



# International Representation in Psychiatric Literature: Has the Trend Changed? Review of 11 Leading Psychiatric Journals

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## Key words

The rest of the world; the other Euro-American countries; global health; developed countries; stereotyping

## Abstract

**Aim:** A survey of six of the highest impact psychiatric journal articles (2001), revealed the underrepresentation of non-Western countries. The current study looked at the new trends in the representation of psychiatric literature. We aimed to quantify the articles from High-Income Countries (HIC) and compare it with the rest of the world (RoW) in 11 high impact journals. **Materials and Methods:** A survey of the country of origin of research data and authors in published literature of 11 psychiatric journals: six of the same journals previously surveyed and five new journals from 2014 to 2016. **Results:** Out of the total of 5278 articles, the maximum number of 2093 (39.65 %) were from the other Euro-American countries (OEAC), followed by 1546 (29.29 %) from the United States of America (USA), and 727 (13.77 %) from the United Kingdom (UK), and 754 (14.28 %) were from rest of the world (RoW). The highest was in the Journal of Neurology, Neuro-Surgery and Psychiatry 131 (17.37 %),

followed by the British Journal of Psychiatry, 85 (11.27 %) and Molecular Psychiatry; 65 (8.62 %). A comparison between the previous six journals and the current survey showed that RoW publications have increased from 6 % to 13.84 % over 15 years. Out of the additional five journals surveyed, a total of 327 papers were from RoW and the Journal of Neurology, Neuro-Surgery and Psychiatry had the highest representation of RoW literature: 131 (40 %). It was more than double of publications by the Lancet Psychiatry and Molecular Psychiatry. Biological Psychiatry had 46 (14.06 %) papers followed by the World Psychiatry which carried 25 (7.64 %). **Conclusion:** An overall increase in the number of articles from RoW is evident. It is a welcome trend; however, a significant underrepresentation is still evident.

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## Introduction

Mental health is a major global health challenge. Despite considerable efforts having been made to highlight this, there are still gaps in “What needs to be done and

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what is actually being done,” [1]. Even though there has been overall growth in health research, Röttingen and associates highlighted considerable gaps in global research and development for low and middle-income countries (LMIC) [2]. They pointed out two key features; firstly, an association between ongoing clinical trials and publications, and a country’s wealth. Secondly, an association between a country’s health, research and development investments and both ongoing trials and publications.

The global pandemic of COVID-19 has raised a serious question, whether the usual formula of dispensing guidance and policies deemed necessary for wealthy countries is becoming a one-size-fits-all message for all countries [3]. They questioned the appropriateness of particular strategies for less-resourced countries with distinct population structures, vastly different public health needs, immensely fewer health-care resources, less participatory governance, massive within-country inequities, and fragile economies. We argue that these strategies might subvert two core principles of global health: that context matters and that social justice and equity are paramount. This argument is equally applicable for mental health and could have a strong association with COVID-19, thus, undoubtedly, making research and its publications in this area very important.

The past decade has seen an increase in research funding for global health and mental health issues by major grant awarding bodies such as the MRC (Medical Research Council), the Wellcome Trust, National Institute for Health Research UK. There is increased emphasis and importance of culturally sensitive evidence-based practices, policies, and decision making. The evidence that guides the policy has to be derived from leading journals and has to reflect the diverse realities of the health systems and cultural factors [4,5].

The current survey was initially designed to replicate the survey done by Patel and Sumathipala in 2000; the same six leading journals in psychiatry as in 1996-99 survey namely, British Journal of Psychiatry; American Journal of Psychiatry; Acta Psychiatrica Scandinavica; Psychological Medicine; JAMA Psychiatry (formerly called Archives of General Psychiatry); and Schizophrenia Bulletin. However, this survey ended up in presenting data from 11 journals further explained below.

Patel and Sumathipala recommended some strategies to increase international representation in psychiatric literature [6]. One of these strategies involved providing greater space in mainstream journals for research published from the rest of the world (RoW), improving transparency in research and development grants and involving respected academics from the RoW in the review of work from Western publications. Another recommendation involved a high-quality new journal with a specific orientation to world mental health. With

the emergence of new journals such as ‘World Psychiatry’, ‘The Lancet Psychiatry’ and ‘Behavioural and Brain Functions’ focusing on mental health research, the third recommendation by Patel and Sumathipala has been realized [6].

