	14.6	16.4	16.3	0.8
Private	19.5	16.9	17.1	
Agricultural	63.4	61.6	61.8	
Household	2.4	2.3	2.3	
Other		2.8	2.6	
<b>Parity</b>				
One	68.3	28.5	31.0	0.00**
Two	24.4	53.1	51.3	
Three and more	7.3	18.4	17.7	
<b>Having a son</b>				
Had no son	39.0	25.1	26.0	0.04**
Had son	61.0	74.9	74.0	
<b>Desired children</b>				
Not desire more	58.5	27.2	29.2	0.00***
Desire more	41.5	72.8	70.8	
<b>Having abortion</b>				
No	24.4	25.9	25.8	0.5
Had abortion	75.6	74.1	74.2	
<b>Last birth wanted</b>				
No	19.5	27.4	26.9	0.2
Yes	80.5	72.6	73.1	

<b>Communication with others</b>				
Low	97.6	95.7	95.9	
High	2.4	4.3	4.1	0.5
<b>Communication with wives</b>				
Low	65.9	78.7	77.9	
High	34.1	21.3	22.1	0.04**
<b>Spontaneous recall</b>				
Modern method	95.1	93.9	94.0	0.7
Traditional method	41.5	38.2	38.4	0.3
<b>SOC for IUD use</b>				
Precontemplation	39.0	28.9	29.5	0.3
Contemplation/ Preparation	7.3	10.8	10.6	
Action/Maintenance	53.7	60.3	59.9	
<b>Study group</b>				
Intervention	43.9	55.1	54.4	0.11
Control	56.1	44.9	45.6	

**Table 7.2. Cognitive scores at baseline, by posttest group membership**

Characteristics	Evaluation groups		F ratio	P values
	Posttest (N=610)	Lost to follow- up (N=41)		
Pros for contraception				
Mean	50.0	49.8		
SD	8.4	7.9	1.630	0.20
Cons for contraception				
Mean	49.9	51.1		
SD	7.1	10.6	0.862	0.42
Pros for IUD				
Mean	50.0	49.6		
SD	8.5	9.8	6.104	0.00
Cons for IUD				
Mean	49.8	53.4		
SD	9.5	10.1	9.868	0.00
Self-efficacy for contraception				
Mean	50.1	48.7		
SD	7.5	9.2	0.713	0.49
Self-efficacy for IUD				
Mean	50.0	50.1		
SD	10.0	10.0	0.020	0.98

**APPENDIX K: Questionnaire for baseline and posttest survey**

**MALE READINESS TO ACCEPT IUD FOR CONTRACEPTION  
IN RURAL VIETNAM**

INTERVIEWER: INFORMATION TO BE COLLECTED FROM CURRENTLY MARRIED MEN IN  
THIS HOUSEHOLD

**IDENTIFICATION**  
DISTRICT: AN HAI

1.	Commune:	Quoc Tuan (1)		An Hong (2)	
2.	Village:	1 Kieu ha-X7 2 Kieu ha-X6 3 Van xa - D1	4 Nhu Kieu 5 Nhu Kieu 6 Kieu thuong	1 Pham Dung 2 Tat xung 3 Le Lac 2	4 Le Lac 1 5 Ngo Hung 6 Le sang
3.	Household number:				
4.	Name of men				
5.	Group	Intervention 1: 1.3 (C1) ; 1.4 ( C2); 1.6 (C3); 2.2 (C4); 2.5 (C5) ; 2.6 (C6) Control 2: 1.1 (D1); 1.2 (D2); 1.5(D3); 2.1 (D4); 2.3 (D5); 2.4 (D6)			
6.	ID number	C V G MONTH YEAR BIRTH			

**INTERVIEWER'S VISITS AND RESULT**

Interviewer's name -----	Interview result		Interview Day/month/year ...../...../.....
Field editor's name	Completed	1	
	Respondent absent	2	
	Postponed	3	
	Refused	4	
	Other (specify) -----	5	
Spot checked by Name _____ Date _____	Remarks		

