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Mental health research in the Kingdom of Saudi Arabia: A review of trend and visibility over four decades

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Abstract

In the last few decades, there has been significant advancement in higher education and research in the Kingdom of Saudi Arabia (KSA). However, no research has quantified the studies on mental health in Saudi Arabia. The aim of this review was to review literature on mental health in KSA over the last four decades and compare it with studies done in other medical and surgical specialties. This narrative review is based on research published in the global scientific database of Web of Science, Scopus and Medline/PubMed. Mental Health Research of Saudi Arabia published since 1975 was retrieved. Publications related to other medical specialties such as surgery, internal medicine and pharmacology were also retrieved for comparison. A total of 159,796 studies related to medical and non-medical specialties were conducted in Saudi Arabia. A total of 52,699 related to medical specialties, 670 of which were on mental health and 52,029 on other medical specialties. At the beginning of the last decade there was a sharp increase in medical research (including mental health) publications from Saudi Arabia. Mental health research does not differ from research in other medical specialties in its output. In spite of the huge strides made in research in KSA, the provision of support for mental health research in the Kingdom is inadequate. Possible challenges and recommendations have been identified.

Keywords:

Medical specialties, mental health research, psychiatry, Saudi Arabia

Introduction

Research is crucial for the improvement of insight into health issues and health care delivery.^[1,2] In the last two decades, Saudi Arabia has developed strong partnerships with renowned research institutes becoming a leading country in scientific research in the Middle East.^[3] Increase in government funding and prudent planning have facilitated the progress made by the institutions in the country in leading the scientific revolution.^[2] Saudi Arabia rose eight places in the Nature Index rating, from 39 in 2012 to 31 in 2015, and was awarded the second

highest Weighted Fractional Count in the Western Asian region.^[4] As a step toward the globalization of learning and research, Saudi Arabia has established strong partnerships with other countries.^[5]

Research in mental health is particularly important as it provides current information on the number of psychiatrists, psychologists, social workers, mental health nurses, and counselors and the training they have received.^[6] This information is important for directing the training and funding of mental health services necessary for the needs of the population. Research is crucial in guiding the effort to move the mental health care system forward and attain the ultimate objective of patient-oriented approach rather than disease-oriented attitude.^[7,8]

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Although research on mental health was almost nonexistent in Kingdom of Saudi Arabia (KSA) before 1975, it has increased steadily in the last few decades.^[9] The average number of publications per year rose from almost none before 1975 to one publication per year in the mid-1980s, and tenfold by mid-1990s, to almost double by 2006.^[6] This impressive development in mental health research has placed the Kingdom at the forefront of research in mental health in the Arab world.^[7] However, there has been no review to quantify the publications on mental health research in the last four decades. Therefore, the aim of this study was to review publications on psychiatry and mental health research and their visibility from 1975 to 2017 and compare these with those of other medical specialties in Saudi Arabia.

Materials and Methods

Extensive data search was conducted in King Fahd Hospital of the University between June 2018 and August 2018, to complete a previous data collection over the years. Data collection employed the search engines: Web of Science, Scopus, and Medline/PubMed, as primary tools to review medical literature.^[10] The search was performed on each search engine using the same key words. Web of Science's search included all the studies found by the other two search engines (based on manual checking for 30% of articles retrieved by these search engines), thus Web of Science was considered the main e-search engine.

The author included in his search publications both indexed and nonindexed journals of the period January 1, 1975–December 31, 2017. We excluded any documents before 1975 as they were very limited and lacked relevant information on citations. Studies published in 2018 were also excluded to avoid bias. Two datasets were explored: first, publications on mental health research and second, publications on other medical specialties. Duplicate publications related to mental health were also excluded from this search. Screening for duplicate and false positives was conducted by experts in the field. A parallel search was conducted by two epidemiologists to ensure accuracy of the data. Search was limited to Saudi Arabia as the "region of study." When there was any doubt, the papers were retrieved and checked.

Our main e-search was confined to publications from Saudi Arabia. To obtain the first dataset (mental health publications), data were refined further by confining the "research area" to psychiatry and psychology. Only publications in English were collected. As mental health research overlaps with other disciplines, two experts were consulted on the inclusion and exclusion criteria. Studies under the categories of clinical neurology, "pure" neuroscience and educational psychology, which were

found to be unrelated were excluded (based on manual screening of 30% of these categories).

For the second set of data (publications of other medical specialties), we again logged on to Web of Science, confining our search to publications linked to Saudi Arabia, and Medicine was chosen as the research area. This revealed publications in various clinical specialties such as surgery, internal medicine, and pharmacology. Other allied medical sciences such as biochemistry and biology were excluded from the search. To ensure the accuracy of our search, we repeated the search on Scopus and Medline using the same key words. Duplicate publications on mental health were also excluded from this search.