Much has altered since the original publication of the survey in 2001. The six journals surveyed previously were no longer the leading journals in terms of impact factor. New journals such as World Psychiatry had reached the highest impact factor journal with Lancet Psychiatry coming in as second on the list. Therefore, five more journals were added to the current survey, due to their impact factor: World Psychiatry, The Lancet Psychiatry, Molecular Psychiatry, Biological Psychiatry and the Journal of Neurology, Neuro-Surgery and Psychiatry [7].

The survey described in this paper has three aims: firstly, to highlight the regions/countries that made the leading contributions to the overall literature; secondly, to determine the overall contribution of RoW papers in the 11 journals, and thirdly, to draw attention to the journals leading the representation of psychiatric literature from RoW.

Specific objectives:

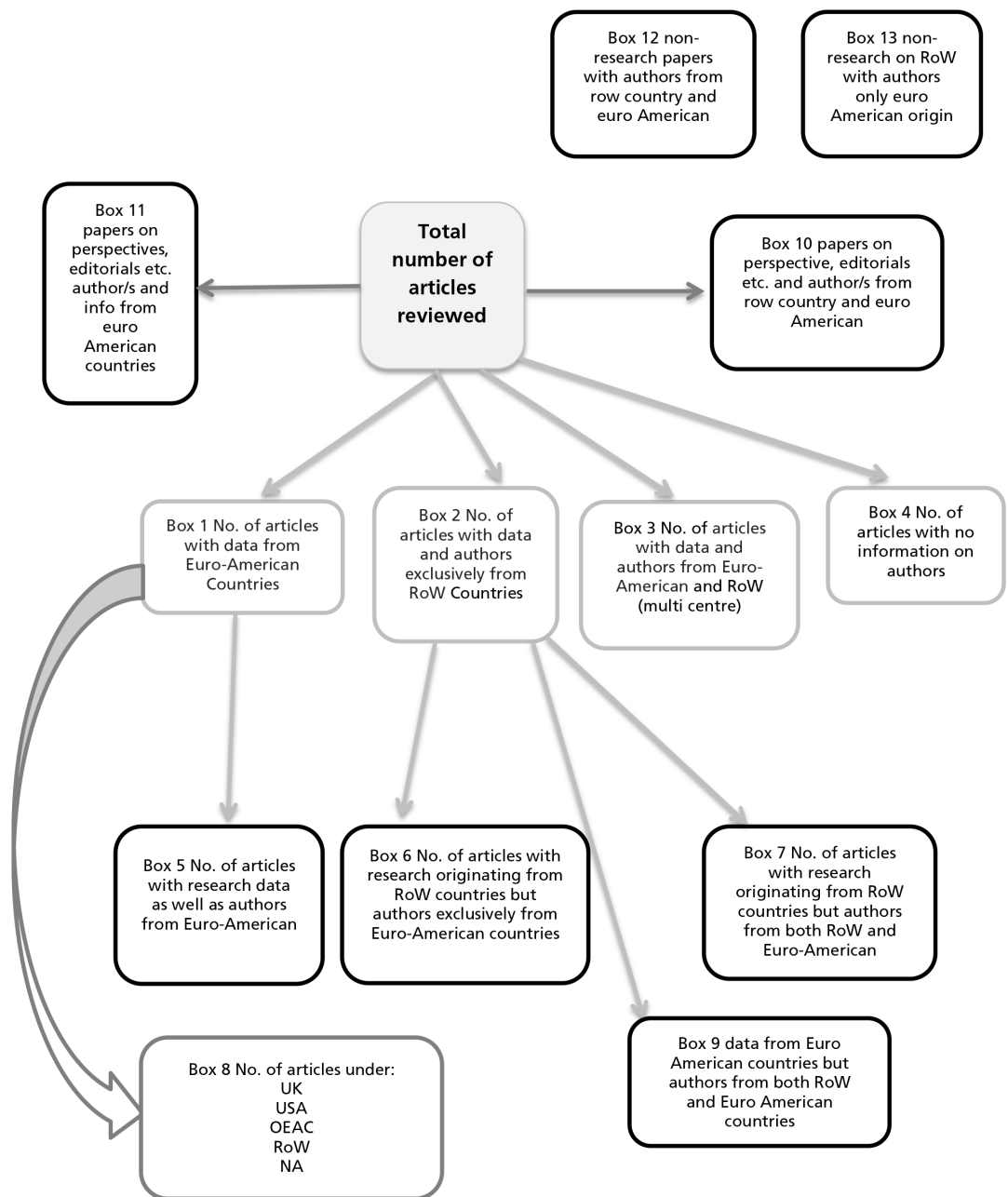
1. To estimate the proportion of publications from the USA, UK, other Euro-American countries (OEAC) and RoW countries;
2. To describe representation for publications from specific countries;
3. To describe the change in trend in publications over a period of 18 years in the subset of six journals surveyed in 2001.

