

## Alcohol misuse and cognitive impairment in older people: An exploratory study

January 2014

### Key findings

- There may be a significant amount of undiagnosed cognitive impairment in older people (aged 55 and over) attending substance misuse services.
- Cognitive impairment screening in substance misuse services is acceptable to older service users.
- Cognitive impairment can make it difficult for older people to benefit fully from alcohol treatment but treatment can be modified take account of cognitive difficulties.
- It is possible to screen people with mild cognitive impairment or early stage dementia for alcohol problems.

### Research team

S. Wadd<sup>1</sup>, J. Randall<sup>2</sup>, A. Thake<sup>3</sup>, K. Edwards<sup>2</sup>, S. Galvani<sup>1</sup>, L. McCabe<sup>4</sup>, A. Coleman<sup>5</sup>

<sup>1</sup>Substance Misuse and Ageing Research Team, University of Bedfordshire, <sup>2</sup>Bedford Community Mental Health Team for Older People, South Essex Partnership NHS Foundation Trust, <sup>3</sup>University of Hertfordshire, <sup>4</sup>School of Applied Social Sciences, University of Stirling, <sup>5</sup>Older Focus Team, Addiction NI

### Background

Between 50-80% of individuals with chronic alcohol problems will experience some degree of cognitive impairment (Bates, Bowden, & Barry, 2002). Alcohol-related cognitive impairment can include difficulties with memory, new learning, mental flexibility, response inhibition and problem solving (Bates, Buckman, & Nguyen, 2013). Older people with alcohol problems are particularly likely to experience cognitive impairment. They show more alcohol-related cognitive changes (Bates, Labouvie, & Voelbel, 2002; Oscar-Berman, Shagrin, Evert, & Epstein, 1997; Wiseman, Souder, & O'Sullivan, 1997) and are at higher risk of stroke and dementia which are also common causes of cognitive impairment.

Unlike many types of cognitive impairment which are degenerative, some alcohol-related cognitive impairment may recover spontaneously with abstinence or greatly reduced drinking (Volkow & Wang, 1995). Whilst abstinence or reduced drinking is essential to ensure the best chance of recovery of cognitive functions, cognitive impairment makes it less likely that individuals will benefit from alcohol treatment. It is associated with poorer post-treatment outcomes (Fals-Stewart, 1993; Fals-Stewart & Lucente, 1994; Grohman & Fals-Stewart, 2003) and individuals with cognitive impairment are viewed by treatment providers as less attentive, having lower motivation and greater denial compared to unimpaired clients and are more frequently removed from treatment for rule violations (Goldman, 1995).

Substance misuse practitioners do not always recognise cognitive impairment and individuals with cognitive impairment may not be aware that they are experiencing cognitive difficulties (Fals-Stewart, 1997; Horner, Harvey, & Denier, 1999; Shelton & Parsons, 1987). This has led to calls for routine cognitive screening in substance misuse services (Bates, Bowden, et al., 2002; Goldman, 1990; McCrady & Smith, 1986). Screening at substance misuse treatment entry has been suggested to be useful for clinical decision mak-

ing (Meek, Clark, & Solana, 1989), to supply substance misuse services and clients with information needed to form realistic attitudes and expectations about treatment goals (Weinstein & Shaffer, 1993) and to identify the most suitable type of alcohol treatment (Bates, Labouvie, et al., 2002).

It is also important that people with cognitive impairment are screened for alcohol problems. Alcohol misuse can make assessment for underlying dementia such as Alzheimer's disease difficult and alcohol is contraindicated with a number of medications used to treat the symptoms of dementia.

The main objectives of this study were to explore:

1. The extent and nature of cognitive impairment in older people (aged 55 and over) attending substance misuse services in the UK for alcohol problems.
2. The difficulties which substance misuse services face when working with clients with cognitive impairment and how treatment can be modified to take account of cognitive difficulties.
3. The extent to which older people attending substance misuse services find screening with the Montreal Cognitive Assessment (Nasreddine, et al., 2005) acceptable.
4. The extent to which older people with a diagnosis of mild cognitive impairment or early stage dementia can be screened for alcohol problems using standard alcohol screening tools.
5. The extent to which NHS memory assessment services are screening their clients for alcohol problems and the challenges they face in doing so.

