

# Mapping exercise of mental health research and researchers in Pakistan

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## Abstract

**Objective:** To systematically identify mental health research and researchers in Pakistan. Subsidiary objectives were to identify methodologies of studies published in the indexed journals along with their country wide mean impact factor.

**Methods:** A systematic search strategy using key words related to neuropsychiatry was carried out to identify various studies published in Indexed and Non-indexed databases.

**Results:** We identified 108 studies from Indexed data bases (77.8% Medline; 22.2% PsychInfo). Beside these, 51 studies were also identified from non-indexed databases. Among the indexed articles, 97 (89.8%) were Journal articles while 10 were other type of documents - there were 3 clinical trials of which only one was a Randomized Control Trial. The mean Impact factor (IF) of these studies was 2.75 (Range; 2.21-3.29). The median IF was 2.90. The most preferred journal for publication was the Journal of Pakistan Medical Association (JPMA; N=33) followed by British Journal of Psychiatry (B J Psych; N=11) and Journal of College of Physicians and Surgeons, Pakistan (JCPSP; N=9). From the indexed and non-indexed publications we identified 43 researchers. Among these 34 (80%) were psychiatrists.

**Conclusion:** The key finding of this mental health research mapping exercise is that mental health research output from Pakistan is low both in numbers and quality, with very few studies making it to high impact international journals. There is an urgent need to strengthen research capacity in areas of mental health at individual, organizational and macro-system levels (JPMA 57:294;2007).

## Introduction

Several influential reports and papers have brought together data demonstrating that mental disorders are common and disabling. According to World Bank report (1993) mental illnesses contribution to the global disease burden is estimated to be 10.5%. This is projected to increase to 15% by 2020.<sup>1</sup> Less than 10% of global spending on health is devoted to diseases or conditions that account for 90% of the global disease burden.<sup>2</sup>

It is evident that research findings in high-income countries are not easily transferable or appropriate for use in low and middle-income countries (LaMIC). In a recent paper Patel and Sumithipala (2003)<sup>3</sup> estimated that only 6 % of articles in six leading psychiatry journals were from regions other than Euro-America. One of the reasons for this low publication rates from LaMIC is low quantity and quality of submitted papers, poor research design, methodology and language difficulties for authors from countries where English is not the academic language. This makes it imperative that critical mass of researchers should be developed in LaMIC.<sup>3</sup>

There is no objective data on the status of mental health research from Pakistan. Most of the information comes from a handful of reports and editorial view points.<sup>4</sup> In an editorial Gadit, (2006) reports that there is "dearth of scientific articles about mental health even in the local peer-

reviewed journals" and "even if other journals that are not listed in the Medline may also be considered, the list still would not go beyond over a hundred articles".<sup>5,6</sup> However there is no objective data to back this statement. If mental health research capacity programs are to be developed this be based on sound research evidence.

The aim of this study was to systematically identify the mental health researchers in Pakistan, contributing to the evidence on various topics related to psychiatry over the course of ten years (1993-2004). We had four specific objectives viz.

1. Identification of various types of studies published in the indexed journals.
2. Identification of preferred journal for publishing original studies.
3. Identification of researchers contributing to mental health research over the course of ten years.
4. Identification of the mean country wide impact factor of studies published in indexed journals.

## Material and Methods

A systematic search, using Boolean key words strategy was undertaken by P.I in order to identify studies, published in Indexed data bases like Medline and Psychinfo. Non-Indexed articles (grey literature) were searched through local data bases like PakMedinet.com and

Faculty of health science Library (FHSL), Aga Khan University Hospital, Karachi. Parallel search was done by another set of researchers using Caidionline software for international databases. These files were then compared and cleaned for ineligible articles.

This study emanates from a larger mapping exercise study of mental health researchers and stake holders in South Asia, a collaborative project of Global Forum for health research and World Health Organization (WHO) and is being prepared for submission. In this paper we report the key findings pertaining to Pakistan only

**Inclusion Criteria:** Any piece of work related to mental health issues including qualitative, epidemiological, and biomedical research was included in our study. This would comprise original research, published articles, editorials, congress abstracts, reports, thesis and dissertations. Eligibility criteria for studies included;

- \* Pakistani physician or psychiatrists as first or second author
- \* Study conducted in geographical boundaries of Pakistan (excluding studies on Pakistani immigrants)
- \* Ten year period (1993-2004).

