

University of Wollongong

Research Online

Faculty of Science, Medicine and Health -
Papers: part A

Faculty of Science, Medicine and Health

1-1-2013

The needs of people with alcohol-related brain injury (ARBI): a review of the international literature

Renee Brighton

University of Wollongong, reeneeb@uow.edu.au

Victoria Traynor

University of Wollongong, vtraynor@uow.edu.au

Lorna Moxham

University of Wollongong, lmoxham@uow.edu.au

Janette Curtis

University of Wollongong, jcurtis@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/smhpapers>



Part of the [Medicine and Health Sciences Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Brighton, Renee; Traynor, Victoria; Moxham, Lorna; and Curtis, Janette, "The needs of people with alcohol-related brain injury (ARBI): a review of the international literature" (2013). *Faculty of Science, Medicine and Health - Papers: part A*. 1395.

<https://ro.uow.edu.au/smhpapers/1395>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

The needs of people with alcohol-related brain injury (ARBI): a review of the international literature

Abstract

Purpose - Alcohol-related brain injury (ARBI) is part of a group of conditions that do not fit easily into existing systems of care. People living with ARBI require flexible health and social services to ensure they receive person-centred, therapeutic care and treatment. Effective service provision promotes recovery for people who continue to experience significant levels of morbidity and mortality due to symptoms that are potentially reversible or at least amendable to appropriate care and treatment options. There exist significant gaps in the provision of this care for these vulnerable populations. **Design/methodology/approach** - A literature review was undertaken of various scholarly databases (e.g. CINAHL, MEDLINE and Web of Science), as well as government and non-government publications and reference materials. Publications were included for analysis if they reported participant cohorts who had a diagnosis of ARBI or were carers or service staff involved with individuals who lived with ARBI. **Findings** - In total, 31 publications on the needs of people living with ARBI were reviewed. Of the 67 sources identified a total of 31 were accessed and retrieved. Four main themes were identified: under-recognition and lack of a timely diagnosis, inadequate service provision and limited care pathways, stigma, and homelessness. Sources came from Australian, British, North American and Canadian literature. **Research limitations/implications** - Significant gaps were found in both the literature and in current clinical practices when it comes to the identification, care and treatment of people with ARBI. Globally, ARBI policy, treatments and service provision is often not available and when it does exist, it lacks consistency. Variations in models of care are significant given the fact that the predicted increase in per capita alcohol consumption will see a disproportionate increase in ARBI in future generations. This review was generated by the lack of contemporaneous evidence and may be considered a starting point for future research looking into the needs of individuals living with ARBI. **Originality/value** - This international literature review contributes to a broader understanding of the issues and problems faced by people with ARBI. Of the 67 resources identified through a rigorous search method only 31 were relevant to people who live with ARBI in relation to care and support services. This indicates a lack of research in this area but that which needs to be undertaken. The review also highlighted service disconnection and the need for specific, tailored treatment approaches for people with ARBI. It was also found that the identification of ARBI in clinical practice has been protracted by the lack of systemised and standardised screening tools to use in the assessment of those who display signs and symptoms of these conditions.

Keywords

international, review, people, literature, injury, needs, brain, related, alcohol, arbi

Disciplines

Medicine and Health Sciences | Social and Behavioral Sciences

Publication Details

Brighton, R., Traynor, V., Moxham, L. & Curtis, J. (2013). The needs of people with alcohol-related brain injury (ARBI): a review of the international literature. *Drugs and Alcohol Today*, 13 (3), 205-214.

The needs of people with Alcohol-Related Brain Injury (ARBI): A review of the international literature

Word count: 4330 (excluding reference list)

Abstract

Background: Alcohol Related Brain Injury (ARBI) is part of a group of conditions that do not fit easily into existing systems of care. People living with ARBI require flexible health and social services to ensure they receive person-centred, therapeutic care and treatment. Effective service provision promotes recovery for people who continue to experience significant levels of morbidity and mortality due to symptoms that are potentially reversible or at least amendable to appropriate care and treatment options. There exist significant gaps in the provision of this care for these vulnerable populations.

Methods: A literature review was undertaken of various scholarly databases, government and non-government publications and reference materials. Publications were included for analysis if they reported participant cohorts who a diagnosis of an ARBI or were carers or service staff involved with individuals who had a diagnosis of ARBI.

Results: In total, 31 publications on the needs of people living with ARBI were reviewed. A literature review was undertaken of various scholarly databases, government and non-government publications and reference materials. Publications were included for analysis if they reported participant cohorts who a diagnosis of an ARBI or were carers or service staff involved with individuals who had a diagnosis of ARBI.

Conclusion: There exist significant gaps in both the literature and in current clinical practices when it comes to the identification, care and treatment of people with ARBI. Globally, ARBI policy, treatments and service provision is often not available and when it does exist, it lacks consistency.

