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Intellectual disability in homeless adults

A prevalence study

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Abstract There has been considerable recent interest in the health and associated socio-economic inequalities faced by adults with learning disabilities. A serious and so far under-reported aspect of this is homelessness. This study sought to determine the prevalence of intellectual disability in a homeless population. Fifty people registered at a general practice in north-east England for socially excluded groups, and staying in temporary accommodation for the homeless during 2006–7, were assessed for learning disability. Full-scale and verbal IQ scores for the group were significantly lower than would be expected in the general population, but there was no significant difference in performance IQ. Homeless people are significantly more likely to have an intellectual disability than the general population. The implications for practice and policy development are far reaching. Further work is required to confirm these findings and to explore the experience of homeless people with intellectual disability.

Keywords homelessness; intellectual disability; prevalence

Introduction

In recent years, there has been considerable attention given to the health and socio-economic inequalities faced by people with intellectual disabilities. This has demonstrated that people with intellectual disabilities are not achieving essential standards of physical and mental healthcare (Prasher and Janicki, 2003). It has also been increasingly apparent that people with intellectual disabilities and their families are struggling with economic hardship arising from exclusion from economic opportunities across the developed world (Emerson and Hatton, in press).

Valuing People in England and *Same as You?* in Scotland (Department of Health, 2001; Scottish Executive, 2000) set out the government's strategy

for intellectual disability. Despite the emphasis on inclusion and a discussion of housing needs, current policy makes no reference to homelessness: the risk of homelessness for intellectually disabled people is not identified.

Evidence to support an association between intellectual disability and homelessness is scant. A comprehensive overview of single homelessness research in the UK from 1990 to 2000 (Fitzpatrick et al., 2000) did not identify any studies which examined intellectual disability in any detail. However, prevalence studies in Australia (O'Connor and Carter, 1992; Price-Kelly and Hill, 1995) and an unpublished but highly relevant report by Hill (1998), also in Australia, have suggested a higher rate of intellectual disability in the homeless population, compared with the housed population.

There is a limited body of relevant, allied literature relating to cognitive function in homeless individuals, the adult studies of which have been systematically reviewed (Spence et al., 2004). This evidence base suggests that cognitive impairment amongst homeless people is common. The systematic review recommends that clinical assessment of homeless adults should include assessment of their cognitive state. Whilst these studies are relevant, especially a number of those which included assessment of IQ (Adams et al., 1996; Bremner et al., 1996; Cotman and Sandman, 1997), they do not specifically address the issue of intellectual disability as an entity established before the age of 18 and predating homelessness. Cognitive dysfunction in a homeless person may be as a consequence of intellectual disability, but equally it may relate to other factors such as mental ill-health or alcohol and drug misuse.

There has been some international research with adolescents who become homeless, with mixed results, perhaps because of different methodologies. A study in Ontario suggested a higher prevalence of reading and arithmetic difficulty in runaway and homeless youths (Barwick and Siegel, 1996), although another study in Oregon found IQ in homeless older adolescents to be comparable with population means (Rohde et al., 1999).

One UK report which related the experiences of people with intellectual disability not using specialist services in Bristol comments on this lack of research and expresses concern that, 'as far as statistics on homelessness in the UK go, people with learning disabilities are effectively invisible' (Simons, 2000, p. 3).

Method

The main aim of this study was to establish the extent of intellectual disability in a homeless population in the UK. Assessment of intellectual disability was carried out with a random sample of 50 homeless people.

Results were compared to population norms to determine whether people with intellectual disabilities were over-represented in this population. Clinical assessment was also made of the data for each individual to determine the possible presence of intellectual disability on the basis of available information.

Setting

The participants were all drawn from a PCT-run general practice in an inner-city area with high numbers of traditionally excluded groups. The practice was the main provider of primary care for the city's homeless population, offering multidisciplinary assessment and intervention for the range of health problems found in urban excluded groups.

Participants

A random sample of 50 of the homeless people registered at the practice participated in the study. Given that standard definitions of homelessness have not been established, participants were considered homeless if they were staying in temporary accommodation for homeless people. All participants had not been in settled accommodation during the 6 months prior to taking part in the study. All participants understood themselves to be homeless. The random sample was obtained using the practice's clinical computer system. Participants were invited to participate by hostel workers who gave written and verbal information about the study. The sample group of 50 people was obtained by continuing to approach people until the number in the group reached 50. Table 1 gives participants' age and gender.

Ethical issues

Ethical approval was given by the local research ethics committee. It was important to be clear about issues of consent with a potentially vulnerable population, and care was taken to make information and explanation accessible. It was also recognized that whilst there was virtually no possibility of harm to participants, there was also no immediate benefit. This made the dissemination of results to inform policy and practice particularly important.