## Findings

Six of the ten substance misuse service users reported experiencing cognitive impairment and scored below the cut-off for 'normal' limits on the cognitive screening tool. They described cognitive difficulties ranging from transient memory problems to permanent difficulties with memory, attention and slowed thinking which was severe enough to interfere with activities of daily living. None of the participants had previously been diagnosed with cognitive impairment. They found screening with the Montreal Cognitive Assessment acceptable and the tool was quick and easy to administer with minimal training.

Seven of the eight older people's substance misuse services responded to our survey. However, one service had recently had a complete changeover of staff which meant that they felt they had insufficient experience to take part. The remaining six services were regularly encountering clients with cognitive impairment. One practitioner had a caseload of 27 people, ten of whom had obvious memory impairment or an existing diagnosis of cognitive impairment. One service reported an average of one client a month presenting with an existing diagnosis of cognitive impairment and another practitioner reported that cognitive impairment was recorded in the case notes of 3% of her clients. The practitioners identified a number of challenges to working with clients with cognitive impairment including clients forgetting appointments and having difficulties retaining information from the previous session. Practitioners had developed a number of strategies to deal with these and other challenges such as writing appointments on a calendar for clients and summarising the previous session in writing.

Thirty five (64%) of the fifty four NHS memory assessment services that were sent the survey questionnaire, completed and returned it. Most memory assessment services ask their service users about alcohol use,

but few use standard alcohol screening questionnaires which makes it difficult for practitioners to know if the person is experiencing (or at risk of experiencing) problems related to their alcohol use. Although some of the participants with mild cognitive impairment or early stage dementia experienced difficulties answering questions in the alcohol screening tools, these could be overcome, for example, by using drinking diaries as aide memoires, rewording questions in more simple terms when it was evident that the individual was having difficulty understanding them or giving examples when participants were having difficulties with abstraction. Some NHS memory clinics do not conduct a full neuropsychological assessment in people with alcohol problems unless they have been abstinent for a period of time but abstinence is an unrealistic goal for some older people with alcohol problems.

### **Implications**

It is important that cognitive impairment is identified in older people attending substance misuse services for alcohol problems to aid clinical decision making and so that alcohol treatment can be modified to take account of cognitive difficulties. However, this study suggests that cognitive impairment frequently goes undetected. A pilot study is required to determine whether the potential benefits of screening outweigh potential harm (such as the distress of a diagnosis).

Where there is a suspicion of cognitive impairment, substance misuse practitioners are often not able to refer them to NHS memory clinics because they will not conduct a full neuropsychological assessment in people with alcohol problems unless they are abstinent which is not always realistic. Whilst it is understandable that memory clinics might not carry out assessments in individuals with alcohol problems until they have stopped drinking because some alcohol-related cognitive impairment will occur spontaneously with abstinence, this means that the full extent of the cognitive impairment will not be known in individuals who continue to drink and it is difficult to measure change in functioning over time. There is a need for debate on to what extent neuropsychological assessment should be carried out in people with chronic alcohol problems.

This study has identified ways of adapting alcohol treatment to take account of cognitive difficulties. Substance misuse practitioners should be familiar with ways of working with people with cognitive impairment and this should be incorporated into their training.

NHS memory assessment services should use standard alcohol screening tools to screen their clients for alcohol problems. Service managers should ensure that their staff are trained to carry out alcohol screening.

### **Further Information**

The research team would like to thank the service users and practitioners who took part in the study and Alcohol Research UK for funding the study.

### **References**

- Bates, M. E., Bowden, S. C., & Barry, D. (2002). Neurocognitive impairment associated with alcohol use disorders: Implications for treatment. *Experimental and Clinical Psychopharmacology*, 10(3), 193-212.
- Bates, M. E., Buckman, J. F., & Nguyen, T. T. (2013). A Role for Cognitive Rehabilitation in Increasing the Effectiveness of Treatment for Alcohol Use Disorders. *Neuropsychology Review*, 23(1), 27-47.
- Bates, M. E., Labouvie, E. W., & Voelbel, G. T. (2002). Individual differences in latent neuropsychological



abilities at addictions treatment entry. *Psychology of Addictive Behaviors*, 16(1), 35-46.

Blow, F. C., Brower, K. J., Schulenberg, J. E., Demo-Dananberg, L. M., Young, J. P., & Beresford, T. P. (1992). The Michigan Alcoholism Screening Test – Geriatric Version (MAST-G): A new elderly-specific screening instrument. *Alcoholism: Clinical and Experimental Research*, 16, 372.

Blow, F. C., Gillespie, B. W., & Barry, K. L. (1998). Brief screening for alcohol problems in elderly populations using the Short Michigan Alcoholism Screening Test–Geriatric Version (SMAST-G). *Alcoholism: Clinical and Experimental Research*, 22 (Suppl).