Variations in models of care are significant given the fact that the predicted increase in per capita alcohol consumption will see a disproportionate increase in ARBI in future generations. This review may be considered a starting point for future research looking into the needs of individuals living with ARBI.

Key words: alcohol, brain injury, impairment, services, care

Introduction

For people living with Alcohol-Related Brain Injury (ARBI) the impacts on their lives and those of their carers is large (Keady et al. 2009; MacRae & Cox 2003). People living with these conditions often have co-morbidities but 'fall between the cracks' as service provision becomes more and more specialised and as a consequence compartmentalised. Alcohol is an intrinsic part of the Australian culture with the National Health and Medical Research Council (NHMRC 2009) finding that one-quarter of Australians consume alcohol at levels that puts them at increased risk of alcohol-related harm and disease. In the United Kingdom (UK), alcohol-related morbidity and mortality is steadily increasing with alcohol-related hospital admissions now in excess of 1 million per annum in England (Thomson et al 2012). Similarly, excessive alcohol consumption in the United States is the third leading cause of preventable death and is a risk factor for many health and societal problems (Bouchery et al. 2011). Whilst the adverse effects of excessive drinking are regularly highlighted in Government and media advertising campaigns, an area of silence relates to the very people who live with ARBI.

ARBI remains a condition which is poorly addressed in the research. Excessive consumption of alcohol results in a range of adverse cognitive conditions and poor social outcomes yet is largely silent in the literature (Dawber 2010). Consumption of alcohol at levels that are known to be unsafe can cause irreversible changes in the structure of the brain and impairment of cognitive function (Gazdzinski, Durazzo & Meyeroff 2005). A medical diagnosis is then made to explain the impact of

these effects with numerous diagnostic labels given. These include alcohol-related dementia, alcoholic dementia, alcohol-related brain injury, alcohol-related brain damage, alcohol-related brain impairment and Wernicke-Korsakoff's syndrome. Throughout the literature these terms are used interchangeably, but for the purposes of this paper ARBI is used as it appears to be the most predominantly used nomenclature.

Despite such damaging bio-psycho-social effects, there are significant issues regarding who should take responsibility for the care, support and clinical management of the person with ARBI. Care is fragmented both before and after diagnosis and debates rage about which service should be the one responsible for the clinical management and support of the person (Boughey 2003; Keady et al. 2009). The aim of this paper is to present a review of the international literature related to ABRI and provide different ways to conceptualise ARBI from the perspective of individuals who experience it and practitioners providing specialist services to those individuals.

Background

The pathology of ARBI is multifaceted. The causes of impaired mental dysfunction associated with excessive alcohol consumption are varied and include neurotoxicity, metabolite deficiencies and vitamin deficiency (Oscar-Berman & Marinkovic 2007). The signs of ARBI include confusion, impaired memory, concentration and judgement, difficulties in processing new information, confabulation, apathy, depression, irritability, problem behaviours, ataxia and a loss of spontaneity, motivation and initiative (Harper 2007), as well as changes in personality and behaviour.

There is some evidence that excessive alcohol consumption is also a factor in the development of vascular dementia and Alzheimer's disease due to vascular changes associated with high alcohol intake (Deng et al. 2006). This, however, is a contentious area, as there is no conclusive evidence to establish this link (Huang et al. 2002; Mukamal et al. 2003). Research also suggests links between head injury and alcohol consumption, such as high levels of drinking worsening the symptoms of

brain trauma originally resulting from an accident or assault (Horner et al. 2005). However, as a result of pre-injury cognitive decline the person may have already resulted from high risk behaviours such as alcohol and other substance misuse often seen in people who experienced traumatic head injury (Bogner et al. 2001).

Although some broad epidemiological research has been conducted on the relationship of alcohol to certain sub-types of dementia and traumatic head injury, no international or national epidemiological study could be found on ARBI (Gupta & Warner 2008). A review of the literature indicated that the population most effected were those in younger age groups; forty to sixty-four (McMurtray et al. 2006). International campaigns about the risks associated with excessive alcohol consumption gain substantial public funding but specific public health messages about ARBI remain much less publicised and research funding on this topic is lacking (Keady et al. 2009).

The paucity of healthcare-related research and divisive approach to service provision continues to signify that people with ARBI remain a marginalised, socially excluded people (Ganguli et al. 2005; Keady et al. 2009).

Methods

An analytic and comprehensive search of relevant sources on ARBI (and its many other terms) was conducted determining sources that had significantly contribution to the understanding of the topic (Davies 2004).

Search Strategy

Three search strategies were adopted:

- 1: scholarly databases were examined including Scopus, CINAHL, Medline, Web of Science, ScienceDirect, Informa Healthcare, PubMed Central and SAGE, which identified literature specific to the topic under consideration;

- 2: An internationally recognised search engine was the platform to identify publications from key bodies, regulatory organisations, non-government organisations and policy documents;
- 3: Snowballing techniques were used to search secondary sources references.