## Materials and Methods

To conduct a retrospective survey, data were collected from 11 psychiatry journals dating from 1<sup>st</sup> January 2014 to 31<sup>st</sup> December 2016. Five journals had their editorial offices in Europe, four in the United States of America, and two provided web address locations. All research articles, systematic reviews, meta-analyses and editorials were included in the survey. Correspondence, commentaries, book reviews, news articles and studies involving animals were excluded. Figure 1 shows the methodology briefly.

Data collection for the survey involved making a list of all the eligible content from the 11 journals according to the inclusion criteria. The next stage involved highlighting the title, the authors, origins of the researches and origins of the authors for each research paper.

Initially, the abstracts were scrutinized to classify the articles into RoW or Euro-American countries. On occasions, when clear information on the origin of research was not available, papers were read in their entirety to look at the data and estab-



**Figure 1.** Diagram showing working headings

lish the authorships. The authorships were assigned according to the origin of the research. Positive bias was used for articles with joint authorship and authorship was awarded to the RoW if the article had one author or used data from the RoW. This methodology was replicated from the analysis of data in the previous survey to facilitate comparison.

The data was further analysed to identify journals having more international representation than others. In line with the previous survey, it was essential to distinguish the proportion of articles that include authors or data from scientists based outside the USA and UK including Western Europe, North

America and Australia/ New Zealand (termed 'OEAC'). It was essential to distinguish as it was in the previous survey too, to recognise the similarities in the cultural and economic features of Euro-American –countries. RoW group included Eastern Europe (which was considered culturally the same but economically distinct from Western Europe), Asian countries, South-American countries, and African countries. Japan, which is highly developed economically but is culturally distinct from Euro-American countries, was also assigned to RoW. To achieve a clear picture of how much research is published from RoW countries; further analysis was done to find

**Table 1.** Overall region wise distribution of the literature as a percentage of the total number of articles in each journal

	USA	U.K	OEAC	RoW	Total
1. Acta Psychiatrica Scandinavica	22 (1.42 %)	24 (3.3 %)	187 (8.93 %)	51 (6.76 %)	284
2. British Journal of Psychiatry	26 (1.68 %)	147 (20.22 %)	151 (7.21 %)	85 (11.27 %)	409
3. Psychological Medicine	143 (9.24 %)	154 (21.18 %)	424 (20.25 %)	127 (16.84 %)	848
4. American Journal of Psychiatry	226 (14.61 %)	17 (2.33 %)	83 (3.96 %)	34 (4.5 %)	360
5. Schizophrenia Bulletin	148 (9.57 %)	59 (8.11 %)	244 (11.65 %)	84 (11.14 %)	535
6. JAMA Psychiatry	381 (24.64 %)	41 (5.63 %)	180 (8.6 %)	46 (6.1 %)	648
7. World Psychiatry	59 (3.81 %)	39 (5.36 %)	89 (4.25 %)	25 (3.31 %)	212
8. The Lancet Psychiatry	68 (4.39 %)	105 (14.44 %)	142 (6.78 %)	60 (7.95 %)	380
9. Molecular psychiatry	90 (5.82 %)	9 (1.23 %)	175 (8.36 %)	65 (8.62 %)	340
10. Journal of Neurology, Neuro-Surgery and Psychiatry	59 (3.81 %)	91 (12.51 %)	291 (13.9 %)	131 (17.37 %)	574
11. Biological Psychiatry	324 (20.95 %)	41 (5.63 %)	127 (6.06 %)	46 (6.1 %)	580
Total	1546 (29.29 %)	727 (13.77 %)	2093 (39.65 %)	754 (14.28 %)	5170 (5278)*

\*108 papers mainly editorials with no information on the origin or the authors and 50 papers from USA, UK, OEAC with authors from more than one affiliation but no clear information on the origin of research or sample have also been added to the total of 5278.

out the individual authorship contributions from each RoW country.