MeSH headings included in the study (Pub Med) were: Pakistan and 'Schizophrenia and psychotic disorders', 'Affective Disorders (including post-partum depression)', 'Anxiety Disorders', 'Alcohol Abuse and Dependence', 'Drug Abuse and Dependence', 'Dementias including Alzheimer', 'Learning Disabilities', 'Childhood Mental and Behaviour Disorders', 'Stress Disorders and PTSD', 'Eating Disorders', 'Epilepsy', 'Suicide', 'Parasuicide', 'Deliberate self-harm', 'Mental co-morbidity of AIDS', 'Neuro-psychiatric disorders', 'Mental health'.

**Exclusion Criteria:** Non mental health studies, studies on migrant populations living in developed countries and animal studies, studies exclusively on personality traits or general psychology.

## Results

Medline search using indexed publications retrieved 158 articles after systematic search. Among the 158 articles on various topics related to mental health 108 met our inclusion criteria. Figure shows the year wise distribution of the studies. There has been a gradual increase in number of published articles from Pakistan over the years. Among the 108 studies found to be eligible 84 (77.8%) studies were identified from Medline while 24 (22.2%) were from PsychInfo, 97 (89.8%) were journal articles while 10 were other type of documents published in the peer review journals. Among the journal articles 66 (61 %) were original studies. Table 1 shows the details of Publication-types published in Indexed Journals.

## Publication Year

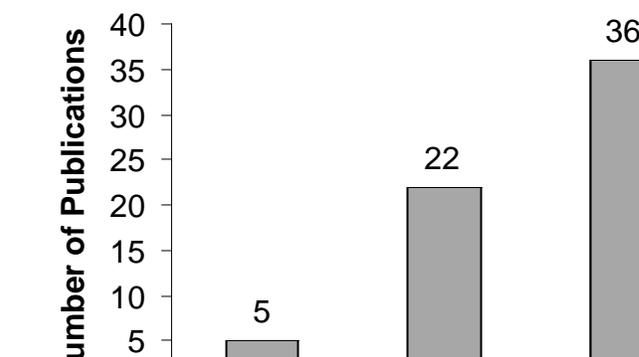


Figure. Publication Year for studies related to mental health, published in Indexed Journals from Pakistan.

**Table 1. Publications types published in indexed journals.**

Publication type	Frequency (%)
Original articles published in the journals	66 (61%)
Empirical studies	11 (10.2 %)
Editorials	4 (3.7 % )
Review articles	3 (2.8 %)
Journal articles: Validation studies	2 (1.9 %)
Journal articles: Clinical trial	2 (1.9 %)
Journal articles: Randomized clinical trial	1 (0.9 %)
Comments; letters	5 (4.6 %)
Evaluation studies	1 (0.9 %)
Research-review	1 (0.9 %)
Lectures	1 (0.9 %)
Others	11 (10.3 %)
<b>Total</b>	<b>108 (100 %)</b>

**Table 2. Leading indexed journals in which articles from Pakistan were published.**

Journals	IF*	Number of articles
Journal of Pakistan Medical Association	Not available	33
British Journal of Psychiatry	4.2	12
Journal of College and Physicians and surgeons Pakistan.	Not available	9
Acta Psychiatrica Scandinavica	2.3	7
Crisis		4
Psychological Medicine	2.9	4
Journal of Ayub Medical College	Not available	3
American Journal of Psychotherapy	7.6	2
Lancet	22	1
Others	-	33
<b>Total</b>	<b>2.75 (2.21-3.29)</b>	<b>108</b>