As such, a suitably broad and systematic approach ensured access to contemporary and relevant resources (Hart 2003). Combinations of different search terms were used (table 1).

Table 1 Summary of search terms used

Search Terms
'dementia' or 'Alzheimer's' AND 'alcohol*'
AND 'diagnosis' or 'care' or 'service' or 'treat*'
OR 'support' or 'experienc*' or 'subjectiv' or 'accommodat*'
'alcohol*'
AND 'brain injury' or 'acquired brain syndrome' or 'brain damage' or 'brain impairment' or 'cognitive loss'
AND 'diagnosis' or 'care' or 'service' or 'treat*'
OR 'support' or 'experienc*' or 'subjectiv' or 'accommodat*'
'alcohol* brain' or 'alcohol *dementia' or 'alcohol *injury'
AND 'diagnosis or 'service' or 'treat*'
OR 'support' or 'experienc*' or 'subjectiv' or 'accommodat*'
'Wernicke Korsakoff*'
AND 'diagnosis' or 'services' or 'treat*'
OR 'support' or 'experienc*' or 'subjectiv' or 'accommodat*'

Inclusion criteria

Studies were included when it was observed that participant cohorts had a diagnosis of an ARBI or were carers or service staff involved with individuals who had a diagnosis of an ARBI.

Exclusion Criteria

Sources excluded were those that examined alcohol as a precursor to the development of dementia of a different aetiology (for example vascular dementia) or those that did not examine alcohol as the independent cause of the brain damage (such as people who experienced traumatic brain injury). Also excluded were publications that focused on high risk poly-substance use and those that were clinical in nature examining the neuropathology of the conditions. These exclusion criteria were set post-searching when identifying appropriate publications to review.

Findings

Of the sixty-seven sources identified a total of thirty-one were accessed and retrieved. Most publications (94%) were from scholarly sources, including non-systematic and systematic reviews, peer reviewed quantitative and qualitative research reports and editorial opinion pieces. Only two sources were from grey literature, which were reports published in the UK by health care agencies affiliated with the University of Stirling in Scotland.

Four main themes were identified 1) Under-Recognition and Lack of a Timely Diagnosis, 2) Inadequate Service Provision and Limited Care Pathways, 3) Stigma and, 4) Homelessness. Sources came from Australian, British, North American and Canadian literature. A summary from the critical analysis of the thirty-one publications are grouped under four main themes and presented in Table 2. Some sources are inclusive of more than one theme.

Table 2 Summary of themes

Theme No.	Title of theme	No. of publications sourced		
		Grey literature	Academic publication	Total
Theme 1	Under recognition, lack of timely diagnosis	1	7	8
Theme 2	Inadequate service provision	2	13	15
Theme 3	Stigma	1	4	5
Theme 4	Homelessness and socio-economic deprivation	2	4	6

1. Under-Recognition and Lack of a Timely Diagnosis

People with ARBI experience difficulties obtaining a timely and accurate diagnosis (Brighton, Traynor & Curtis 2011). This results in conditions being under-recognised and misunderstood (Kopelman et al 2009). The large number and complexity of symptoms associated with ARBI created difficulties in correctly diagnosing the conditions (North et al 2009; Sechi & Serra 2007). Inaccurate diagnoses lead to inappropriate treatment and use of unsuitable medications as well as incongruous treatment approaches (Brown et al. 2009).

An Australian study by Rota-Bartelink and Lipman (2010) which was conducted in a supportive living environment for people with ARBI concluded that a lack of clarity in terminology and appropriate screening tools for those with these conditions existed. Gupta and Warner (2008) proposed that few guidelines were available in the UK to assist mental health clinicians in distinguishing alcohol-related dementia from other types of dementias and in the United States (US), Oslin et al (2003) proposed DSM-IV-TR clinical criteria for ARBI due to the fact that there was no adequate diagnostic criterion for people with these conditions. Diagnosis they claimed was based exclusively on clinical judgement from practitioners who may or may not have the experience to diagnose such a condition (Oslin et al 2003). Research on the prevention and treatment of Wernicke-Korsakoff syndrome as presented in a non-systematic review by Thomson and Marshall (2006) found that under-recognition and failure of clinicians to adequately identify individuals with alcohol-related brain conditions resulted in up to

ninety percent of people being left undiagnosed until post-mortem. The chance of improvement therefore remained almost unattainable for the majority of individuals who experienced ARBI.

Enhancing clinician's capacity to recognise the early signs of ARBI is important because when individuals were diagnosed and assisted to cease drinking and appropriate treatment strategies were put in place, Smith and Hillman (1999) identified a seventy-five percent chance of making some form of improvement. In fact, when people were accurately diagnosed and supported, up to twenty-five percent of people fully regained their previous levels of cognitive function when they were assisted to cease alcohol consumption (Smith and Hillman 1999).