Bibliometric indicators and tools used to present the data were as follows: (a) the number of publications per year, (b) type of publication, and (c) research visibility: as represented by citation parameters such as the total number of cited publications, average citation per item, number of citing articles, and Hirsch Index. Data were analyzed using Statistical Package for Social Sciences (SPSS) Version 23, (IBM Corp., Armonk, NY, USA). Frequency distribution and percentages were calculated.

Results

Preliminary analyses

The initial e-search in Web of Science retrieved 159,796 studies from different specialties (medical and nonmedical), all from KSA. Of the publications retrieved, 30% were randomly chosen and their existence in the initial dataset verified (retrieved from Web of Science). All of the randomly selected publications (30%) were found in the initial dataset. Accordingly, the initial dataset retrieved from Web of Science was considered in the analysis of this paper.

Number of publications

Mental health Publications: After applying the inclusion and exclusion criteria, a total of 670 publications in the field of mental health between 1975 and 2017 were retrieved. Almost half of these publications were on psychology (48.3%), 22.8% was on psychiatry, 20.1% on behavioral sciences, and 8.8% on other areas of mental health (e.g., health care services and patient care). **Overall medical publications:** Our search for medical publications other than psychiatry revealed a total of 52,029 published articles.

Progress in mental health research as well as other medical specialties in the four decades is shown in Figures 1 and 2, respectively. Publications in mental health before 1983 were scarce [Figure 1]. Although

the increase in the number of publications began in the mid-1980s, it was unremarkable [Figure 1]. The escalation in the numbers only became evident after 2010 peaking to 110 annual publications in 2016. Similarly, there was a steady increase in the distribution of medical publications from other specialties between 1980 and 2010 after which there was a sharp rise in the number of publications [Figure 2].

Types of publications

As in Table 1, original articles represent the majority of publications found on mental health as well as other medical specialties [Table 1].

Research visibility

There was a sudden increase in the citation of Saudi Publications on mental health and other medical specialties after 2012, as shown in Figures 3 and 4, respectively. Bibliometric indicators mentioned earlier (total number of cited publications, average citation per item and number of citing articles and Hirsch Index [h-index: An index that combine productivity and citation of the publication]) were obtained for mental health research and other medical research [Table 2].

Discussion

The current study is the first review of Saudi mental health literature over four decades, from as early as 1975 when research in the Kingdom began. The study also reviewed research in other medical specialties in the Kingdom. The results as shown in Figure 1 and Table 2 are consistent with the findings of other researchers who claim that

research on mental health has increased, particularly in the last decade.^[6,11] Despite the challenges in mental health research, the results of the present study have revealed that research in this area is progressing at the same rate as other medical specialties, both in terms of the number of publications and visibility to researchers in the field. While the number of patients/service users is low in psychiatry (compared to other specialties), the level of stigmatization is high.^[12] Impressively, the majority of publications in the period covered in the present study were original articles, which suggests a positive attitude of researchers toward mental health research in Saudi Arabia.

The sharp increase in the number of publications and citation records for mental health research after 2010 [Figure 4] is probably due to the increased funding for education and research. For instance, the education budget in Saudi Arabia in 2011 was \$45.18 billion reaching its highest level of \$54.54 billion in 2013.^[11]

Table 1: Types of Saudi publications in mental health and other medical specialties (1975–2017) based on Web of Science

Publication	Mental health publications N (%)	Other medical publications N (%)
Original articles	503 (75.2)	37,421 (71.9)
Meeting abstract	80 (11.9)	6337 (12.2)
Review articles	22 (3.3)	3146 (6.1)
Letters	17 (2.5)	2655 (5.1)
Editorial materials	23 (3.4)	1305 (2.5)
Other	25 (3.7)	1165 (2.2)
Total	670	52,029

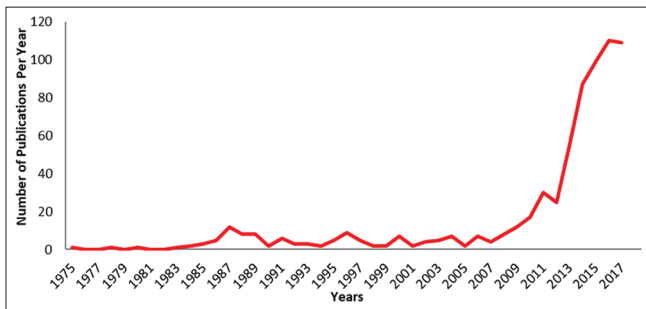


Figure 1: Number of Saudi publications in mental health (1975–2017)