Bush, K., Kivlahan, D. R., McDonell, M. B., Fihn, S. D., & Bradley, K. A. (1998). The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking. Ambulatory Care Quality Improvement Project (ACQUIP). *Alcohol Use Disorders Identification Test. Archives of Internal Medicine*, 158(16), 1789-1795.

Ewing, J. A. (1984). Detecting alcoholism. The CAGE questionnaire. *JAMA: The Journal Of The American Medical Association*, 252(14), 1905-1907.

Fals-Stewart, W. (1993). Neurocognitive defects and their impact on substance abuse treatment. *Journal of Addictions & Offender Counseling*, 13(2), 46.

Fals-Stewart, W. (1997). Ability of counselors to detect cognitive impairment among substance-abusing patients: An examination of diagnostic efficiency. *Experimental and Clinical Psychopharmacology*, 5(1), 39-50.

Fals-Stewart, W., & Lucente, S. (1994). Effect of neurocognitive status and personality functioning on length of stay in residential substance abuse treatment: An integrative study. *Psychology of Addictive Behaviors*, 8(3), 179-190.

Goldman, M. S. (1990). Experience-dependent neuropsychological recovery and the treatment of chronic alcoholism. *Neuropsychology Review*, 1(1), 75-101.

Goldman, M. S. (1995). Recovery of cognitive functioning in alcoholics. *Alcohol Health & Research World*, 19(2), 148.

Grohman, K., & Fals-Stewart, W. (2003). Computer-assisted cognitive rehabilitation with substance-abusing patients: effects on treatment response. *Journal of Cognitive Rehabilitation*, 21(4), 10-17.

Horner, M. D., Harvey, R. T., & Denier, C. A. (1999). Self-report and objective measures of cognitive deficit in patients entering substance abuse treatment. *Psychiatry Research*, 86(2), 155-161.

Mayfield, D., McLeod, G., & Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism screening instrument. *The American Journal of Psychiatry*, 131(10), 1121-1123.

McCrary, B. S., & Smith, D. E. (1986). Implications of cognitive impairment for the treatment of alcoholism. *Alcoholism: Clinical and Experimental Research*, 10(2), 145-149.

Meek, P. S., Clark, H. W., & Solana, V. L. (1989). Neurocognitive Impairment - the Unrecognized Component of Dual Diagnosis in Substance Abuse Treatment. *Journal Of Psychoactive Drugs*, 21(2), 153-160.

Nasreddine, Z. S., Phillips, N. A., Bédirian, V., Charbonneau, S., Whitehead, V., Collin, I., et al. (2005). The



Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. *Journal of the American Geriatrics Society*, 53(4), 695-699.

Oscar-Berman, M., Shagrin, B., Evert, D. L., & Epstein, C. (1997). Impairments of brain and behavior: the neurological effects of alcohol. *Alcohol Health & Research World*, 21(1), 65.

Saunders, J. B., Aasland, O. G., Babor, T. F., De La Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption--II. *Addiction*, 88(6), 791-804.


Shelton, M. D., & Parsons, O. A. (1987). Alcoholics' Self-Assessment Of Their Neuropsychological Functioning In Everyday Life. *Journal of Clinical Psychology*, 43(3), 395-403.

Volkow, N., & Wang, G.-J. (1995). Monitoring the brain's response to alcohol with positron tomography. *Alcohol Health & Research World*, 19(4), 296.


Weinstein, C. S., & Shaffer, H. J. (1993). Neurocognitive aspects of substance abuse treatment: A psychotherapist's primer. *Psychotherapy: Theory, Research, Practice, Training*, 30(2), 317-333.

Wiseman, E. J., Souder, E., & O'Sullivan, P. (1997). Clinical comments. Neuropsychological test performance of older and younger patients with alcohol dependence. *Clinical Gerontologist*, 17(3), 66-68.


[Download the Final Report](#)



**Alcohol Research UK** works to reduce levels of alcohol-related harm by ensuring that policy and practice can always be developed on the basis of research-based evidence.



We are a lead funder of high quality research into the causes, impact and prevention of alcohol-related harm and are the only organisation exclusively dedicated to building an evidence base in this area.



Read more reports at [www.alcoholresearchuk.org](http://www.alcoholresearchuk.org)



Alcohol Research UK, 4th Floor Willow House, London SW1P 1JH 0207 8217880 Registered charity 1140287