Accurately identifying ARBI remains problematic. It is a condition often masked by other related problems, such as depression and delirium and under-recognised as a clinically unique condition (MacRae & Cox 2003). Symptoms of ARBI were often found to be confused with other neurological medical conditions and misdiagnosis resulted (Brown et al. 2009). The lack of an accurate diagnosis can have a fatal impact on individuals who are consequentially not provided with effective treatment options, developing further complications and dying from untreated symptoms (Rota-Bartelink & Lipman 2010).

2. Inadequate Service Provision and Limited Care Pathways

There is a reported lack of suitable accommodation, clinical services and treatment programmes for people with ARBI which is identified an international problem (Thomson & Marshall 2006). In the UK inadequate service provision was found to be extreme despite the fact that there were often repeated opportunities for intervention from General Practitioners, drug and alcohol services and mental health services (Kopelman et al. 2009). As alluded to previously in this paper, the isolative nature of care, accommodation and treatment services as well as the lack of funding for specialised, targeted services reflected how people with ARBI 'fall between the cracks' (Rota-Bartelink & Lipmann 2010).

In Keady et al.'s (2009) research on the subjective experiences of people with ARBI living in a UK supported rehabilitation environment, a range of solutions to increase care and treatment options and overcoming the disconnectedness of current services were recommended. These include a more educated healthcare workforce related to alcohol related brain conditions. Joint service provision across drug and alcohol, mental health and aged care specialities was also found to be needed (McCrae & Cox 2003). These strategies could prevent individuals from 'falling through the net' in their care journeys (Boughey 2003). People living with ARBI were found to benefit from dual diagnosis (addiction and mental health) specialist clinicians, in particular advanced-practice nurses, as they assisted the person to better navigate complex care pathways (Dawber 2010).

In a UK report entitled 'meeting the needs of people with alcohol related brain damage' awareness was found to be low among health and social workers and there was a lack in specialist knowledge on how to treat these disorders (MacRae & Cox 2003). Too infrequently did only one or an inappropriate service, take responsibility for individuals, resulting in their care being segregated and sub-optimal (Thomson & Marshall 2006). In a UK qualitative study evaluating a newly constructed supported living environment, it was noted that people with ARBI were often placed in mental health facilities that did not have the resources to meet the complex needs of the people (Irvine & Mawhinney 2008). In Australia, specialist services for people with serious mental health issues are common, but people with ARBI, even when they have a concurrent mental illness encounter difficulties accessing treatment from them (Rota-Bartelink 2010). People with ARBI are often passed around, as no one service appears willing to take responsibility for the holistic care and treatment needs of a population with such complex health issues. Poor knowledge on these conditions amongst frontline clinicians and social support staff has led to a low rate of diagnosis and resulted in people with ARBI not obtaining the support, care and treatment that they needed (North et al. 2010).

ARBI is most common before the age of sixty-five but when someone with ARBI requires residential care it is most often within an aged care facility (McMurtray et al. 2006). In a mixed-methods study of younger adults with acquired brain injuries of which sixteen were people with ARBI living in residential aged care, it was found the care needs of these individuals were not met as rehabilitation programs were inappropriate and medication regimes were ineffective which included inaccurate doses of thiamine replacement (McMillan & Laurie 2004). Reed et al. (2002) also found that despite the distinct social and physical needs of younger people with ARBI they were mostly offered nursing home accommodation designed for older people. Internationally, this group of younger individuals living with ARBI are provided ineffective care and have limited access to appropriate resources and services (Panegyres & Frenchman 2007).

The provision of effective care treatments and appropriate services is ethically necessary for individuals with ARBI as much as it is for anyone with any other health condition. People with ARBI have the potential to experience meaningful levels of recovery but inadequate treatment and limited care pathways result in a group of people who continue to struggle with cognitive deficits that could respond positively to effective and appropriate case management, treatment and rehabilitation (Dawber 2010). The lack of treatment options prevents people with ARBI from leading independent lives (Smith & Hillman 1999).

3. Stigma

People with ARBI are subjected to the 'double stigma' of both living with an alcohol-related disorder and experiencing symptoms reminiscent of dementia (Boughey 2003). When people with ARBI were asked how the wider community perceived them, they reported negative feelings and considered that others distinguished them as 'sub-human' (Keady et al. 2009). This perception was often generated from previous negative experiences of being ostracised and isolated because of what they described as past poor behaviour during years of excessive and harmful use of alcohol. These

experiences reflected the inflexible and regimented healthcare services which only provided rudimentary treatments and ignored individual needs (Rota-Bartelink & Lipmann 2010). These negative attitudes can be considered shocking and surprising when the care provided was from those who were deemed as 'health professionals' (Rota-Bartelink 2010).

