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Alcohol use disorders in older people

Simon Coulton
Centre for Health Service Studies, University of Kent, UK

Summary

The number of people aged 65 years or more is increasing worldwide. Alcohol use disorders (AUD) are a common condition in the older population, and this combined with the changing age demographic in the population means that AUD in this population is a significant public health concern. AUD has a major impact upon the physical, psychological and social health of the older population. There is evidence that older people do benefit from interventions to reduce alcohol consumption as much as, if not more than, younger populations. There is evidence that AUD in the older population often goes undetected and the potential for beneficial behavioural health change is not realized.

Keywords: Alcohol use, prevalence, risk factors, treatment, screening, older people, ageing.

Introduction

A large number of initiatives on the part of health services, public health departments and government departments have been focused upon the issue of alcohol use. The majority of these initiatives have been directed towards younger populations, a cohort where the prevalence of alcohol use disorder (AUD) is believed to be highest and the severity greatest. Less attention has been focused on the older population, those aged 65 years or more. There is evidence that the prevalence of AUD in this population is of public health concern and many older alcohol users often go undetected or are misdiagnosed. As the age demographic profile increases internationally, stability in the prevalence of AUD in this population is likely to lead to large increases in absolute numbers with AUD over time. AUD in the older population has the potential to become a significant public health issue in the future.

Address for correspondence: Professor Simon Coulton, Centre for Health Service Studies, George Allen Wing, University of Kent, Kent CT2 7NZ.
Email: s.coulton@kent.ac.uk

Search methods

The following databases were searched between 1980 and 2009 for research and review papers relating to alcohol use and older people: NIH Pubmed, MEDLINE, CINAHL and Project CORK.

Defining alcohol use disorders

In defining alcohol use disorders (AUD) we have used the World Health Organization ICD-10 categories[1] of hazardous, harmful and dependent alcohol consumption. AUD should be viewed as a spectrum disorder, with hazardous consumption as the least severe, and dependent consumption as the most severe. Where on the spectrum an individual is placed dictates, to a certain degree, the most appropriate and effective intervention for their AUD.

Hazardous alcohol consumption is defined as a pattern of alcohol consumption that increases the individual's risk of alcohol-related harm, but is not, as yet, actually causing alcohol-related harm. Hazardous consumption is usually defined in terms of threshold levels of consumption. In the United Kingdom these threshold levels are defined as: in excess of 14 standard drinks for women and 21 for men in any week, where a standard drink constitutes 10 ml by volume of ethanol.

Two important caveats need to be considered. Firstly, the threshold levels for hazardous alcohol consumption often vary by both country and culture, indeed so does the constitution of a standard drink. Secondly, older people are likely to tolerate alcohol in a different manner from younger people due to a number of age-related physiological changes. Alcohol is water soluble and as such the increased body fat ratio of older people is likely to mean that for a given quantity of consumed alcohol, the blood alcohol concentration of an older person would be higher than that of a younger person.[2] In addition, the decrease in gastric alcohol dehydrogenase enzyme with age reduces the speed of alcohol metabolism, and as

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such the alcohol level in older people is raised for a longer period of time after consumption.[3] These issues have led to recommendations that the consumption thresholds for older people, those aged 65 years or more, should be lower than those of the population in general, but no international consensus has been agreed. Indeed, a recent study provides some evidence that older people consuming alcohol above age-specific guidelines, but within general population guidelines, have similar functional and mortality outcomes as those consuming either no alcohol or alcohol below age-specific thresholds.[4]

Harmful alcohol consumption is a pattern of consumption likely to have already led to alcohol-related harm. In the ICD-10,[1] alcohol consumption is defined as harmful if: there is clear evidence that alcohol is responsible for physical or psychological harm; alcohol consumption has persisted for at least one month in the previous 12 months; the nature of the harm is identifiable; and the individual does not meet the criteria for alcohol dependence. Harmful alcohol consumption is also characterized in terms of threshold levels of consumption, defined in the UK as: 35 standard drinks for women and 50 standard drinks for men in any week. Alcohol-related harm may be acute, such as an alcohol-related accident, excessive ethanol ingestion, acute pancreatitis or gastritis, or it may be chronic, such as cirrhosis, hypertension, anxiety disorder or alcohol-related brain damage. Individuals with hazardous or harmful AUD are unlikely to seek treatment specifically for their alcohol use; rather they are likely to be identified using either a screening tool or because of the presence of alcohol-related harm.

