CROSS-CULTURAL ISSUES AND COGNITIVE IMPAIRMENT

Dr Ajit Shah, Consultant Psychiatrist and Honorary Senior Lecturer in Psychiatry of Old Age, West London Mental Health NHS Trust and Imperial College School of Medicine, London, United Kingdom.

Address for correspondence:
Dr Ajit Shah
John Connolly Unit
West London Mental Health NHS Trust
Uxbridge Road
Southall
Middlesex UB1 3EU,
United Kingdom.

Telephone0208 354 8045
Facimile0208 354 8898
E-Maila.k.shah@ic.ac.uk

Cultural factors complicating the diagnosis of dementia are listed in Table 1. There also is a paucity of suitable screening and diagnostic instruments for dementia for use among ethnic minority elders in given country and in developing countries. The prevalence of dementia and its subtypes appears to vary across different countries and across different ethnic groups within a given country. This variation may be due to methodological factors listed in Table 2.

Cognitive tests developed in one ethnic group may not be appropriate for use in another ethnic group because they are influenced by a range of factors including culture, education, language, literacy skills, numeracy skills and sensory impairments. There is a need to develop instruments which account for the influence these factors. Most research has focussed on adapting existing instruments for use in the culture of interest. Either a Delphi panel of experts from the culture of interest or a more widespread consultation technique to examine each cognitive test item for cultural relevance, translation, adaptation and modification can be used. The main aim is to produce a culture-fair, education-free and analogous instrument (i.e comparable meaning, difficulty, familiarity and salience). Translation and back-translation by separate groups of bilingual translators is necessary to ensure accuracy of translation. Bilingual translators can
ensure that the meaning and significance of the items are preserved. Translation should ensure content, semantic, technical, criterion and conceptual equivalence with the parent instrument for every item. Validation against a "gold standard" diagnosis of dementia is also needed, although the accuracy of the "gold standard" diagnosis of dementia is difficult to ascertain. A number of screening and diagnostic instruments have been developed in languages other than English including the Mini Mental State Examination, the abbreviated Mental Test Score and the Geriatric Mental State Examination.

If the differences in prevalence or incidence persist in methodologically similar studies, using comparable instruments developed using the methods described above, then cross-cultural studies can allow investigation of the underlying genetic and environmental aetiological factors and the interaction between them. If the risk of dementia was solely due to genetic factors, then migrants should have the same incidence rate as in their country of origin. Thus, comparison between different ethnic groups, with different genetic composition, living in the same environment can allow identification of genetic aetiological factors. If the risk of dementia was solely due to environmental factors then migrants should have the same incidence rate as the indigenous population. Environmental changes that accompany migration include dietary change, acculturation, occupational change, educational change and differences in water, air, pollution and climate. Thus, comparison of the same ethnic group in different communities, at different stages of economic development and differing environments, whilst maintaining genetic homogeneity, may allow identification of environmental risk factors.

Cross-cultural incidence and prevalence studies with comparable methodology and measurement instruments are emerging and some examples are described here. Despite comparable rates of dementia in Japan and US, the prevalence of vascular dementia is highest in Japan, intermediate in Hawaii and lowest on mainland US, and an opposite trend is observed for Alzheimer's disease. The prevalence of Alzheimer's disease among Japanese Americans in Washington and Honolulu
is closer to that of White Americans suggesting an environmental aetiology. A prospective cohort study of Japanese Americans reported that those who lead a traditional Japanese lifestyle had a slower decline in cognition over a two year period, suggesting the importance of environmental factors. However, a study of first generation Japanese migrants from Miyagi prefecture in Japan to Brazil reported a similar prevalence of dementia, Alzheimer's disease and vascular dementia to that in Miyagi prefecture in Japan despite the migrants having a higher prevalence of diabetes mellitus and cerebrovascular disease. This suggests that the prevalence of dementia was not affected by the environment. The Indo-US cross-national study reported a prevalence of 0.84% for all dementias among rural Indians near Delhi, a lower figure than in a community sample in Pennsylvania. An incidence study in the same geographical area reported one of the lowest incidence of Alzheimer's disease in the world. A study of Singapore Chinese and Malays revealed a higher prevalence of dementia among Malays than the Chinese, and this difference was accounted for by an increased prevalence of multi-infarct dementia among Malay women when compared to Malay men and Chinese women. A prevalence and incidence study comparing Yoruba Nigerians in Ibadan (Nigeria) and African Americans in the Indianapolis reported a lower prevalence and incidence for dementia and Alzheimer's disease among the Nigerians despite the two populations being genetically homogeneous.

The 10/66 Dementia Research Group of Alzheimer's Disease International has developed comparable instruments and algorithm for the diagnosis of dementia in culturally diverse populations from India, China, south-east Asia, Latin America, Africa and the Caribbean. Population-based prevalence studies using this algorithm in the same diverse populations and using similar methodology are currently underway. The findings of this large study will be of great interest because it compares prevalence from many different and culturally diverse countries using the same culture-fair and education-free instruments and similar methodology.

The identification of genetic and environmental factors predisposing to dementia will allow
better understanding of causal mechanisms, leading to improved treatments and, ultimately, preventative strategies. Methodologically similar studies using comparable instruments across different countries or ethnic groups in a given country offer an opportunity to study genetic and environmental aetiological factors and the interaction between the two. Similar studies can be extended to behavioural and psychological symptoms of dementia and such studies are beginning to emerge including our cross-national study between the United Kingdom and Korea and the 10/66 Dementia Research Groups study involving the same countries listed for their population-based studies above.

Table 1: Cultural factors important in diagnosis of dementia
Communication difficulties
Taboo topics
Stigma attached to mental illness
Bias and prejudice of clinicians
Institutional racism
Unfamiliarity with symptoms of dementia by relatives
Symptoms of dementia being viewed as a function of old age

Table 2: Methodological factors influencing variation in prevalence rates of dementia
The sensitivity of screening instruments and case-finding techniques
Diagnostic criteria
Sampling frames and procedures
Screening personnel and inter-rater reliability
Age and demographic characteristics of study populations
Educational attainment and literacy
Cultural factors.