## Results

In total, 5278 articles were published in eleven journals over the three-year review period. The maximum number of articles 2093 (39.65 %) was from the other Euro-American countries. 1546 (29.29 %) articles were from the USA, 727 (13.77 %) articles were from UK and 754 (14.28 %) were from RoW.

Analysing the distribution of articles from different regions across the selected journals, the highest number of articles from the USA were published by JAMA Psychiatry (Table no 1); 381/1546 (24.64 %) followed by Biological Psychiatry, 324/1546 (20.95 %). The highest numbers of articles published with the UK as research origin were in Psychological Medicine; 154/727 (21.18 %) followed by the British Journal of Psychiatry 147/727 (20.22 %). Journal of Psychological Medicine added the highest number of articles with 424/2093 (20.25 %), making the total contribution of OEAC the topmost out of all the Journals as most of the articles originated under OEAC category. Journal of Neurology, Neuro-Surgery and Psychiatry, and Schizophrenia Bulletin also added significant numbers 291/2093 (13.90 %) and 244/2093 (11.65 %) respectively toward OEAC

classification. Further distribution of 327/2194 (14.90 %) of papers from the RoW countries in the additional five journals, Journal of Neurology, Neuro-Surgery and Psychiatry added 131/327 (40.06 %); Molecular Psychiatry 65/327 (19.87 %); the Lancet Psychiatry 60/327 (18.34 %); World Psychiatry 25/327 (7.64 %); and Biological Psychiatry added 46/327 (14.06 %). Around 50/2197 (2.27 %) of research, literature provided no clear information on the origin of research, authors or research participants. Comparison of current and previous literature from RoW is now discussed, including the replicated journals only (Table 2). There were 3084 papers in the six journals included in the original survey of which the USA contributed 30.67 %; the UK 14.32 %; other Euro-American collaboration (OEAC) 41.14%; and RoW 13.84 %. British Journal of Psychiatry had the maximum representation from the RoW 20.83 %; JAMA psychiatry had the least representation of 7.09 %. The five additional journals surveyed in this survey added a total of 2194 articles, and highlighted that the USA accounted for 27.34 %; UK 13.40 % and both had combined authorship of about 2.27 %. 37.55 % of published research literature originated from OEAC and 14.90 % from RoW countries.

The follow-up survey of the six journals revealed that a total of 3084 articles were published over a three-year review period (2014-2016). The total number of articles from the RoW was 427 (13.84 %). This was more than a

**Table 2.** Comparison of current and previous literature from the rest of the world (RoW)

Journal names	Current survey			Previous survey (2001)
	Total number of articles	Numbers from RoW	Proportions/ change	Proportions
1. Acta Psychiatrica Scandinavica	284	51	17.95%	15.8%
2. British Journal of Psychiatry	409	85	20.78%	6.5%
3. Psychological Medicine	848	127	14.97%	6.1%
4. American Journal of Psychiatry	360	34	9.44%	2.5%
5. Schizophrenia Bulletin	535	84	15.70%	2.4%
6. JAMA Psychiatry	648	46	7.09%	1.3%
Total	3084	427		

Trends in the former survey findings - repeated

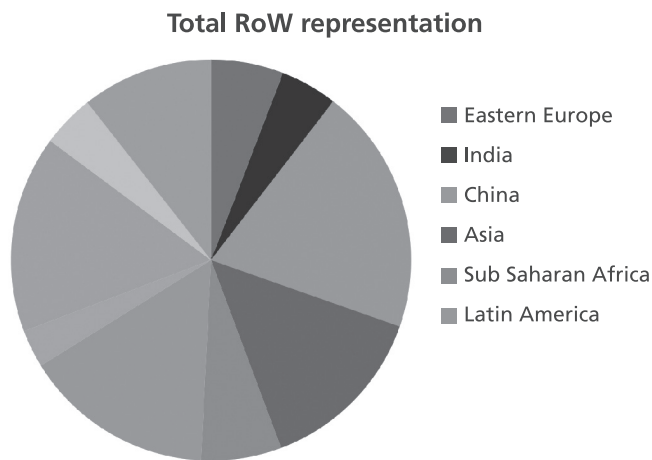
two-fold increase since the last study carried out in 2001. The proportion of representation of literature from the RoW countries from the current survey in comparison with the old survey is shown in Table 2.