Alcohol dependence is not diagnosed with respect to consumption thresholds, but rather is a cluster of psychological, behavioural and cognitive phenomena in which the use of alcohol takes a greater priority for the individual than other behaviours that once had a greater value. The central element of the dependence syndrome is the desire to consume alcohol. ICD-10[1] defines alcohol dependence as the exhibition of three or more of the following criteria over the previous 12 months: a strong desire or compulsion to consume alcohol; difficulties in controlling alcohol-taking behaviour in terms of its onset, termination or level of use; a physiological withdrawal state when alcohol use has ceased or been reduced, characterized by withdrawal syndrome or the use of alcohol to relieve or avoid withdrawal symptoms; evidence of tolerance, in that increased alcohol consumption is necessary to achieve effects previously achieved using lower levels of consumption; progressive neglect of alternative pleasures or interests because of alcohol use; increased amount of time necessary to get over the effects of alcohol; persisting with alcohol consumption despite evidence of overtly harmful consequences. Alcohol dependence should be diagnosed by an alcohol specialist. Alcohol-dependent people are more likely to either seek treatment for their alcohol use or seek treatment from agencies to address the health, psychological or social sequelae their alcohol consumption has caused.

A further AUD related to consumption, which is not as prevalent in older populations as in younger populations, is the concept of binge alcohol consumption or heavy episodic consumption. This is defined in terms of consumption thresholds of 6 standard drinks for females or 8 for males, in a single day. Identifying heavy episodic consumption in this population is made difficult in part because of the usual cues; employment-related difficulties and driving offences are more rare in the older population, many of whom do not work or drive.

Drinking patterns in older people

A great deal of research has been conducted into understanding the pattern of alcohol use in older people. It is worth noting that the vast majority of older people, who do drink, consume alcohol at sensible levels within recommended threshold limits. While there is a clear association between increasing age and reduced alcohol consumption,[5] some people begin to experience AUD after the age of 55. This distinctive group is often termed late-onset drinkers and constitute about a third of older people with AUD.[6] This population is more likely to be female and more likely to have experienced significant life stresses, such as bereavement or retirement, than those with AUD established earlier in life.[7] As this population also has higher life satisfaction, fewer physical and psychological co-morbidities and fewer alcohol-related problems, they are often a difficult group to identify and diagnose.[8] Evidence also suggests that as a population late-onset drinkers are more motivated to change their drinking behaviour and

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more compliant in treatment and have better treatment outcomes.[9]

Early-onset drinkers on the other hand tend to have long-standing AUD that generally begins before the age of 40, most often in their early 20s or 30s. The rates of family history of AUD, psychiatric co-morbidity, alcohol-related physical harm and alcohol-related cognitive decline are far higher in this population.[10] Early-onset drinkers are more difficult to engage in treatment programmes and have worse post-treatment outcomes.[9]

Risk factors for alcohol use disorders in older people

There exists a large body of evidence of a genetic influence in the development of AUD, particularly a clear association between an individual's AUD and a family history of AUD. Genetic influences are more likely to play a part for early-onset drinkers than late-onset drinkers.[9] Older males are significantly more likely to have AUD than older females.

The ageing process itself can play a role in the development of AUD. The onset of pain, limited mobility, social isolation and reduced physical functioning are considered to be factors in developing AUD.[11,12] A number of factors are considered to act as potential stressors, particularly in late-onset drinkers, which are associated with the development of AUD. These include a variety of emotional and social issues such as bereavement, retirement, reduction in social network and impaired ability to function.