**SCREENING CRITERIA FOR ELIGIBLE MARRIED MEN**

Current age between 19-45	YES 1 NO 2
Live with wife in the same house in the last 3 months	YES 1 NO 2
Wife is not pregnant	YES 1 NO 2
Plan to have a child in the next 6 months	YES 1 NO 2
Currently consistent use of condom	YES 1 NO 2
Currently consistent use of pills	YES 1 NO 2

SECTION 1: BACKGROUND CHARACTERISTICS			
NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
Q 101	What is your birth date?	MONTH: [ _ / _ ] DK 98 NO RESPONSE 99  YEAR [ _ / _ ] DK 98 NO RESPONSE 99	
Q 102	What is your current age? ( compare and correct Q 102 if needed)	AGE IN COMPLETED YEARS [ _ / _ ] DK 98 NO RESPONSE 99 <b>ESTIMATE BEST ANSWER</b>	
Q 103	Have you ever attended school?	YES 1 NO 2 NO RESPONSE 99	⇒ Q 106
Q 104	What is the highest level of school you completed : primary, lower , upper secondary or higher?  <b>CIRCLE ONE</b>	ILLITERATE 1 PRIMARY 2 LOWER SECONDARY 3 UPPER SECONDARY 4 HIGHER 5 NOT KNOWN 98 NO RESPONSE 99	
Q 105	How many total years of education have you completed up to now?	YEARS COMPLETED [ _ / _ ] NO RESPONSE 99	
Q 106	How long have you lived here in this commune	NUMBER OF S [ _ / _ ] IF LESS THAN 1 YEAR 00 DK 98 NO RESPONSE 99	
Q 107	What religion are you?	BUDDIST 1 CATHOLIC 2 CHRISTIAN 3 OTHER (SPECIFY) _____ NO RELIGION 0 NO RESPONSE 99	
Q 108	To which ethnic group do you belong?	KINH 1 HOA 2 MUONG 3 NUNG 4 HMONG 5 OTHER (SPECIFY) _____ MIXED ETHNICITY 8 NO RESPONSE 99	
Q 109	How old were you at the time of your current marriage?	AGE IN COMPLETED YEARS [ _ / _ ] DK 98 NO RESPONSE 99	
Q 110	How old were you at the time of first marriage?	AGE IN COMPLETED YEARS [ _ / _ ] DK 98 NO RESPONSE 99	
Q 111	What IS your current occupation?	GOVERNMENT STAFF 1 PRIVATE BUSINESS 2 AGRICULTURAL /FARMING JOB 3 HOUSE-HUSBAND 4 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 112	How many live births have you had?	TOTAL BIRTHS: _____ NON 0 DK 98 NO RESPONSE 99	

Q 113	How many surviving children have you had with your current wife?	TOTAL SONS: _____ TOTAL DAUGHTER _____ TOTAL CHILDREN _____ NON 0 DK 98 NO RESPONSE 99	
Q 114	When was your last birth?	YEARS: _____ MONTHS: _____ DK 98 NO RESPONSE 99	
Q 115	Has your wife ever had an abortion?	YES 1 NO 2 DK 98 NO RESPONSE 99	} Q 117
Q 116	How many abortions has your wife had?	TOTAL ABORTION: _____ NON 0 DK 98 NO RESPONSE 99	
Q 117	How old is your wife now?	AGE IN COMPLETED YEARS [ / ] DK 98 NO RESPONSE 99	
Q 118	What religion is your wife?	BUDDIES 1 CATHOLIC 2 CHRISTIAN 3 OTHER (SPECIFY) _____ NO RELIGION 0 NO RESPONSE 99	
Q 119	To which ethnic group does your wife belong?	KINH 1 HOA 2 MUONG 3 NUNG 4 HMONG 5 OTHER (SPECIFY) _____ MIXED ETHNICITY 8 NO RESPONSE 99	
Q 120	What is your wife's current occupation?	GOVERNMENT STAFF 1 PRIVATE BUSINESS 2 AGRICULTURAL / FARMING JOB 3 HOUSE-HUSBAND 4 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 121	What highest level of school has your wife completed : primary, lower , upper secondary or higher?  <b>CIRCLE ONE</b>	PRIMARY 1 LOWER SECONDARY 2 UPPER SECONDARY 3 HIGHER 4 DK 98 NO RESPONSE 99	
<b>SECTION 2</b>			
<b>FAMILY PLANNING KNOWLEDGE</b>			
Q 201	Which days of the woman's menstrual period do you feel are safe to have intercourse with your wife if you do not want her to conceive?	SEVERAL DAYS BEFORE MENSTRUATION PERIOD 1 DURING MENSTRUATION PERIOD 2 SOME DAYS AFTER MENSTRUATION PERIOD 3 MID-CYCLE BETWEEN MENSTRUATION PERIOD 4 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	



