

GUEST EDITORIAL

Psychogeriatric research comes of age in developing countries

Psychogeriatrics and psychogeriatric research have been particularly slow to take hold in developing countries. In part this is because the elderly constitute relatively small proportions of those countries' populations, and are thus of low priority for specialized services. A recent report in *Science* (Miller, 2006) addresses mental health needs in developing countries worldwide but does not include old-age mental disorders other than dementia. Similarly, an article from Brazil (Garcez-Leme *et al.*, 2005), in another international journal, provides an overview of that country's resources and needs in geriatrics, but neglects to mention mental disorders or mental health professionals. Yet, these countries are aging faster than the industrialized world and have fewer resources with which to care for their mentally ill elderly. High-quality, locally acquired information will be essential for planning appropriate mental health services.

The lag is also partially attributable to an inadequate – or inadequately visible – critical mass of researchers working with the elderly in developing countries. In fact, much excellent psychogeriatric work has emerged from developing countries over the past decade. However, isolated publications spread across many journals may not draw sufficient attention to the depth and breadth of the issues being addressed.

It is fair to state that the first wave of publications was dominated by reports of the prevalence and incidence of dementia and depression in different societies (Ganguli *et al.*, 1999; Chandra *et al.*, 2001; Hendrie *et al.*, 2001; Ferri *et al.*, 2005). The 10/66 studies (Prince *et al.*, 2003; 2004) of dementia prevalence across the developing world are an example of what can be achieved through careful standardization of study methods. These studies continue to be of great importance for estimating public health burden within and across nations, although the importance of local context should not be ignored in the quest for standardization.

However, the new generation of psychogeriatrics research from developing countries is far more diverse. In this issue of *International Psychogeriatrics*, we are pleased to demonstrate this diversity by presenting several articles from developing countries: five from South America, four from the Middle East, two

from sub-Saharan Africa, and two from Asia. Topics range from survey and screening instrument development and validation, through health economics and the estimation of prevalence and unrecognized and unmet service needs, to neuroimaging and risk factor studies.

From Iran, Malakouti *et al.* report a new Farsi version of the General Health Questionnaire (GHQ). These authors have meticulously laid out the methods by which they validated their scale, thus providing readers with a template which can be used for validation in other populations as well. In addition, they comment on cultural variation in the manner in which symptoms are interpreted and attributed by elderly Iranians, highlighting the importance of local validation. Further, they draw attention to variables such as literacy and urban/rural residence which can influence diagnosis as determined by standard instruments.

From Brazil, Chachamovich *et al.* report the psychometric properties of the WHO instrument for measuring quality of life (WHOQOL-BREF) in a sample of elderly adults recruited from different sources. In this sample, the generic (as opposed to disease-specific) scale for QOL performed well on multiple measures of validity, and discriminated well between subgroups with and without depression, and with good and poor self-ratings of health. Importantly, the article also illustrates careful work with focus groups to ensure appropriate understanding and acceptability of the items on the scale.

Diniz *et al.*, also from Brazil, examined the performance of elderly individuals with and without mild cognitive impairment (MCI) on the Mini-mental State Examination (MMSE), using a sophisticated neuropsychological battery as the gold standard. They document the lack of significant differences among the various subgroups of MCI on the total MMSE score but highlight the significant differences on subtests.

In another psychometric study from Brazil, Fuzikawa *et al.* found a moderate correlation between older adults' performance on the the Clock Drawing Test and on the MMSE. They also helpfully provide norms on both tests from this sample with low education level, and suggest that the latter test may be easier than the former to administer and score in poorly educated individuals.

From India, Jacob *et al.* demonstrate that prevalence estimates for dementia vary considerably depending on the screening and diagnostic criteria, despite the use of measures carefully developed and validated for developing countries in the multi-centre 10/66 study. Despite being based on similar core diagnostic criteria for dementia, different approaches to operationalizing these criteria can produce a marked variation in results. The authors ask whether identical criteria have identical meanings in different settings, or whether criteria and approaches should be modified for different settings (e.g. clinics versus community).

A cross-cultural, longitudinal, epidemiologic study is reported by Baiyewu *et al.* who compare older African Americans living in Indianapolis, U.S.A., and elderly Yoruba living in Ibadan, Nigeria. Using carefully standardized assessment tools, the study found similar prevalence of depression despite considerable socio-economic and cultural differences between these populations. The authors also discuss the importance of understanding the cultural meaning of putatively depressive symptoms in different cultures.

In a departure from community-based and mental health clinic-based studies, Nakasujja *et al.* from Uganda describe psychiatric morbidity in the elderly admitted to general hospital departments other than psychiatry. They recorded high rates of psychiatric morbidity, much of which was not recognized by treating physicians.

From Argentina, Allegri *et al.* report the costs of providing services to patients with Alzheimer's disease of varying severity and in different settings. Both direct medical and indirect costs were calculated, including the economic costs to caregivers. This study also compares costs reported from different countries. The topic of the economic impact of disease is of substantial importance regardless of whether the costs are borne by families or the state, particularly in low-income countries.

From Turkey, we have a report by Keskinoglu *et al.* regarding the prevalence of and risk factors for elder abuse and neglect. In communities of lower and higher economic levels, the prevalence of abuse was low but the prevalence of neglect was high in both. Neglect was strongly associated with low education in both samples, but other risk factors varied between communities. The authors are to be commended not only for their findings but for reporting the development of their assessment tool for elder abuse and neglect.