The care journey of these individuals was often made unnecessarily convoluted because some health professionals felt that alcohol-related dementia was 'self-inflicted' and the individual did not 'deserve' the treatment or therapy (Rota-Bartelink 2010). Clinicians in the UK were found to be reluctant and sometimes refused to provide appropriate care and treatment which could promote abstinence and recovery (MacRae & Cox 2003). A compassionate, respectful and person-centred approach is not always apparent in the care and treatment of individuals with ARBI (North et al. 2010). A study conducted by Cleak and Surr (2002) in Australia analysed case management styles and identified that for people with ARBI, the development of an empathetic approach and a trusting relationship by healthcare workers was required before they could start to make positive life changes. People with ARBI require collaborative and flexible services which can meet their complex healthcare needs. Stigmatising behaviours from the wider community and healthcare workers results in suboptimal care and treatment.

4. Homelessness

An unfortunate consequence of long term excessive and harmful alcohol use is homelessness. Many homeless adults have alcohol misuse issues (Davis-Berman, 2011). In a UK study of 266 people who were homeless, twenty-one percent of the participants met medical criteria for an ARBI (Gilchrist & Morrison 2005). Rota-Bartelink (2010) found that the majority of Australian people who were described as homelessness had ARBI. Hwang et al.'s (2008) Canadian study found that fifty-eight percent of homeless men and forty-two percent of homeless women in their sample of 904 participants had some form of ARBI.

Of the many people with ARBI who had a history of homelessness, a lack of suitable and targeted services contributed to the person becoming homeless (Rota-Bartelink & Lipmann 2010). The lack of structure and funding for specific, targeted accommodation and individual care planning services particularly since the development of social policies that supported deinstitutionalisation, are cited as reasons. This chronic lack of appropriate services often resulted in people feeling 'abandoned' both physically and emotionally (McCrae & Cox 2003). The challenging behaviours and continual high levels of alcohol abuse leading to cognitive deficits, memory problems and poor insight, resulted in difficulty for people to stay in the family home or to secure and maintain accommodation of their own (Boughey 2003). This, coupled with the scarce amount of support available from family members and the stigma from experiencing this condition often lead to homelessness.

Limitations

This review never set out to generalise but despite that a number of potential limitations are evident. The variety of study aims and methodologies within the sources analysed made it difficult to pinpoint key issues. While narrative synthesis enabled key themes to be considered and reflected the scope of current research, the subjectivity of such an approach should be noted (Hart 2003). Some of the published research reviewed also had methodological weaknesses. A number of studies did not specify the screening and diagnostic tools used with participants and although all articles included alcohol as a cause of the brain disorder, not all articles solely focussed on ARBI. Despite the broadness of the terms used in the search strategy, five out of the thirty-one articles used in the review also came from other sources (for example, reference lists of retrieved articles) rather than the list of titles resulting from searching the academic databases. When further search terms were added in an attempt to secure more papers, a large amount of non-relevant papers resulted. The fact that one should not rely solely on predefined, protocol-driven search strategies but also use secondary strategies like citation tracking is a well-known phenomenon in literature studies

(Greenhalgh & Peacock 2005). Despite these limitations this review highlights significant gaps in both the literature and in current clinical practices when it comes to the identification, care and treatment of people with ARBI.

Discussion

This international literature review contributes to a broader understanding of the issues and problems faced by people with ARBI. Of the sixty-seven resources identified through a rigorous search method only thirty-one were relevant to people who live with ARBI in relation to care and support services. This indicates a lack of research in this area but that which needs to be undertaken. The review has also highlighted service disconnection and the need for specific, tailored treatment approaches for people with ARBI. Identification of ARBI in clinical practice has also been protracted by the lack of systemised and standardised screening tools to use in the assessment of those who display signs and symptoms of these conditions.

The lived experience and voices of people who live with ARBI is largely silent throughout the literature. Dierckx de Casterle et al (2011) argue that research on the lived experience helps to unfold what it means to people and their families to have to go through the experience of ill health and or service use. Such an approach is useful for person centred clinical practice and should regularly be undertaken to ensure that health service users are more than tokenistic providers of information. Lammers and Happell (2004) identified how consumer participation in program development and delivery is vital to achieving not only enhanced services but creating opportunities that successfully empower individuals in relation to their own care. The authors argue therefore that future research be focused on building a body of work based on the needs of people with ARBI from their perspective (Keady et al. 2009).

Globally, more effective assessment processes and screening tools need to be developed to ensure these complex, vulnerable people are diagnosed in a timely way and receive effective care and treatment. Services have an opportunity to contribute to changes in the care experience of people with ARBI by providing more flexible services, less strict admission criteria, better clinician knowledge from both a drug and alcohol and mental health perspective and an increase in treatment options (McCabe 2006). The early identification and diagnosis of people with ARBI is required so as to provide people with the chance to achieve abstinence from alcohol and the opportunity for some resulting degree of recovery (Dawber 2010). To assist with this, a clarification in terminology and how these disorders are classified is needed, both by leading clinicians and researchers in the field so as to provide a clinical framework for diagnosing and validating the existence of and pathophysiology associated with ARBI (Oslin et al. 1998). This will also assist to increase clinician awareness as to adverse effects of chronic alcohol use on brain structure and function and guide advancements for treatments and care.