Prevalence

It is generally accepted that the prevalence of AUD decreases with increasing age[5] and that the prevalence in males is higher than females. Interpreting the prevalence of AUD in the older population is often confounded by a variety of factors: the definition of an older person with the age cohorts ranging from 55 to 95 years; the setting, community *versus* institution; and the diagnostic criteria applied for establishing AUD. The majority of prevalence studies have been conducted in the United States and these studies estimate the prevalence of alcohol dependence between 2 and 4%[6] and AUD 10.8% for males and 2.9% for females[13] when established diagnostic criteria are applied to a community-dwelling population aged 65 years or more. In the UK a number of studies have reported prevalence figures for AUD. A recent national cohort study established prevalence as 28.6% for males and 10.3% females 65 years or older.[13] The UK National Alcohol Needs Assessment Project estimated prevalence of AUD in those aged 65 or more between 15 and 20%.[14] An ongoing study being conducted in primary care in the UK estimates the prevalence of AUD, using the Alcohol Use Disorders Identification Test (AUDIT), as between 8 and 10% in those aged 55 years or more.[15] Studies on older populations, those aged 75 years or more, indicate a reduction in prevalence of AUD of 5% for males and 2.5% for females.[16] In-patient studies tend to indicate a higher prevalence of AUD than community-dwelling populations, 18% for hospital in-patients and 23–44% for psychiatric in-patients.[17] Of those with AUD a significant proportion are late-onset drinkers. It is estimated that 30% start drinking problematically at or beyond the age of 60.[18]

In 2000, 16% of the UK population was over the age of 65 years, and this is expected to increase to 21% by 2026.[19] As the average age of the population increases, the absolute number of older people with AUD will increase even if the prevalence rate remains stable.

The impact of alcohol use on older people

The majority of older people who consume alcohol do so at levels below the threshold for AUD. This level of consumption is associated with a number of potential health benefits. There are associations between moderate, safe alcohol consumption and a reduction in the risk of coronary heart disease,[20–23] stroke,[24,25] dementia[26] and pulmonary embolism[27] even after statistical adjustments for potential confounding factors. In addition, for many older people, alcohol plays an important role in social activities, increasing the individual's social interaction and reducing social isolation, and this confers positive health benefits.

As the quantity of alcohol consumed increases over and above safe levels, it contributes to increasing morbidity and mortality in this population. There exists a wealth of evidence

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regarding the detrimental impact of hazardous alcohol consumption on the physical and mental health of the population. In the older population, those aged 55 years or more, hazardous alcohol consumption is associated with a wide range of physical, psychological and social problems. There is evidence of an association between increased alcohol consumption and increased risk of coronary heart disease, hypertension, haemorrhagic and ischaemic stroke,[28] increased rates of alcohol-related liver disease and increased risk of a range of cancers.[29,30] Alcohol consumption is identified as one of the three main risk factors for falls,[31,32] a major cause of morbidity and mortality in this population. The Royal College of Physicians estimates that 60% of older people admitted to hospital because of repeated falls, confusion, chest infections and heart failure have undiagnosed alcohol problems.[33] Increased alcohol consumption in older age can also contribute to the onset of dementia and other age-related cognitive deficits,[34] Parkinson's disease[35] and a range of psychological problems including depression and anxiety. Alcohol use is implicated in one-third of all suicides in the older population.[36] It is estimated that 80% of those aged 65 and over regularly take prescribed medication and polypharmacy is common, with a third taking at least four prescribed medications per day.[19] Alcohol is a major contraindication for many of the drugs prescribed for older people, and alcohol and medication interactions are a common phenomenon.[37,38] Increased alcohol consumption in older age is also associated with a range of social problems including self-neglect, poor nutrition, social isolation and hypothermia.[39]