4 Questionnaires for men involvement in family planning

Q 202	Now I would like to ask you about a different topic. Have you heard about family planning (contraceptive methods) before?	YES 1 NO 2	→ Section 3
Q 203	Do you know any family planning methods?	YES 1 NO 2	→ Section 3
Q 204	Can you name the FP methods that you know? (spontaneous answer)	PILLS 1 CONDOMS 2 IUD 3 VASECTOMY 4 TUBECTOMY 5 INJECTABLES 6 RHYTHMS 7 WITHDRAWAL 8 OTHERS (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 205	Can you name the FP methods that you know? (probed answer)	PILLS 1 CONDOMS 2 IUD 3 VASECTOMY 4 TUBECTOMY 5 INJECTABLES 6 RHYTHM 7 WITHDRAWAL 8 OTHERS (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 206	Where have you learnt about family planning methods? (possible multiple answers)	RADIO 1 TELEVISION 2 NEWSPAPERS 3 BILLBOARDS 4 HEALTH WORKERS 5 FAMILY PLANNING COLLABORATOR 6 FRIENDS /RELATIVES 7 WOMEN'S UNIONS 8 WIFE 9 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 207	What would you like to learn more about family planning methods?	SIDE EFFECT 1 EFFECTIVENESS 2 HOW TO USE 3 INDICATIONS 4 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	

**SECTION 3**  
**COMMUNICATION ON FAMILY PLANNING**

Q 301	In the past year, how often did you discuss with your friends family planning issues?	NEVER 0 Yes 1-3 times > 3 times DK 98 NO RESPONSE 99	
-------	---	---	--

Q 302	In the past year, how often did you discuss with family planning collaborators family planning issues?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 303	In the past year, how often did you discuss family planning issues with commune's Women's Union member?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 304	In the past year, how often did you discuss family planning issues with commune's people's committee member?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 305	In the past year, how often did you discuss with your relatives family planning issues?	NEVER 0 TIMES ----- DK 98 NO RESPONSE 99	
Q 306	In the past year, how often did you discuss with your wife about family planning issues?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 307	In the past year, how often did you discuss with your wife about number of children you both want?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 308	In the past year, how often did you discuss with your wife about abortion of unplanned pregnancy?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 309	In the past year, how often did you discuss with your wife about sexual desires?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	
Q 310	In the past year, how often did you discuss with your wife about birth spacing?	NEVER 0 Yes 1-3 times > 3 times  DK 98 NO RESPONSE 99	

