

The representation of low- and middle-income countries in the psychiatric research literature

Muhammad Nabeel Helal,¹ Uzair Ahmed² and Panos Vostanis³

¹Department of Child and Adolescent Psychiatry, Leicestershire Partnership NHS Trust, Leicester, UK;

²Department of Learning Disability Psychiatry, Leeds Partnership Foundation Trust, Leeds, UK;

³Department of Child and Adolescent Psychiatry, University of Leicester, Leicester, UK, email pv11@le.ac.uk

Despite the growing importance of mental health in international and national policies, the contribution to the psychiatric evidence base from non-Western countries is sparse. Such a gap in research output between high- and low-income countries constrains improvements in public health and mental health policy and practice in developing countries, where there is perhaps the greatest unmet need. If research is to inform local mental health policy and practice, it must reflect the diverse realities of local health systems and cultural factors.

The World Health Organization (WHO) warns that inequalities in health outcomes and access to care between the world's richest and poorest countries are much greater today than they were in 1978 (World Health Organization, 2008). Another useful reminder is the 'nine to one' rule, according to which 90% of health resources are consumed by 10% of the richest countries. Therefore, it is not surprising to note similarly high inequity in health research. This applies to dissemination outputs in leading psychiatric journals. Despite a plethora of declarations, funding for mental health research in low- and middle-income (LAMI) countries remains hard to obtain. Lack of an evidence base consequently has an adverse impact on service planning and delivery (Gonzalez-Block, 2004).

Geographical disparities have been recorded and commented upon in mental health research. A review of the period 1996–98 showed that only 3.2% of research contributions came from less affluent countries (Patel & Sumathipala, 2001); a similarly low proportion from LAMI countries was found again a few years later (2002–04), despite the fact that these countries account for 90% of the global population (Patel & Kim, 2007). This was aptly labelled 'Western medical journals and the 10/90 problem' (Saxena *et al.*, 2006). In the light of these findings by previous reviews and advances in technology, it would be interesting to explore whether the publication trends have changed in recent years. This was the rationale for this study.

Method

The aims of this study were: (1) to determine the overall contribution of LAMI countries to high-impact general psychiatric journals between 2005 and 2009; and (2) to contrast our findings with earlier reviews. In order to draw comparable findings, we based our method on that of Patel &

Kim (2007). We thus liaised with the authors, who kindly advised on their adopted criteria.

A retrospective review of all issues in 2005–09 was conducted of the following high-impact journals: *Archives of General Psychiatry*, *American Journal of Psychiatry*, *Journal of Clinical Psychiatry*, *British Journal of Psychiatry*, *Acta Psychiatrica Scandinavica* and *Psychological Medicine*. Three journals were published in North America and three in Western Europe. Only research articles (i.e. not case reports or reviews) were included. We searched all research articles and identified those containing original data collected from one or more LAMI countries, as defined by World Bank (2003) criteria. For example, countries like Taiwan and Hong Kong were not included. Multinational studies were counted if at least one LAMI country was involved or where there was clear evidence that at least some data were collected from a LAMI country.

Results

Our search identified 3791 research articles. The total number of articles from LAMI countries was 259 (6.8%). The breakdown of publications and the proportion of LAMI publications per journal was: *Archives of General Psychiatry* (16/349; 4.6%); *American Journal of Psychiatry* (28/736; 3.8%); *Journal of Clinical Psychiatry* (72/914; 7.9%); *British Journal of Psychiatry* (67/764; 8.8%); *Acta Psychiatrica Scandinavica* (34/355; 9.6%); *Psychological Medicine* (42/673; 6.2%). Thus the European journals published more articles from LAMI countries. When contrasted with the findings of earlier surveys (Patel & Sumathipala, 2001; Patel & Kim, 2007), the overall trend seems to be towards an increased proportion of articles from LAMI countries (Fig. 1), although the number of contributions remains low. The first author for half of all research articles published from LAMI countries was based in a high-income country. The five leading LAMI countries were India, Turkey, Brazil, China and South Africa. The majority of LAMI countries had no articles published in these journals.