The survey of six psychiatric journals revealed that approximately 86 % of the literature published was from high income countries (HIC), with maximum contribution from OEAC followed by the USA and UK. There was a marked improvement from the previous survey, however, not enough to consider any of the journals as being truly representative. Considerable variations were seen when data from RoW were compared from each journal; Acta Psychiatrica Scandinavica 51/427(17.95 %), British Journal of Psychiatry 85/427 (20.78 %) and Schizophrenia Bulletin 84/427 (15.70 %) published about 50 % of the total literature from ROW. However, the least representation was observed in JAMA psychiatry 46/427 (7.09 %) and American Journal of Psychiatry 34/427 (9.44 %). Psychological Medicine had the maximum representation of RoW literature 127/427 (14.97 %) which was indeed, the new observation from the last survey. Out of the five additional journals added to the current survey, the journal that had maximum representation from RoW countries was the Journal of Neurology, Neuro-Surgery and Psychiatry which is published in Europe. It, again, appears to be the case that either the authors from the developing countries give preference to journals published in Europe or these journals give greater representation to publishing worldwide literature, including those from RoW countries. It is; therefore, fair to conclude that the journals published from the European continent have a better representation of international research.

An increase of psychiatric literature from RoW countries were observed compared to the previous 6 journals surveyed as well as in, the new journals. Table 3 (in supplementary information) further clarifies where the leading countries/regions from RoW publish their research. Out of the published literature for the RoW, China (Taiwan and Hong Kong included) accounted for the maximum percentage of 21.31 %. There was an increase in representation from Latin American and Eastern European countries; 16.86 % and 5.62 respectively as compared to 4 % for both in the previous survey. Representation from Israel and India decreased from 12 % and 14% to 4.21 % and 4.91 % respectively. A lack of representation from the Russian Federation was observed. There was a slight increase in representation from the rest of the Asian countries (India and China were considered separate from the Rest of Asia). The number increased from 13 % in the previous survey as compared to 14.98 % in the current one.

As shown in Table 4 (supplementary information) further distribution of literature from RoW in the five additional journals showed Japan as the highest contributor of research literature with 22.01 %, followed by China with 18.04 %. Literature from Latin America and Asia added similar numbers approximately 13 %, each followed by multinational countries that added 10.70 %. Additionally, Eastern Europe and Sub-Saharan Africa both contributed 6.11 % followed by India and Israel both contributing 4.28 % in the total count of literature from RoW. The Middle East/North Africa showed a lack of representation in the research literature with just 2.44 % of the contributing figures.

Pooled data Figure 2, from different regions in RoW, clearly shows that China, Japan, and Latin America dom-



**Figure 2.** Overall dominating regions from the resto of the world (RoW) across all 11 journals surveyed

inated the psychiatric publications. This was followed by Asian countries and literature with a multinational origin. The Middle East/North Africa and Israel had the lowest representation.

## Discussion

Compared to the findings from the previous survey including six journals (British Journal of Psychiatry; American Journal of Psychiatry; Acta Psychiatrica Scandinavia; Psychological Medicine; JAMA Psychiatry (formerly called Archives of General Psychiatry); and Schizophrenia Bulletin), there was a marked increase in published literature from some RoW countries such as China, Japan, and Latin America which could be linked to the overall growth these countries have experienced in the past decade, both economically and scholastically. This finding was, to some extent, similar to the findings from the new journals added in the survey (World Psychiatry, The Lancet Psychiatry, Molecular Psychiatry, Biological Psychiatry and Journal of Neurology, Neuro-Surgery and Psychiatry), because Japan, China, and Latin America remain the highest contributing countries with Japan adding the maximum number of research papers. Additionally, in the current survey, OEAC added the maximum number of psychiatric literature followed by the USA and UK.

This revelation needs to be urgently addressed as different health systems may need different solutions and the generalisability of research from HIC to the rest of the world is questionable, particularly in psychiatry where socio-cultural differences matter the most.