SECTION 4 FAMILY PLANNING PRACTICE			
Q 401	Are you currently using any method to delay or avoid having a child?	YES 1 NO 2	→ Q 402 → Q 403
Q 402	Which method are you (your wife) currently using? (Possibly more than one method, reference period: 1 month preceding the interview).	PILLS 1 CONDOMS 2 IUD 3 VASECTOMY 4 TUBECTOMY 5 INJECTABLES 6 RHYTHMS 7 WITHDRAWAL 8 OTHERS (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 403	Why you do not use any family planning methods?	TO HAVE ANOTHER CHILD SOON 1 DIFFICULT TO GET PREGNANT 2 I AM TOO OLD 3 STERILE 4 TOO MUCH TROUBLES 5 FEAR OF SIDE EFFECTS 6 TOO EXPENSIVE 7 RELIGIOUS OBJECTION 8 IRREGULARITY 9 UNAVAILABILITY 10 OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 404	If you could chose the number of children you could have, how many would you like?	Total number _____ Other _____	
Q 405	If you could select the sex of your children, what would you prefer to have - son or daughter ?	HAVE A SON HAVE A DAUGHTER NO DIFFERENCE HAVE BOTH SONS AND DAUGHTER OTHER (SPECIFY) _____ DK 98 NO RESPONSE 99	
Q 406	Would you like to have another child or would you prefer not to have any more children?	HAVE A ANOTHER CHILD 1 NO MORE/NONE 2 Other _____ DK 98 NO RESPONSE 99	→ Q 408
Q 407	How long from now would you like to have a child?	> 2 YEARS 1 =< 2 YEAR 2 CAN'T GET PREGNANT 3 OTHER SPECIFY _____ DK 98 NO RESPONSE 99	
Q 408	Thinking back to the time of your wife's most recent pregnancy, would you say that you wanted her to become pregnant then, later, or not at all?	THEN 1 LATER 2 NOT AT ALL 3	
Q 409	PEOPLE WHO ARE USING IUD. For how long have you been using IUD?	< 6 months AC 1 => 6 months M 2	

	<b>FOR PEOPLE WHO ARE NOT USING IUD</b>					
Q 410	Are you considering starting to use IUD within next 6 months?			YES C 1 NO PC 2	→ Q 411 → Section 5	
Q 411	Are you planning to start using IUD within the next 30 days?			YES PR 1 NO C 2		
	<b>SECTION 5 DECISIONAL BALANCE</b>					
	<b>Read the statement and ask how important is the statement to the participant's decision to use contraceptives</b>					
	<b>Statements</b>	Not very important 1	Not important 2	Do not know 3	Important 4	Very important 5
	<b>Benefits of contraception</b>					
	How important is each of these advantages to you in deciding whether or not to use family planning methods for prevention of pregnancy using 5 point scale					
Q 501	FP helps you to be more responsible for decisions about having children					
Q 502	FP helps you avoid the results of unwanted pregnancy					
Q 503	Your wife would not have to worry about becoming pregnant if you were using contraception					
Q 504	FP helps to limit size of the family					
	How important is each of these advantages to you in deciding whether or not to use family planning methods for prevention of pregnancy using 5 point scale					
	<b>Costs of contraception</b>					
		Not very important 1	Not important 2	Do not know 3	Important 4	Very important 5
Q 505	Contraception is against your beliefs					
Q 506	FP makes sexual intercourse difficult in a family setting					
Q 507	Some FP methods are costly					
	How important is each of these advantages to you in deciding whether or not to use IUD for prevention of pregnancy using 5 point scale					
	<b>Benefits of IUD</b>	Not very important 1	Not important 2	Do not know 3	Important 4	Very important 5
Q 508	IUD may be effective in prevention of pregnancy					
Q 509	IUD may work for a long time					
Q 510	IUD does not require preparation before sexual intercourse					
	How important is each of these advantages to you in deciding whether or not to use IUD for prevention of pregnancy using 5 point scale					
	<b>Costs of IUD</b>	Not very important 1	Not important 2	Do not know 3	Important 4	Very important 5
Q 511	IUD may cause problems like dizziness and headache					
Q 512	IUD may cause abdominal pain					
Q 513	IUD may cause bleeding					