Discussion

This survey of the six leading international psychiatric journals shows that less than 7% of all literature published is derived

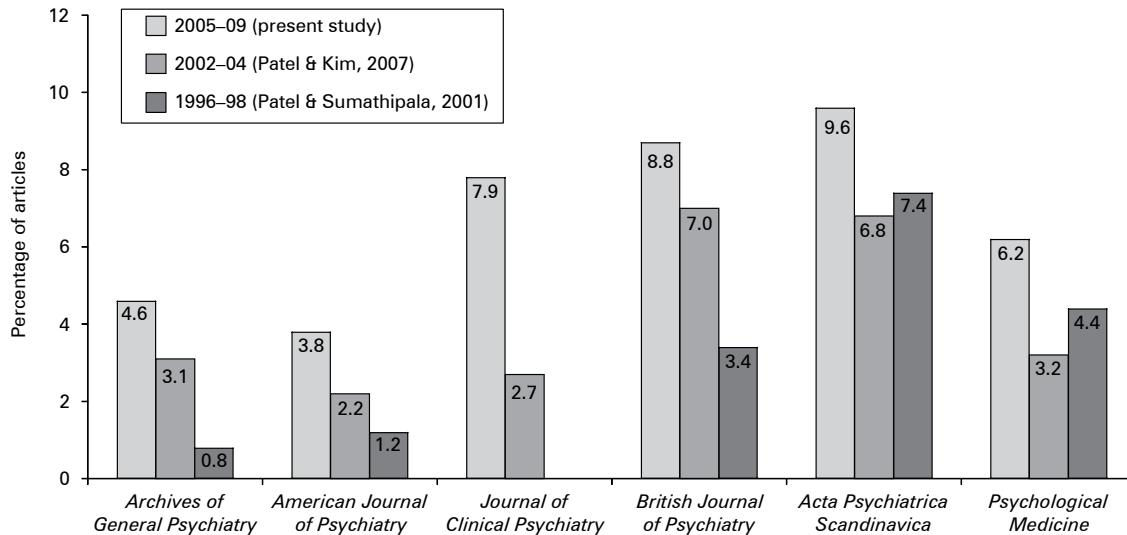


Fig. 1 Percentage of articles from low- and middle-income countries published during different periods

from LAMI countries, which account for 90% of the global population. The findings are similar to a review of all ISI journals over a 10-year period, which reported that 6% of the articles were from LAMI countries (Saxena *et al*, 2006). However, it was also found that all journals showed an increase in the proportion of articles from LAMI countries compared with earlier reviews.

It is evident that the majority of articles in major psychiatric journals originate from high-income countries; and despite the efforts of the WHO in promoting research from LAMI countries (World Health Organization & Joint Editors, 2004), their international representation in high-impact psychiatric journals remains low.

We can only speculate about the reasons underpinning these disparities. It is possible that the overall proportion of submissions is low, which can be attributed to various issues. The authors from these countries might be submitting to national journals. More importantly, there appears to be a shortage of trained researchers as well as limited opportunities for training and supervision in LAMI countries. Furthermore, previous research suggests that WHO programmes promoting mental health research (Eisenberg *et al*, 1999) in low-income countries did not always have the level of impact that might have been expected.

Submitted papers might be of low presentational quality, including writing style and difficulties for authors from countries where English is not their first or academic language (Ehrlich *et al*, 2007), along with poor research design and methodology, which are themselves due to restricted availability of research infrastructure and funds. It is estimated that only 5% of global health research funds are devoted to health conditions in low-income countries (Mari *et al*, 1997) and this disproportion appears even greater for mental health research.

It is also important to consider editorial policy on and peer review of articles from LAMI countries (Tyrer, 2005; Osrin *et al*, 2009). Editors and reviewers may reject these papers on the grounds that they are less relevant to their national readerships, although this will increasingly be counterbalanced by marketing strategies to access new and larger reading markets. More than half of the research published

from LAMI countries is led by authors from high-income countries. This may highlight potential benefits of international collaboration, while remaining mindful that the high-income origins of Western researchers do not result *per se* in papers being accepted from LAMI countries. It could also be a matter of concern that the already small research capacity of LAMI countries could be diverted towards the research agenda of high-income countries and organisations, particularly through industry-sponsored research, rather than led by national and local needs.

Previous researchers (Patel & Kim, 2007) proposed several actions which, although not measured by this study, are important to consider in explaining the findings: some high-impact journals have indeed broadened their remit to address an international readership and this is beginning to be reflected by editorial board membership; there have been more explicitly international journals; and more national journals are being indexed. Certain limitations of this study need to be acknowledged, such as not controlling for the number of LAMI countries included in multinational studies, which may have upwardly biased longitudinal comparisons; and only including six journals, thus potentially missing broader publication changes, like a greater proportion of articles from LAMI countries in the lower-impact or explicitly international journals or a decrease in other high-impact health journals, which would have compensated for the proportionate increase in this sample.

Overall, the tentative increase in the range of international research dissemination, despite the awareness of its importance, suggests the need to raise skills and capacity for research in diverse regions. The WHO and international research institutions can play an influential role in this process. Low- and middle-income countries with good research output should play a leading role in increasing the infrastructure and quality of future mental health research skills. In addition to previous recommendations, journals should be proactive in attracting and supporting submissions from LAMI countries. Publishers should provide help in improving presentation and language if they wish to increase worldwide readership, considering the wider electronic access to libraries and different formats of dissemination.