Diagnosing AUD in older people

There is widespread concern that AUD in older people is under-diagnosed and that many older people consuming alcohol at levels detrimental to their health go undetected.[40,41] This is further complicated by the stigma many older people attach to alcohol consumption, and the propensity to under-report their own alcohol consumption.[42] Older people are less likely to seek treatment for alcohol use disorders[40] and alcohol-related presentations are often atypical or masked by co-morbid physical or psychiatric illness that makes alcohol-related diagnosis more difficult.[43]

There are many paper-based screening instruments available for screening for AUD, but many of these have not been developed for, nor validated in, older populations. The most common screening paper-based instruments include the four-item Cut-down, Annoyed, Guilty, Eye-opener (CAGE),[44] the 22-item Michigan Alcohol Screening Test (MAST),[45] a specific geriatric version of MAST (G-MAST),[46] and the 10-item AUDIT.[47]

A systematic review of the use of these instruments in older people provides some indication of their suitability in this population.[48] The CAGE questionnaire, with a cut-off point of 2, had sensitivity between 21 and 94% and specificity between 77 and 97% for identifying older people with harmful or dependent alcohol use. Adams *et al.* found that in a population of 5000, aged 60 years or more, the CAGE failed to identify more than half of the harmful or dependent alcohol users.[49] The CAGE is also limited in its focus upon lifetime alcohol use rather than current alcohol consumption. The G-MAST with a cut-off point of 5 was found to have sensitivity of 70% and specificity of 80% in a population aged 65 years or more.[50] The AUDIT questionnaire with a cut-off point of 8 was found to be the most accurate paper-based screening instrument in the older population, with sensitivity ranging between 57 and 97% and specificity ranging between 78 and 96%. The AUDIT incorporates questions regarding current alcohol use, and questions about quantity and frequency of consumption. AUDIT is particularly useful for screening of less severe AUD, hazardous and harmful consumption and it has been found to be more efficient than traditional biochemical markers of AUD.[51]

Screening for AUD can be conducted in a variety of settings including primary care, in-patient care, out-patient departments and emergency departments. As older people are less likely to seek treatment for alcohol-related problems directly,[42] a universal or opportunistic screening approach may detect more AUD in this population than a reactive screening approach.

When diagnosing alcohol dependence in this population, care should be taken with the established diagnostic criteria, ICD-10 and DSM IV. Dependence symptoms are easily confused with symptoms relating to ageing. Biochemical assays, such as haemoglobin, mean corpuscular volume and liver enzymes, can also provide misleading results as older people demonstrate

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more abnormalities in haematological tests. Actual behavioural and health effects of alcohol are probably better indicators of more severe AUD than established diagnostic criteria.[52]

Treatment

AUD is a modifiable health-related behaviour that can have significant impact on the physical, psychological and social health of the older person. AUD is a spectrum disorder with hazardous alcohol use at the lower severity end of the spectrum, and dependence at the higher end. Appropriate treatment interventions should be targeted at where on the spectrum an individual lies.

Brief interventions are usually appropriate for those with hazardous or harmful AUD. They are both effective and cost-effective,[53] and usually consist of a single session delivered in a primary care setting by a non-specialist healthcare professional. The intervention is based upon motivational interviewing and behavioural self-control.[54] Brief interventions usually involve feedback, assessment, enhancing motivation, education and goal setting. There is a substantial evidence base for the efficacy of brief motivational interventions, aimed at reducing alcohol consumption in primary care settings. Studies have demonstrated the effectiveness of brief interventions in reducing alcohol consumption in primary care populations in the United Kingdom.[55] Furthermore, there are five systematic reviews focusing specifically upon the effectiveness of brief interventions in primary care populations[56–60] and all conclude that brief interventions in primary care populations are effective in reducing alcohol consumption. However, many of the studies included in these reviews exclude older patients.