Despite many encouraging activities in the developing world, a considerable stigma still exists towards psychiatry and mental health, despite generous efforts [8,9]. In LMIC mental health, it is still considered as a personal or family problem as highlighted by Xu and associates in China, due to lack of knowledge [10]. Such studies clearly highlight stigma as a possible reason for people who often do not enrol in psychiatric research. The stigma attached prevents people suffering from mental illnesses from living a good quality of life and leads to a vicious cycle of disgrace and discrimination [11,12].

Generally, the huge gaps in health care services and research among LMIC and HIC highlight discrepancies in the global health on improving health and health care equity for populations worldwide. Although the international sponsors support a lot of research in LMIC, such support sometimes has less involvement and inputs of LMIC researchers [13]. Occasionally, the research in LMIC will be in done by someone from HIC based in a HIC [14]. LMIC suffer from scarcities in healthcare facilities such as infrastructure, resources and necessary supplies leading to lack of trust among people and health systems due to poor quality in care [15]. In such circumstances, it might become difficult for someone to participate or conduct research, and if the research is done, they cannot be compared with the developed world where the facilities are at the forefront than the LMIC.

Although, countries such as China that invest a fair amount of resources in Research and development but the number of publication from China has gone down in current paper. The reason could be the migration of people from developing countries to HIC either for higher education or for work. Programs such as Thousand Youth Talents Program (TYTP) in China are some of the positive steps taken by the country's government to attract the academics to return back to their home country [16].

The previous survey indicated towards a possibility of bias where reviewers and editors might select articles that are relevant to the readers, and reject that would not be of interest to its readers [6]. The current survey, however, has not looked into any possibility of publication bias from the publishers. Also, there was no attempt made to obtain details of acceptations/rejections after the submission of articles, as this request was not fulfilled by the editorial offices, in the previous survey. Lack of such information obscures from finding out the exact number of submitted research papers before acceptance/rejection and this, adds to the prime limitation of the current study. Language barriers and preference to local over national publishers over international journals remain some of the speculations around the reasons

behind the lack of more of psychiatric literature from RoW countries [17].

Another limitation of the current survey is the number of issues published by each journal used in the survey. For example, one of the journals surveyed publishes one issue every month (the *Lancet Psychiatry*) and another publishes only three issues every year (the *World Psychiatry*). The journal publishing more issues has the probability of having more papers added to either RoW or other regions. Hence, the comparison of Journals may not be truly objective. Partnerships among the publishers in different regions of the world could help to overcome some of the known and unknown barriers. The authors would get benefit from such partnerships, and further signposting (such as language editing or changing the selection of Journal) could be useful to get their work published. Journals with high Impact Factor could also encourage more research publications from LMIC by attributing fixed numbers of research only from LMIC. Article Processing Fees (APC) is also one of the barriers in getting the research published in peer-reviewed journals from research originating from LMIC. Significant research done by the researchers in their own capacity or research done by researchers affiliated with institutions that are not in a position to pay the APC can be easily missed out when there is no external funding is involved to pay the APC. However, some journals waive off either full or part of the APC to encourage authors to publish their research.

Governments in the developing world provide grants towards the prevention and management of chronic illnesses like diabetes, cancer and cardiovascular ailments. Research into mental health conditions could be a lower priority in some regions, hence, underfunded, which affects research and development in psychiatry. Funding opportunities to undertake research and work in the areas of mental health and psychiatry have increased after

the two significant events in 2016 namely mental health as a global improvement priority and its inclusion in Sustainable Development Goals for the next 15 years [18]. Such initiatives, like the one taken in the grand challenge in global mental health, are a constructive step focussing on work done involving LMIC.

Also, the awards such as those by Wellcome, to promote more collaborative work are encouraging to global mental health and play an important role in building research capacities in the RoW countries. It would be interesting to survey in the future, the journals published in different regions and analyse their research literature origins to see the gaps.

The current survey indicates a slight improvement in the research literature coming from the developing countries, however, the barriers behind underrepresentation of psychiatric literature from RoW need exploring more. To reduce the burden of global mental health issues regions of the world must be connected through research. International research bodies can encourage regions with deprived international representation in psychiatric journals, by providing more opportunities and resources to do collaborative research in the area; more platforms to present research followed by a partnership among publishers.

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### Conflict of Interest

None to declare.

### Funding Sources

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