Such robust steps in the near future to break barriers and to reduce research under-representation from LAMI countries will improve the evidence base at international level, and thus the quality of service provision and the further development of truly international psychiatry.

Acknowledgements

We would like to thank Professor Ricardo Araya for his advice on the inception of the study, and Professor Vikram Patel and Youl-Ri Kim for their permission to replicate their selection criteria in the method.

References

- Ehrlich, S., Jefferson-Lensky, N. & Plener, P. (2007) Worldwide research networks for young child and adolescent psychiatrists: how can we help each other help children? *European Child and Adolescent Psychiatry*, **16**, 525–526.
- De Girolamo, G., Eisenberg, L., Goldberg, D., et al (1999) *Promoting Mental Health Internationally*. Gaskell.
- Gonzalez-Block, M. (2004) Health policy and systems research agendas in developing countries. *Health Research Policy and Systems*, **2**, 6.
- Mari, J., Lozano, J. & Duley, L. (1997) Erasing the global divide in health research. *BMJ*, **314**, 390.
- Osrin, D., Azad, K., Fernandez, A., et al (2009) Ethical challenges in cluster randomized controlled trials: experiences from public health interventions in Africa and Asia. *Bulletin of the World Health Organization*, **87**, 772–779.
- Patel, V. & Kim, Y. R. (2007) Contribution of low- and middle-income countries to research published in leading general psychiatry journals, 2002–2004. *British Journal of Psychiatry*, **190**, 77–78.
- Patel, V. & Sumathipala, A. (2001) International representation in psychiatric literature: survey of six leading journals. *British Journal of Psychiatry*, **178**, 406–409.
- Saxena, S., Paraje, G., Sharan, P., et al (2006) The 10/90 divide in mental health research: trends over a 10-year period. *British Journal of Psychiatry*, **188**, 81–82.
- Tyrer, P. (2005) Combating editorial racism in psychiatric publications. *British Journal of Psychiatry*, **186**, 1–3.
- World Bank (2003) *World Bank List of Economies*. World Bank Group.
- World Health Organization (2008) *World Health Report 2008*. WHO.
- World Health Organization & Joint Editors (2004) *Galvanising Mental Health Research in Low- and Middle-Income Countries: Role of Scientific Journals*. WHO.

ORIGINAL PAPER

Audit of ICD-10 diagnosis use at admission assessments and in discharge summaries by psychiatric trainees

Hezekiah Agboji¹ and Alan Moore²

¹Registrar, General Adult Psychiatry, Cavan/Monaghan Community Mental Health Service, County Cavan, Ireland, email hazyagb@yahoo.com; ²Consultant Psychiatrist and Clinical Tutor, St Luke's Psychiatric Hospital, Clonmel, County Tipperary, Ireland

Article 14 of the General and Specialist Medical Practice Order 2003 for specialties in psychiatry describes the specific conditions that a doctor must meet in order to be eligible as a specialist for the purposes of inclusion on the Specialist Register. The conditions as published by the Royal College of Psychiatrists (2003) include, among other requirements, that the psychiatrist shall demonstrate working knowledge of the epidemiology, aetiology, psychopathology, clinical features and natural history of the major psychiatric disorders in ICD-10 (World Health Organization, 1992), including age, gender and socio-cultural considerations, based upon the scientific literature. Familiarity with ICD-10 diagnostic criteria is therefore an important part of psychiatric training.

Clinical audit serves the goals of improving communication among colleagues and other professional groups, improving patient care and administration, and increasing professional satisfaction (Johnston et al, 2000). A clinical audit therefore is a valuable tool. The use of ICD-10 diagnosis at admission assessment can be beneficial in formulating the management plan. In this study, we present an audit of the use of ICD-10 diagnosis among psychiatric trainees, at

admission assessments and in discharge summaries provided for general practitioners; it was conducted with a view to improving the quality of clinical practice of these trainees.

Method

This audit was undertaken in a 49-bed acute psychiatric unit (25 beds for women, 24 for men) located in the south-eastern part of Ireland.

A period was chosen in the calendar year of the psychiatric training scheme that was generally deemed to be a fair representation of a time when trainees were expected to have gained at least a fair working knowledge of common psychiatric disorders, including ICD-10 diagnoses. These trainees were at various stages of psychiatric training. The period chosen was the 2 months at the end of the calendar year (i.e. November–December), because new intakes come into the psychiatric rotation scheme twice a year, first in January and then in July of every year, meaning that the least experience at the end of any year is about 6 months in psychiatry (i.e. intake in July).