There are no systematic reviews or subgroup analyses specifically focusing upon older patient groups. There is some evidence from primary research of the efficacy of brief interventions specifically for older hazardous alcohol consumers. In a trial of brief interventions for older alcohol users in primary care in the United States, Fleming *et al.* reported a 34% reduction in alcohol consumption and 64% reduction in those drinking at hazardous levels at 12 months, significantly better than those who received no intervention.[61] Blow and Barry also report significantly greater reduction in alcohol use in older populations treated with brief interventions in primary care than controls.[62] There is also evidence from subgroup analyses of existing studies that older patients are at least as likely to benefit from brief interventions than younger patients[63,64] and older adults are more likely to adhere to and comply with brief intervention treatment regimes.[65]

For more entrenched or severe AUD, more intensive psychological intervention is appropriate. Cognitive-behavioural approaches enhancing skills in developing appropriate support networks and the self-management of depression, grief and guilt have been found to be effective in reducing or stopping alcohol consumption in the older population.[66,67] Motivational Enhancement Therapy (MET) is potentially an effective intervention in this population. Primary research has shown it to be as effective as other more intensive interventions such as cognitive behavioural therapy, twelve steps facilitation therapy and social behavioural network therapy.[68,69]

Older alcohol consumers are often typified as either early-onset drinkers, whose consumption pattern is a continuation of lifetime hazardous consumption, or late-onset drinkers whose alcohol consumption is a reaction to life events occurring in later life. Late-onset drinkers are more likely to benefit from brief interventions than early-onset drinkers, who often require a more intensive intervention approach.[10] Stepped care interventions offer a potentially resource-efficient means of meeting the needs of this population. Stepped care interventions provide a means of delivering more intensive interventions only to those who fail to respond to less intensive brief interventions and are more in keeping with rational clinical decision-making than the blanket use of any one intervention strategy. Stepped care interventions for older alcohol users, aged 55 years or more, are currently being evaluated in the United Kingdom.[15] In this study, older people who score positive for AUD using the AUDIT questionnaire, are randomized to receive either a minimal intervention or stepped care. The stepped care approach involves three consecutive steps of increasing intensity. Step one involves a brief motivational intervention delivered by practice staff. Step two involves three sessions of MET delivered by an alcohol specialist in the practice, and step three is a referral outside the practice

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to specialist alcohol services. Progression through the steps is dependent upon failure to reduce alcohol consumption as a result of the previous step.

Managing alcohol withdrawal

Alcohol withdrawal syndrome is common in older people who are alcohol dependent and decrease or stop consuming alcohol. There is evidence that withdrawal symptoms are more severe in this population[70] and in-patient rather than out-patient detoxification is recommended.[71] While benzodiazepines are the preferred pharmaceutical therapy for the management of withdrawal symptoms, it is recommended that short-acting benzodiazepines, such as oxazepam and lorazepam, are used in the older population.[72]

Preventing relapse

There are a number of pharmaceuticals specifically aimed at maintaining abstinence in detoxified patients. Disulfiram is a sensitizing agent that produces an unpleasant reaction when taken with alcohol. It is not recommended for use in older populations due to the potential adverse effects in this population.[72] Acamprosate and naltrexone are medications to reduce the craving for alcohol. Acamprosate is less likely to cause adverse reactions and has been demonstrated to be effective in increasing 12-month abstinence rates in younger populations.[73] Naltrexone, an opiate antagonist, has also been found to be effective in reducing alcohol cravings. While evidence exists relating to the tolerability and suitability of naltrexone in the older population,[74,75] there is a paucity of evidence regarding its efficacy in this population. Pharmaceutical agents should be prescribed in conjunction with psychosocial treatment.

Conclusions

AUD in older populations are a common but under-recognized problem. AUD is associated with serious physical, psychological and social health deficits in the older population. Identifying AUD in older people is often difficult, in part due to the reticence of this population to seek treatment and in part due to the fact that overt signs of AUD are masked by age-related co-morbidity. AUD is a treatable condition and there is strong evidence that older people benefit as much from treatment as younger people, but more work is needed to evaluate the effectiveness and cost-effectiveness of screening strategies and interventions specifically in this population. Furthermore, for those older people with entrenched AUD, more work is needed to develop care pathways that allow equitable access to specialist treatment facilities for the older population.

Conflicts of interest

The author declares no conflicts of interest.

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