The most preferred journal among the indexed literature was Journal of Pakistan Medical Association (JPMA) followed by British Journal of Psychiatry (BJP). Journal of College of Physicians and Surgeons Pakistan (JCPSP) ranked third while Acta Psychiatrica Scandinavia (APS) ranked fourth as for number of articles on mental health. Among these top four journals the Institute of Scientific Information Impact Factor (ISI IF) for BJP and APS was 4.2 and 2.3 respectively. Table-2 shows the study types and their journal wise distribution along with their Impact Factor. The mean Impact Factor (IF) of these studies was 2.75 (Range 2.21-3.29). The median IF 2.90. Grey literature was gathered from local data-base searches. Among 338 articles on various aspects of neuro-psychiatry 204 were published in last 10 years; among them 134 met our inclusion criteria.

A local database (PakMediNet) that included indexed and non-indexed journals from Pakistan was also searched for studies on neuro-psychiatric disorders. Among the 96 studies retrieved 84 were eligible for inclusion. After 'cleaning' the local databases we were able to identify 51 additional studies (complete list available from authors).

Full text articles of these studies were retrieved, which were hand searched for any other eligible studies. Searches were done by the two authors separately. They met regularly and discussed any conflicting issues in order to minimize any selection bias. Table 1 shows the type of different methodological type of studies published in Indexed journals.

After scanning through the articles fifty researchers were identified through indexed literature. Additional 18 researchers were identified through Grey literature; making the total tally to 68. This tally also contained six authors who were primarily Westerners and had a Pakistani co-author.

In order to identify the main researchers in mental health research, we excluded Pakistani authors settled abroad. This reduced the total to 43 researchers. Among these 34 (80%) were psychiatrists while rest were from the various sub-specialties of medicine (Family Medicine, 3; Public health, 2; Emergency medicine, neurology, forensic medicine, 1 each). Among the top five authors three were psychiatrists while two were family physicians. Together these top five researchers accounted for 34 % of the publications from Pakistan, which highlights the fact that few mental health professionals were involved in research and is one of the key findings of this mapping exercise. Survey questionnaires were sent to all these individuals in order to identify the status of mental health research resources, Epidemiology/Bio-statistics support facilities and available funding. That survey is part of another project

which will be reported separately.

## Discussion

The key finding of this mental health research mapping exercise is that there is dearth of mental health professionals engaged in research in Pakistan. This is reflected in the relatively small number of publications and papers in indexed and non-indexed data bases. Besides the low numbers, most of the studies were by handful of psychiatrists working in few centers. We could identify only 34 psychiatrists contributing to mental health research evidence from Pakistan.

The mean Impact Factor (IF) of these studies was 2.75 (Range 2.21-3.29). The median IF 2.90. There are some controversies regarding Institute of Scientific Information Impact factor (ISI IF). Originally IF was intended as an objective measure of the reputability of a journal, it is now being increasingly applied to measure the productivity of scientists. IF have significant, but controversial, influence on the way scientific research is perceived and evaluated. It is calculated each year by the Institute for Scientific information for those journals which it indexes. The IF is calculated based on three-year period, and can be considered to be an average number of times published papers are cited up to two years after publication. Not all indexed journals have an ISI IF. Our literature survey revealed that almost one third of the studies, published in indexed journals, had an ISI IF.

A surprising finding was the negligible number of clinical trials. We could identify only one randomized control trial (RCT) in our search. RCT is considered to be a gold standard for efficacy of any intervention. In the absence of RCTs it is extremely difficult to establish evidence-based treatments from developing countries, suited to the socio-cultural needs of the population.

The low numbers may represent poor research capacity in Pakistan. There is an increasing emphasis in academia all over the world on research and publications. Pakistan is no exception as clinicians find themselves in the dilemma to 'publish or perish'. There are other reasons to do research beside its unequivocal criteria for promotion and progress in academic path, while others do research for the sake of learning. The American philosopher and educator, John Dewey (1859-1952) writes "learning is based on discovery guided by mentoring rather than on the transmission of information."