On a global level, social and health care services need to work together and take joint responsibility for treatment and care of people with ARBI. This paper identifies how people with this condition 'fall through the net' when it comes to coordinated targeted services (Boughey 2003). People with ARBI continue to lack access to expert care often due to the complexity of the people involved. Many services currently providing care to these people lack the capacity to do so (MacRae & Cox 2003). One example of where services that could provide this care and treatment in Australia is with the development of the Specialist Mental Health Services for Older People (SMHSOP) which are programs provided by the NSW government for 'for older people with mental health problems, including severe behavioural and psychiatric symptoms' (NSW Department of Health 2006). These services provide care to the 'functionally old' who are people under age sixty-five who experience complex morbidity issues including dementia and poor health status but exclude people who have a primary diagnosis of a drug and alcohol disorder. There is therefore high probability that people with

symptoms of ARBI, such as repetitive and high levels of alcohol use, resulting from poor judgement and impaired decision-making, will not meeting the criteria for SMHSOP programs.

The question also needs to be asked should people with ARBI be differentiated by age? Younger people aged under sixty-five are more likely to experience these conditions than older populations. As demonstrated in recent Australian research on hospital admission rates (Draper et al. 2011) patients with dementia aged fifty to sixty four were found to have co morbid alcohol misuse issues more than any other type of dementia. Differentiation by age may therefore be pertinent due to the stated importance of, and lack thereof, age-appropriate services. Supported accommodation and structured rehabilitative approaches, as well as the development of joint healthcare services from a mental health and drug and alcohol perspective, to help people stop drinking and maintain abstinence, whatever the age of the person, are required and should form part of national and international government policy, clinical practice and research strategies. With continuing abstinence a large proportion of people with ARBI do demonstrate improvements in cognitive ability (Dawber 2010).

Conclusions

This paper demonstrates that ARBI is a group of conditions that defy existing systems of care. People living with these conditions require flexible health and social care services to ensure they receive person-centred, therapeutic care and treatment. This, in turn, will promote the chance of recovery for a population that continues to experience significant levels of morbidity and mortality due to symptoms that are potentially reversible or at least amendable to appropriate care and treatment options. On a national and global level, ARBI policy, treatments and service provision lacks availability and consistency. This is made all the more serious given the fact that the predicted increase in per capita alcohol consumption will see a disproportionate increase in ARBI in future

generations (Gupta & Warner 2008). Action is needed now so that the needs and views of those living with ARBI are finally heard.

References

Australian Department of Health and Ageing 2006, Ministerial Council on Drug Strategy, *National Alcohol Strategy 2006-2009: Towards Safer Drinking Cultures*, ISBN: 1 74186 051 2, Commonwealth of Australia.

Bartlett, H, Gray, L, Byrne, G, Travers, C & Liu, CW 2008, *Dementia – A National Health Priority: Dementia Research Mapping Project, a Final Report*, Australian Government Department of Health and Ageing, Canberra.

Bogner, JA, Corrigan, JD, Mysiw, WJ, Clinchot, D & Fugate, L 2001, 'A comparison of substance abuse and violence in the prediction of long-term rehabilitation outcomes after traumatic brain injury', *Archives of Physical Medicine and Rehabilitation*, vol. 82, no. 5, pp. 571-577.

Bouchery, EE, Harwood, HJ, Sacks, JJ, Simon, CJ & Brewer, RD 2011, 'Economic cost of excessive alcohol consumption in the U.S.', *American Journal of Preventative Medicine*, vol. 41, no. 5, pp. 516-524.

Boughey, L, 2003, 'His problem? Her problem? Not OUR problem. Then whose problem?', *Signpost*, vol. 8, pp. 16–18.

Brighton, R, Traynor, V & Curtis, J 2011, 'Explaining social exclusion in alcohol-related dementia: a literature review', *Alzheimer's Australia 14th National Conference*, Brisbane, Australia: Alzheimer's Australia.

Brown J, McColm R, Aindow J & Anderson J 2009, 'Nursing assessment of alcohol-related brain damage in young people', *Nursing Times*, vol. 105, no. 41, pp. 20–23.

Cash, R & Philacitdies, A 2006, *Clinical Treatment Guidelines for Alcohol and Drug Clinicians: No. 14 Co-occurring acquired brain injury / cognitive impairment and alcohol and other drug use disorders*, Turning Point Alcohol & Other Drug Centre, Fitzroy, Victoria.

Cleak, H & Serr, K 2002, 'Case management in action: an examination of two cases in the area of alcohol related brain damage', *Australian Social Work*, vol. 51, no. 1, pp. 33-38.