Q 514	IUD may cause PID (pelvic inflammatory disease )					
	<b>SECTION 6 SELF EFFICACY</b>					
	<b>General contraceptive use</b>	Not very confident 1	Not Confident 2	Do not know 3	Confident 4	Very confident 5
	<b>How confident are you in your ability to abstains from sexual intercourse or use a contraceptive method</b>					
Q 601	When the method is not right on hand/ not always available					
Q 602	When you have been using alcohol or other drugs					
Q 603	When your wife gets upset about that					
Q 604	When the wife has to go through too much trouble					
Q 605	When the wife suffers the side effects, like nausea, pain, etc.					
Q 605a	Is your wife currently using IUD?	Yes = 1 No = 2				→ Q 610 → Q 606
	<b>THE CONFIDENT LEVEL OF MEN IN CONVINCING WIVES TO USE IUD FOR PREVENTION OF PREGNANCY</b>					
		Not very confident 1	Not confident 2	Do not know 3	confident 4	Very confident 5
Q 606	I am confident that I could convince my wife to have IUD inserted even if she was concerned that <i>it could cause minor side effects like headache and dizziness</i>					
Q 607	I am confident that I could convince my wife to have IUD inserted even if she was concerned that <i>it could cause abdominal pain</i>					
Q 608	I am confident that I could convince my wife to have IUD inserted even if she was concerned that <i>it could cause bleeding</i>					
Q 609	I am confident that I could convince my wife to have IUD inserted even if she was concerned that <i>it could cause discomfort in sexual intercourse</i>					
	<b>The confident level of men in convincing wives to continue using IUD for prevention of pregnancy (for men whose wives are currently using IUD)</b>					
		Not very confident 1	Not confident 2	Do not know 3	confident 4	Very confident 5

Q 610	I am confident that I could convince my wife to continue using IUD even when she got <i>minor side effects like dizziness and headache</i>					
Q 611	I am confident that I could convince my wife to continue using IUD even when she got <i>abdominal pain</i>					
Q 612	I am confident that I could convince my wife to continue using IUD even when she got <i>bleeding</i>					
Q 613	I am confident that I could convince my wife to continue using IUD even when she got <i>discomfort in sexual intercourse</i>					

## **APPENDIX L: Published paper**

1. Ha, B. T. T., Jayasuriya, R. and Owen, N. (In press), Male involvement in family planning in rural Vietnam: an application of the transtheoretical model. *Health Education Research*.

2. The letter from the Journal 'Health Education Research' on paper's acceptance

# **Male Involvement in Family Planning in Rural Vietnam: An Application of the Transtheoretical Model**

Bui Thi Thu Ha, Rohan Jayasuriya, Neville Owen.

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Please see print copy for pages 1-25 of the published paper



# HEALTH EDUCATION RESEARCH

THEORY & PRACTICE

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Great Clarendon Street, Oxford OX2 6DP, UK  
Tel 01865 556767 Fax 01865 267773

Dr Bui Thi Thu Ha  
Hanoi School of Public Health  
138 Giang vo  
Bach Dinh  
Hanoi  
Vietnam

12<sup>th</sup> April 2002

Dear Ha

*Health Education Research: GK 746*

This is just to confirm that I have received the hard copies of your paper, dated 1<sup>st</sup> April.

I am happy to confirm that the paper will be published in due course. I cannot give you a precise date for publication but our waiting time is about 12 months at present.

With best wishes  
Yours sincerely

*Prof. Keith Tones*  
*Editor*

Executive Editor  
Prof. K. Tones  
12 Moseley Wood Lane  
Buckridge  
Leeds LS16 7EP  
Tel 0113 2674706  
Tel 0113 2619526  
Email Keith.tones@virgin.net

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Falmer  
Brighton BN1 9PH  
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Fax 01273 643473  
Email j.k.davies@bton.ac.uk

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Sheffield S10 2TH  
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Fax 0114 2755364  
Email a.s.rigby@sheffield.ac.uk

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Nigeria  
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Email brieger@jhsph.edu