Research capacity can be strengthened through mentorship. This requires a critical mass of trained and well versed researchers. A systematic program is required where young researchers are guided in identifying areas of their research interest. This would result in sustained focus and

development of knowledge, particular to a specific area. In our survey we identified that, those who have an identified area of research published more besides contributing to the scientific evidence in the field of mental health. On the other hand those who were driven by number of publications, as required for promotion, or donor agencies agenda had fewer publications.

In our survey we identified 41% of the studies were published in Pakistani journals. This is an interesting finding. We can only speculate about the researchers' choice of journal for publication. Whether they are driven by the motive to contribute more to the local evidence, journal's circulation or other factors are open to question.

There are other inherent difficulties in the peer-review process of scientific studies. Patel (2001)<sup>3</sup>, has commented: "Reviewers and editors (from high impact international journal) may judge papers from rest of the world (RoW) as being less relevant to local readership and reject papers on this ground. Thus, any journal is likely to pay attention to the needs of its readership. Other factors may include low quality of submitted papers, including poor research design and methodology, language difficulties for authors from countries where English is not an academic language".<sup>3</sup>

Although health research is increasingly recognized as one of the driving forces behind development, researchers in Pakistan, like other low-and middle-income countries continue to lag behind in the quality and volumes of scientific out-put. As a result, problems specific to MaLIC do not receive the attention they deserve. This is extremely relevant as with increasing globalization many of the communicable diseases prevalent in Pakistan and other lower income countries also constitute a threat to global health. It is imperative that research capacity strengthening (RCS) should move center stage in order to address sustainable development<sup>7</sup>

Training and institutional development as key elements in RCS were the subject of an extensive study by the Wellcome Trust covering most of the agencies that fund research training both bilaterally and multilaterally.<sup>8</sup> The report found that many funding organizations in industrialized countries have been supporting broad-based research training and institutional development in low-and middle-income countries. However, the study observed that overall investment in training by these agencies remained modest, with an aggregate expenditure of US\$21 million identified in 1995-1997 for training in biomedical sciences and health over the three-year period. Some of those trained had, for different reasons, not returned to their home countries, thereby further contributing to the "brain drain"<sup>8</sup> Besides the classical distinction between country, regional

and global levels, there is growing consensus to look at capacity strengthening at country level from three different, complementary perspectives or levels: individuals, institutions and systems levels.

Recently Lansang (2004)<sup>9</sup> has given a clear overview of RCS at these various levels At individual level a critical mass of researchers competent in the basic, clinical, epidemiological, biostatistical, health systems and policy and social sciences, performing quality research of national relevance and of scientific importance, has to be developed, maintained and retained. To maintain the interest and commitment of researchers, a research environment has to be enhanced.<sup>9</sup>

Nchinda (2002)<sup>10</sup> has identified key elements needed for successful RCS. These include a capable and committed scientific leadership, continuity of funding of research, ability to attract a core of dedicated young scientists, adequate and appropriate infrastructure for research, adequate equipment and supplies including modern communication facilities and scientific literature, scientific linkage to other institutions and stable conditions of service with adequate remuneration. Most of these "success factors" refer to the institutional environment of individual researchers and illustrate the critical importance of institution building as a different component in RCS.

At macro-level health system research should include: strategic planning, research priority setting, knowledge management, advocacy and demand creation, consensus building and negotiation, resource generation and allocation, partnership building across many stakeholders and communication, including virtual form of networking.

For countries like Pakistan, the critical question is: are we ready to address issues of RCS? For example epidemiology of mental illnesses in Pakistan is very different when compared with the West. RCS should come to forefront if we are to develop an evidence based epidemiological map in Pakistan. No development in program and policy is possible without objective research.

At individual level skills pertaining to research methodology needs to be developed. Training in scientific writing, protocol development, epidemiology, biostatistics, data management and analysis needs to be incorporated in the Psychiatry residency programmes. Mentorship in these areas can effectively facilitate the learning for younger clinicians. The dichotomy of researchers and clinicians needs to be dissolved. It has been demonstrated in the past that good research questions emanated from astute clinical observations. These however need to be developed systematically, proven quantitatively, with robust methodology. Gaussian ghost needs to be exercised during the clinical years of training.