Another report regarding family issues comes from Brazil, where Dourado *et al.* identified dyads of patients with Alzheimer's disease and their caregivers, and examined discrepancies within the dyads with regard to awareness of the patients' cognitive deficits. Greater discrepancies and lesser self-awareness were found among moderately severe cases than among mild cases. Although these results are not surprising, the methods represent a creative approach to assessment of insight which could have implications for family caregiving, which is the norm in developing countries.

Isik *et al.*, also from Turkey, investigated the association between insulin resistance and the different cognitive deficit states. The study found no evidence of statistically significant associations between measures of insulin resistance and the different dementing disorders.

Finally, we have two papers reporting brain MRI studies. From China, Yang *et al.* report a study using diffusion tensor imaging to identify microstructural alterations in the white matter of individuals with late-life depression. Yavuz

et al. from Turkey report an MRI study examining the utility of hippocampal volumetry in patients with Alzheimer's disease, MCI, and cognitively intact individuals. These two reports round off our collection of articles on psychogeriatrics in developing countries, demonstrating that the scope for high-technology studies of the biological underpinnings of disease extends beyond the wealthier industrialized societies.

Taken together, several of these articles highlight the critical importance of the measurement properties of assessment tools. Reliability is essential – a measurement should be reproducible by multiple raters and with repeated measurement, and identical methods must be used in different studies which intend to compare their results. However, validity (i.e. the ability of an instrument to measure what it is supposed to measure) cannot be sacrificed for reliability. A continuous measure, such as a score on a symptom or performance scale, can be used simply to examine the distribution of symptoms or test performance in a sample. The same scale, at a given threshold or cutpoint, can be taken to represent a significant level of symptoms or impairment in and of itself. The scale can also be used to screen for an underlying condition which must be ascertained independently; here, an external gold standard is essential. Since no screening measure can be perfectly accurate, a balance must be maintained between sensitivity (minimizing of false negatives) and specificity (minimizing of false positives), often a function of the threshold (cut-off score) that is selected on a given scale. The ideal balance in a given situation, while not easy to determine, should be the subject of intense scrutiny and debate. It is worthwhile to remember that even if sensitivity and specificity are high, positive and predictive value are a function of the prevalence of the disorder in a given population (Jacob *et al.*, 2007). That is, the predictive value of even the best test depends on how common the disorder of interest is in that population. In a clinic or hospital population the prevalence will always be higher than in an unselected community population, and the reported psychometric properties of any test will vary accordingly.

While a binary classification of a disorder as present or absent is necessary for clinical diagnosis and treatment, and for prevalence estimation, it is critical to recognize that any specific threshold or category is by definition arbitrary. Symptoms of depression, for example, are on a continuum in the community. Subthreshold or subsyndromal symptom levels are themselves associated with disability and adverse outcomes; ignoring them in survey research would be a disservice to public health (Jorm, 2006).

Other globally important topics addressed in this issue have rarely been reported from developing countries, such as costs of dementia care, elder abuse and neglect, and biological markers and risk factors for mental disorders of older adults. Importantly, they also provide methodological information

which will enhance the likelihood of these studies being replicated in other countries.

The studies reported in this issue of the journal have laid the foundation for more focused research among the elderly in the developing world, and provided some specific challenges for the next generation of research. Looking forward, investigators should now address the complex issues revealed by these studies and also explore issues not directly examined by them. For example, while psychiatrists postulate that screening for depression and common mental disorders is easily achieved by using simple screening instruments, general physicians would argue that such strategies identify the distressed rather than the diseased (Heath, 1999). High rates of spontaneous remission have been found in people diagnosed to have depression in primary care (Kendler *et al.*, 1999; Casey *et al.*, 2001) and significant rates of placebo response have been reported in randomized trials (Khan *et al.*, 2000). These findings argue for new research to incorporate an increased recognition of adjustment problems, rather than remaining restricted to the use of conventional psychiatric disease models and labels. Similarly, the traditional approach to under-recognition of psychiatric morbidity in medical settings is to call for the training of general physicians in psychiatric diagnosis and management (Gask *et al.*, 1987). However, these strategies may be based too firmly on principles and practices developed in specialist and tertiary care psychiatric facilities, ignoring the different reality of primary care and medical settings which may demand alternative frameworks and solutions (Jacob, 2006). Thus, it may be time to take a fresh look at the reasons for persistent under-recognition of psychiatric disorders in non-psychiatric settings.

The articles addressing quality of life and cost of dementia care have laid out the fundamental issues in these important areas. Further research will need to examine non-medical and non-psychiatric predictors of quality of life in greater detail. Novel and locally relevant interventions need to be evaluated for efficacy and effectiveness as well as costs. Likewise, the development of tools and documentation of neglect and abuse in the elderly in different communities should lead to the critical evaluation of strategies to detect and prevent neglect and abuse, so that policies and programs can be developed for regions and nations. The comparative study of African American and Yoruba community samples has set the stage for more detailed epidemiologic and genetic investigations among people of similar racial backgrounds living in diverse social and cultural settings. The current major gaps in the world literature with regard to studies of late-life anxiety, substance use disorders, and psychosis (Howard *et al.*, 2000) must be filled by researchers in developed as well as developing countries. In sum, the articles in this issue of *International Psychogeriatrics* emphasize the importance of examining cultural and socioeconomic variables

in psychogeriatric studies across the world. The challenge is for these studies to be both locally meaningful and globally comparable.

Our broad goals for this issue were twofold. We hoped to provide a showcase for ongoing “developing country” psychogeriatric work, which would be appreciated by readers worldwide but particularly in the high-income countries, who might see new opportunities for replication and collaboration. We also hoped to motivate others in developing countries to take up and report their own work, inspired by the excellent work reported here by their peers. We trust we have succeeded in both.

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