Davies, S 2004, 'Reviewing and interpreting research: identifying implications for practice', in S Crookes & P Davies (eds), *Research into Practice: Essential Skills for Reading and Applying Research in Nursing and Health Care*, 2nd edn, Bailliere Tindall, Sydney.

Davis-Berman, J 2011, Older Women in the homeless shelter: personal perspectives and practice ideas, *Journal of Women and Aging*, vol. 23(4), 360-374

Dawber, R 2010, 'Workforce redesign utilising advanced practice to improve the lifestyle and cognitive function of patients with alcohol-related brain damage', *The Journal of Mental Health Training, Education and Practice*, vol. 5(3), 31-40.

Dierckx de Casterle, B, Verhaeghe, S, Kars, M, Coolbrandt, A, Stevens, M, Stubbe, M, Deweydt, N, Vincke, J & Grypdonck, M 2011, 'Researching lived experience in health care: significance for care ethics', *Nursing Ethics*, vol. 18, no. 2, pp. 232-242.

Deng, J, Zhou, DHD, Li, J, Wang, YJ, Gao, C & Chen, M 2006, 'A 2-year follow-up study of alcohol consumption and the risk of dementia', *Clinical Neurology and Neurosurgery*, vol. 108, pp. 378-383.

Draper, B, Karmel, R, Gibson, D, Peut, A & Anderson, P 2011, 'The Hospital Dementia Services Project: age differences in hospital stays for older people with and without dementia', *International Psychogeriatrics*, viewed 2nd September, 2011, <http://journals.cambridge.org/action/displayFulltext?type=1&pdfType=1&fid=8371236&jid=IPG&volumeld=-1&issuelid=&aid=8371234>.

Ganguli M, Bilt JV & Saxton J, Shen, C & Dodge, HH 2005, 'Alcohol consumption and cognitive function in late life: a longitudinal community study', *Neurology*, vol. 65(8), 1210–1217.

Gazdzinski S, Durazzo T & Meyerhoff D 2005, 'Temporal dynamics and determinants of whole brain tissue volume changes during recovery from alcohol dependence', *Drug & Alcohol Dependence*, vol. 78, pp. 263–273.

Gilchrist G & Morrison DS 2005, Prevalence of alcohol related brain damage among homeless hostel dwellers in Glasgow, *European Journal of Public Health*, vol. 15(6), 587–588.

Greenhalgh, T & Peacock, R 2005, 'Effectiveness and efficiency of search methods in systematic reviews of complex evidence: audit of primary sources', *BMJ*, vol. 331, pp. 1064–1065.

Gupta, S & Warner, J 2008, 'Alcohol-related dementia: a 21st-century silent epidemic?', *British Journal of Psychiatry*, vol. 193, pp. 351-353.

Harper, C 2007, 'The neurotoxicity of alcohol', *Human & Experimental Toxicology*, vol. 26, pp. 251-257.

Hart, C 2003, *Doing a literature review: Releasing the social science research imagination*, Sage Publications, London.

Hilman, H 2003, 'Alcohol related brain damage on the rise', *Alcohol Alert*, vol. 2, pp. 16–18.

Horner, MD, Ferguson, PL, Selassie, AW, Labbate, LA, Kniele, K & Corrigan, J 2005, 'Patterns of alcohol use one year after traumatic brain injury: a population-based, epidemiological study', *Journal of the International Neuropsychological Society*, vol. 11, no. 3, pp. 322-320.

Huang W, Qiu C, Winblad B & Fratiglioni L 2002, 'Alcohol consumption and incidence of dementia in a community sample aged 75 years and older', *Journal Clinical Epidemiology*, vol 55, pp. 564-959.

Hwang, SW, Colantonio, A, Chiu, S, Tolomiczenko, G, Cowan, L, Redelmeier, DA & Levinson, W 2008, 'The effect of traumatic brain injury on the health of homeless people', *CMAJ*, vol. 179, no. 8, pp. 779-784.

Irvine, C & Mawhinney, S 2008, 'Functioning of individuals with Korsakoff Syndrome: a pilot study of supported group living in Northern Ireland', *Mental Health Review Journal*, vol. 13, no. 2, pp. 16-23.

Jacques A & Stevenson G 2000, *Korsakoff's Syndrome and other Chronic Brain Related Damage in Scotland*, Dementia Service Development Centre, University of Stirling, Scotland.

Keady, J, Clarke, CL, Wilkinson, H, Gibb, CE, Williams, L, Luce, A & Cook, A 2009, 'Alcohol-related brain damage: narrative storylines and risk constructions', *Health, Risk & Society*, vol. 11(4), 321-340.

Kopelman, MD, Thomson, AD, Guerrini, I & Marshall, EJ 2009, 'The Korsakoff syndrome: clinical aspects, psychology and treatment', *Alcohol & Alcoholism*, vol. 44(2), 148-154.