Table 1 Participants

<i>Gender</i>		<i>Age</i>		
<i>Female</i>	<i>Male</i>	<i>Average</i>	<i>Range</i>	<i>SD</i>
7	33	33.612	17–64	10.458

Assessment of intellectual disability

The model for identifying intellectual disability was consistent with the definition and classification of intellectual disability published by the American Association for Mental Retardation (AAMR, 2002). The model of disability is one where core intellectual ability is assessed alongside the extent to which it impacts on everyday life. This gives an essential definition of intellectual disability involving significantly sub-average cognitive functioning combined with difficulties in coping with at least two domains of everyday life. Intellectual disability in this definition is identified before the age of 18. This internationally accepted definition led to assessment in three parts, as follows.

Core intellectual ability This was assessed using the Wechsler Abbreviated Scale of Intelligence (Wechsler, 1999a), a published short form of the Wechsler Adult Intelligence Scale (Wechsler, 1999b). This measure carries robust psychometric properties supporting its use in giving verbal, performance and full-scale IQ.

Adaptive functioning This was assessed using the Adaptive Behaviour Assessment Scale (Harrison and Oakland, 2000), an accepted measure of adaptive behaviour across the 10 domains of coping with everyday life identified in the definition of intellectual disability given above (AAMR, 2002). This is a well researched tool that includes population norms for intellectually disabled people. These enable firmer conclusions to be drawn about the significance of results.

Following discussions with homeless people and considering the context for this study, minor amendments were made to the language of this assessment. For example, where references were made to general geographical locations, these were made specific to the local area; and where references were either strongly rooted in US culture or reflected life in settled homes and families, these were adapted to urban life in northern England. Great care was taken to avoid any disruption to the psychometric properties of the scale.

File review The third stage was a detailed file review using primary care notes and some of the interview data. The aim here was to determine references to the identification of intellectual difficulties in childhood. There were particular issues with a homeless population arising from possible explanations for below-average performance in assessments. These might include long-term alcohol/substance misuse, poor physical health, and long-term lack of stimulation and mental exercise. The file review considered birth complications, education, any reference to disability or

identified problems in childhood, achievement of developmental milestones, and letters from paediatricians. The aim was to determine whether intellectual disability consistent with the current profile had been identified during childhood.

Analysis

WASI scores were subjected to statistical analysis as a means of comparison to population norms. Two forms of analysis were considered as means of comparing the homeless population with general population norms: a z-test or a one-sample t-test. It was decided to use a one-sample t-test because a z-test would have assumed that the scores from the study sample came from a population with the same standard deviation as in the standardized test. Given the circumstances of the participants, this was not seen as a valid assumption. A t-test does not make this assumption and in fact the standard deviations were marginally higher. A one-sample t-test was used therefore and was analysed using a standard SPSS computer package.

The ABAS and file reviews were then used to make a categorical determination (yes/no) of whether each individual would meet the clinical criteria for intellectual disability used by most services to define and agree eligibility.

Procedure

All participants were given a brief explanation and information pack describing the study. Meetings were arranged at agreed locations which were comfortable and had refreshment available. Given the somewhat chaotic lifestyle of some of the participants, the assessments were completed in either a single or at most two sessions. If there was any evidence that a person was not orientated as a result of alcohol or drug use, sessions were not completed.

Results

This section gives the results of statistical analysis of the WASI scores followed by the outcome of clinical assessments for the 50 individuals who took part in the study.

For those people who did not complete all relevant subtests ($n = 11$) of the WASI, it was still possible to compute a full-scale score within the protocol of analysis for the test (Table 2). As mentioned above, these descriptives are broadly comparable with the population norms for the WASI, although the standard deviations are somewhat higher. It is immediately clear that there is a wide range of intellectual ability amongst the homeless population who took part in this study. This finding is illustrated

Table 2 The descriptive analysis of the WASI test scores

WASI scores	Number of participants	Range	Mean	SD
Performance	39	62–131	98.579	18.601
Verbal	39	55–135	90.342	18.661
Full scale	50	55–135	91.986	18.831

using a simple split data technique, giving the percentage of the sample that fall into various groups on full-scale IQ (Figure 1).

Despite the slight skew suggested in Figure 1, analysis of the distribution confirmed it to be normally distributed. This enabled comparison of means with population norms using a single-sample t-test. Table 3 shows that for the full and verbal scales the sample population has a significantly lower mean than the published means for the assessments. This is not the case for the performance subscale.

Clinical assessment of intellectual disability

Individual WASI scores were set alongside ABAS data and the historical information gained from a detailed file review and the accounts of the individuals themselves. This gave a simple clinical assessment identifying whether each individual might be understood as intellectually disabled (Table 4).

