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Association between blood pressure and sodium, potassium and calcium excretion in South Africans

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ASSOCIATION BETWEEN BLOOD PRESSURE AND SODIUM, POTASSIUM AND CALCIUM EXCRETION IN SOUTH AFRICANS

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Background: African-Americans are more susceptible to hypertension and related target-organ damage. Studies conducted in Johannesburg and Cape Town have suggested diminished activity of the sodium-potassium ATPase pump in black compared to white patients with hypertension. Recent data on habitual dietary intake of electrolytes and other factors known to influence BP among the ethnic groups in South Africa is lacking.

Objective: To evaluate habitual sodium and potassium intake and its relationship with BP across South African ethnic groups.

Design: A cross-sectional study of 336 black, white and coloured people, continuously sampled at work in Cape Town. For each group, equal numbers of normotensives (BP < 140/90 mmHg) and hypertensives subjects were selected. 24-hour urine collections were sampled on three separate days for each subject. Urinary electrolytes and calcium were measured. Twenty persons were selected at random and admitted to hospital in an attempt to determine the effects of sodium and potassium on blood pressure. Twenty persons were selected at random and admitted to hospital in an attempt to determine the effects of sodium and potassium on blood pressure.

Result: In the normotensive group, urinary Na was higher (P < 0.05) in white (145 mmol/24 h) compared to black subjects (130 mmol/24 h). No ethnic differences were found in the hypertensive group. The excretion of potassium in white hypertensive was higher than in black hypertensive. In black hypertensive subjects, the higher proportion of hypertensive compared to normotensives had a higher BP at rest (P < 0.05).

Conclusions: Dietary differences, together with possible predispositions to a low BP state in black and coloured adults, may contribute to ethnic-related differences in blood pressure.

REFERENCES OF NUTRITION INFORMATION AND PERCEIVED CREDIBILITY THEREOF IN BLACK URBAN WOMEN IN TWO PROVINCES

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Objective: (1) To identify the major sources of nutrition information for urban black South Africans which source persons perceived to be the most credible; (2) To determine the level of knowledge and the existence of misconceptions about nutrition, with special reference to the issues of obesity, sugar and dental decay.

Design: A cross-sectional descriptive study was both qualitative and quantitative in nature, using focus groups and individual questionnaires.

Setting: A convenience sample of 194 Xhosa-speaking women from Cape Town and 200 Northern Sotho-speaking women from Pretoria. Aged between 18 and 49 y and having a socio-economic status in accordance with Living Standard Measure 6 or 5. Prior to the survey, 4 focus groups were held with 20 women in order to identify common themes relating to nutrition knowledge. Based on this data, a questionnaire was developed and administered by trained fieldworkers.

Results: The most frequently encountered source of nutrition information was the media, particularly the radio (73% of subjects had obtained information from this source in the past year), followed by family and friends (46.6%). Despite only 44% of subjects having received nutrition information from a health professional, this was reported to be the most highly credible information source. The factors being the most influential in choice of foods were taste, preference of the family and price. Respondents to the questionnaires showed a lack of knowledge in certain aspects of nutrition and various misconceptions were identified. Although over half of the subjects agreed with the statement that they did not need to change their eating habits because their diets were already healthy enough, 38% agreed that they would make dietary changes, if advised to do so for health reasons. Over three-quarters of the women (78.5%) were overweight, however only 38% of

SUBJECTS PERCEIVED THEMSELVES TO BE TOO LARGE.

Conclusion: The findings suggest that greater access of the media as a vehicle for nutrition education may be effective in reaching this target audience who appear to be receptive to obtaining knowledge. In addition, health professionals need to be involved in providing accurate nutrition messages since they are perceived to be the most trusted source of nutritional information.

FACTORS THAT INFLUENCE THE PRESCRIPTION OF INTERFERON PRODUCTS BY DOCTORS AND DIETITIANS IN SOUTH AFRICA

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Doctors and dietitians use interferon products on a daily basis as part of their treatment. This study was undertaken to investigate the factors that influence doctors and dietitians in decision-making process of prescribing and prescribing interferon products.

Data was collected from a randomly selected sample (n=1767) consisting of 50% of all registered doctors, surgeons and internists in South Africa by means of a validated postal questionnaire.

Twenty seven percent (n=316) of the questionnaires were returned. Eighty one percent of the dietitians and 43% of the internists and surgeons indicated that knowledge of the characteristics and composition of different interferon products has a great impact on their choice. More than 50% of the diabetologists, surgeons and internists stated that knowledge availability played a significant role in choosing products. The majority (64%) of the study group had no preference for a specific company and 71% claimed that the presentation and promotion of a product by a representative did not affect their choice. Price plays a role in choosing products where the majority of the study group (86%) stated that they purchase products exclusively based on price. The majority of the dietitians (60%) prescribed a combination of both powdered and ready to hang products, mainly because of patient needs. Surprisingly 47% of the dietitians and surgeons (39%) and internists (40%) prescribed ready to hang products more often and convenience of use was given as the main reason.

Knowledge of the characteristics and composition of a product appears to influence choice greatly. Of the marketing-related factors, availability and price was valued the highest. The results of this study could be most helpful to the manufacturers of interferon products.

UNIAXIAL ACCELEROMETRY AND HEART RATE MONITORING IN RURAL AND URBAN NORTHERN SOTHO-SPEAKING AFRICANS

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We present present movement monitoring data describing physical activity (PA) levels, inter-day PA variability, inter-relations between the activities and environmental factors. collected during the validity trial of the interview-based WHO/CDIC International Physical Activity Questionnaire. Heart rate monitors (HRM) and top-mounted accelerometer (ACC) were worn for 3 weekdays and 6 weekend days. The subjects' movements were recorded over a period of 6 days (n = 6), 3 days (n = 2). The total counts and the minutes of light (10 MTH, <50%), moderate (4-6MTH, 50-79%), and vigorous (>6MTH) activity were used to determine PA levels. Compliance with CAC-DACMA guidelines was also evaluated. Rural subjects were almost twice as active as urban and spent 11% less time in sedentary and light activities (ACC 6 days). Inter-day variability was lower for weekdays (5% vs. 9%). Accelerometer reliability was high (ICC 0.95). Transport by truck was a source of 0% to 16% of ACC and 7-50% total in rural subjects. The movement monitor type affected evaluation of the time spent at the different intensity levels and CAC-DACMA guideline compliance.

ACC and HRM provided a culturally acceptable and robust measure to obtain PA data and be included in valid PA Questionnaires in diverse ethnic and socio-economic groups.