Lammers, J & Happell, B 2004, 'Research involving mental health consumers and carers: a reference group approach', *International Journal of Mental Health Nursing*, vol. 13, pp. 262-266.

MacRae, R & Cox & S 2003, *Meeting the needs of people with Alcohol Related Brain Damage: A literature review on the existing and recommended service provision and models of care*, Dementia Services Development Centre, University of Stirling, Scotland.

McCabe, L 2006, *Working with People with Alcohol-Related Brain Damage*, Dementia Services Development Centre, University of Stirling, Scotland.

McMillan, TM & Laurie, M 2004, 'Young adults with acquired brain injury in nursing homes in Glasgow', *Clinical Rehabilitation*, vol. 18, pp. 132-138.

McMurtray A, Clark DG, Christine D & Mendez MF 2006, 'Early-onset dementia: frequency and causes compared to late-onset dementia', *Dementia Geriatric Cognitive Disorders*, vol. 21, pp. 59-64.

Mukamal KJ, Kuller LH, Fitzpatrick AL, Longstreth WT, Mittleman MA & Siscovick DS 2003, 'Prospective study of alcohol consumption and risk of dementia in older adults', *JAMA*, vol. 289, pp. 1405-1413.

National Health and Medical Research Council (NHMRC) 2009, *Australian Guidelines to Reduce Health Risks from Drinking*, ISBN: 1864963743, Commonwealth of Australia.

North, L, Gillard-Owen, L, Bannigan, D & Robinson, C 2010, 'The development of a multidisciplinary programme for the treatment of alcohol-related brain injury', *Advances in Dual Diagnosis*, vol. 3, no. 2, pp. 5-12.

NSW Department of Health 2006, *NSW Service Plan for Specialist Mental Health Services for Older People (SMHSOP) 2005-2015*, ISBN 0 7374 3969 9, NSW Ministry of Health.

Oscar-Berman & Marinkovic 2007, 'Alcohol: effects on neurobehavioral functions and the brain', *Neuropsychology Review*, vol. 17, pp. 239-257.

Oslin DW, Atkinson RM, Smith DM & Hendrie H 1998, 'Alcohol related dementia: proposed clinical criteria', *International Journal of Geriatric Psychiatry*, vol. 13, pp. 208-213.

Oslin, DW & Cary, MS 2003, 'Alcohol-related dementia: validation of diagnostic criteria', *American Association for Geriatric Psychiatry*, vol. 11, no. 4, pp. 41-447.

Panegyres, PK & Frencham, K 2007, 'Course and causes of suspected dementia in young adults: A longitudinal study', *American Journal of Alzheimer's Disease & Other Dementias*, vol. 22, no. 1, pp. 48-56.

Rota-Bartelink, A 2010, 'Homeless adults living with acquired brain injuries', *Parity*, vol. 23, no. 1, pp. 9-12.

Rota-Bartelink, A & Lipmann, B 2010, 'Older people with alcohol-related brain injury and associated complex behaviors: A psychosocial model of residential care (The Wicking Project)', *Care Management Journals*, vol. 11, no. 2, pp. 112-121.

Schneider, Z 2003, 'Strategies for conducting a critical review', in Z Schneider, D Elliott, G LoBiondo-Wood & J Haber (eds), *Nursing Research: Methods, Critical Appraisal and Utilisation*, 2nd edn, Mosby, Sydney.

Sechi G & Serra A 2007, 'Wernicke's encephalopathy: new clinical settings and recent advances in diagnosis and management', *Lancet Neurology*, vol. 6, pp. 442-455.

Smith, I & Hillman, A 1999, 'Management of alcohol Korsakoff syndrome', *Advances in Psychiatric Treatment*, vol. 5, pp. 271-278.

Syapin, PJ 2011, 'Brain damage and alcohol dependence: How one may influence the other', *Alcoholism Treatment Quarterly*, vol. 29(2)132-145.

Thomson, AD, Guerrini, I, Bell, D, Drummond, C, Duka, T, Filed, M, Kopelman, M, Lingford-Hughes, A, Smith, I, Wilson, K & Marshall, EJ 2010, 'Alcohol-Related Brain Damage: Report from a Medical Council on Alcohol Symposium', *Alcohol and Alcoholism*, vol. 47, no. 2, pp. 84-91.

Thomson, AD & Marshall, EJ 2006, 'The treatment of patients at risk of developing Wernicke's encephalopathy in the community', *Alcohol & Alcoholism*, vol. 41, no. 2, pp. 159-167.

Tien, H, Tremblay, LN, Rizoli, SD, Gelberg, J, Chughtai, T, Tikuisis, P, Shek, P & Brenneman, FD 2006, 'Association between alcohol and mortality in patients with severe traumatic head injury', *Arch Surg*, vol. 141, pp. 1185-1191.