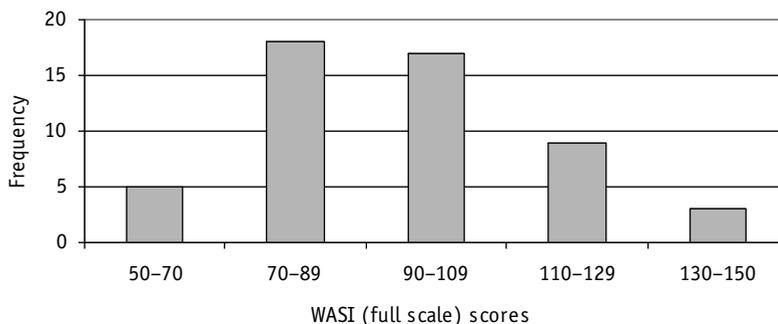


Figure 1 Frequency chart for WASI data

Table 3 Comparison of means for homeless population with population norms

	<i>T</i>	Degrees of freedom	Significance
Verbal	-4.546	37	$P < 0.001$
Performance	-1.399	37	$P = 0.170$
Full scale	-4.514	49	$P < 0.001$

Table 4 The extent of learning disability as assessed by clinical assessment in homeless adults

<i>Clinical assessment</i>	<i>Number of people</i>	<i>Percentage</i>
Intellectual disability	6	12
Intellectual disability absent	43	86
Need more information	1	2

This assessment process was possible for all but one of the individuals. For this person there were simply too many possible explanations for a mixed presentation of information. According to this analysis for the remaining 49 people, 12 percent of the sample population of homeless people can be considered intellectually disabled. Whilst there is only limited agreement about the prevalence in the general population, Emerson et al. (2001) have reviewed a range of studies that include people with mild disabilities and suggest that this falls between 2.5 and 3 percent.

Discussion

Full and verbal IQ scores attained by the homeless group were significantly lower than would be expected. There was no significant difference in performance IQ between the scores attained by the homeless group studied and the published means for the test.

This study, using modern intellectual disability assessment criteria in an adult population in the UK, supports the findings of the Australian research (O'Connor and Carter, 1992; Price-Kelly and Hill, 1995). It challenges the research which has suggested that pre-morbid IQ is in the average range (Rohde et al., 1999) and suggests that, as well as mental ill-health, substance misuse and homelessness itself, underlying intellectual disability is also an important cause of cognitive impairment and difficulty in functioning. Clinical assessment of intellectual disability found that six of the 50 participants would satisfy the criteria for intellectual disability services representing 12 percent of the homeless population.

This highlights the importance of Simons's small, qualitative, discussion-based study in Bristol in which he gives a powerful account of the life experiences of intellectually disabled people, which included transience and homelessness in several cases (Simons, 2000).

Whilst this study has produced results of relevance and importance, its limitations are recognized. Although statistically significant results were achieved, the sample size was small. Comparison with population means, whilst legitimate, may have been enhanced by a non-homeless control group matched for socio-economic status. For practical and feasibility

reasons the WASI was an appropriate assessment tool for this project, although it is acknowledged that more detailed and comprehensive measures of cognitive disability are available. In terms of reliability and validity the WASI is at least comparable to the MMSE, used in a number of allied studies (Adams et al., 1996; Bremner et al., 1996; Buhrich et al., 2000).

This study contributes to a very small and limited body of research, and further work is necessary to confirm and substantiate these findings. This should include quantitative analysis of the experience of homeless groups and the evaluation of interventions designed to ameliorate this problem as well as further quantitative research. Prevention of homelessness, awareness of the issues and changes in service provision are the main clinical implications of this study.

A number of people became homeless despite being identified as having significant educational needs in childhood. Identification and support for young people with intellectual disability as they move into adulthood is essential if homelessness is to be prevented. Enhanced screening and awareness in generic young people's services is as important as that in specialist services if young people are not to 'fall through the net'.

Practitioners and services in contact with homeless people are the other group who need to be made more aware of the likelihood that people with intellectual disabilities are at particular risk of becoming homeless, and that a significant proportion of the homeless population may have cognitive impairment and learning needs. Increased awareness of staff and the implementation of simple measures in services which include acute and primary care, substance misuse, mental health, criminal justice and housing could make a real and relevant impact on this problem. This study highlighted that people had particular difficulty managing verbal information. The regular use of accessible written and visual information is a good example of how services could make simple adaptations which would be of immediate benefit to this group. Likewise, screening for intellectual and cognitive difficulties does not need to be complicated or time consuming. The routine and opportunistic use of relevant questions and simple screening tools by frontline staff is likely to be more effective and useful than referral for detailed specialist assessment, especially in this group.

Conclusion

This small but significant study is the first in the UK to examine the prevalence of intellectual disability in the homeless population and demonstrate an association between the two. Homeless people appear to be significantly more likely to have an intellectual disability compared with the general

population. The need for further research should not detract from, or hinder response to, the clinical implications of this study which has identified significant morbidity in a vulnerable group whose needs are traditionally hard to meet.

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