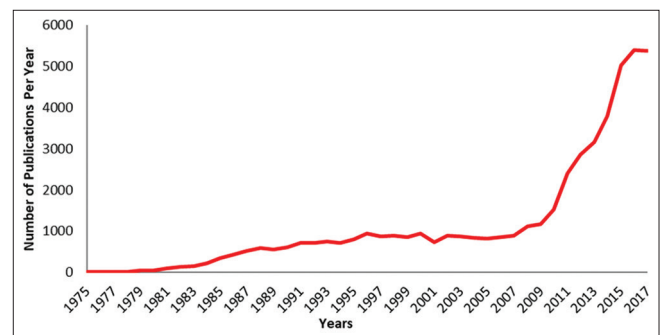


Figure 2: Number of Saudi publications in other medical sciences (1975–2017)

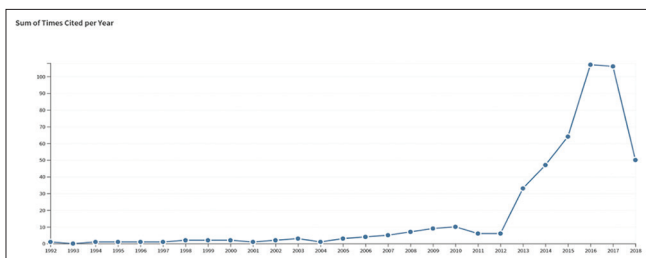


Figure 3: Citation for mental health articles (n = 670)

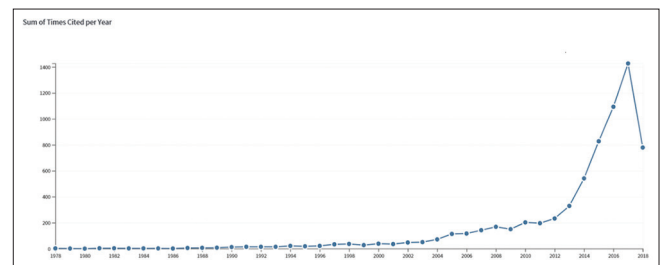


Figure 4: Citation for medical specialties articles (other than psychiatry) (n = 52,029)

Table 2: Citation report based on Web of Science for Saudi publications in mental health compared to overall research in other medical specialties (1975–2017)

Subject	Total document	H-index	Average citation/item	Sum of time cited	Citing articles
Psychiatry/mental health	670	33	10.15	6800	6100
Medical sciences	52,029	59	8.83	344,952	375,422
Total	52,699	92	18.98	351,752	381,522
Mean	26,349	46	9.49	175,876	190,761

Although in Saudi Arabia, the finance for the mental health service is controlled by the Ministry of Finance, there is no definite budget for mental health services in the Kingdom.^[13]

Before the 1970s, almost no research was conducted on mental health in Saudi Arabia. This is possibly because of the slow transformation to modern psychiatric services. Furthermore, before 1970, the number of psychiatrists, mostly expatriates, in the Kingdom was small. The psychiatrists were overwhelmed with the number of patients and therefore had little time for research. Besides, the lack of funds for research and incentives might have further limited their interest in research.

However, between 1980 and 1990, an increasing number of psychiatrists were recruited by universities in the Kingdom. Their interest in research was mainly for promotion and advancement of their careers [Figures 1 and 2]. Indeed, much of the research at that time was mainly to acquire qualifications (MS or PhD degrees) or for academic promotion. This explains the increase in the number of publications in these two decades; the provision of research funds seen at the beginning of 2000 further accelerated the number of publications after 2010 till date [Figure 2].

This increase in funding facilitated the establishment of additional academic departments and provided the means for the appointment of new faculty members. Another possible reason for the rise in research after 2010 is the return of trained Saudi psychiatrists from overseas to work as university faculty. Unlike their expatriate colleagues, the Saudi faculty, who were mostly young, were obliged to do extensive research to be promoted. The regulations in the Saudi universities demanded that faculty produce a number of research papers to get promoted to higher positions. However, the author feels that the contribution to the Saudi research pool from nonacademic researchers since 1975–2017 should not be underestimated.

Mental health research's challenges in Saudi Arabia

The conduct of research around the world has many challenges. The lack of funding is one of the most significant barriers to research. Furthermore, research positions are limited, and there is no time specially allotted for clinicians to carry out research. In addition,

the introduction of new complex regulations for research, including applications for ethical approval or for grants, add to the challenges. A study has examined the attitude of faculty members toward scientific research and its challenges in the Kingdom^[14] and found that a large number of participants thought that the process of obtaining funding for research was too complex and that of acquiring ethical approval was too lengthy. Inadequate resources, teaching overload, and administrative duties were identified as additional constraints to research. However, it is interesting to note that these technical challenges were not reflected in the current research performance [Figure 1], suggesting that awareness of the system and its challenges as well as the provision of adequate support and infrastructure by universities to their staff have improved.

Strength and limitations

The strength of this study is the unique approach of the coverage of more than four decades which provides a better insight into the progression of mental health and other medical research in Saudi Arabia. In addition to collecting data from a reliable source like the Web of Science, we also searched other databases (Scopus and Medline) to ensure the accuracy of the results. However, a possible limitation of the study is that papers in the search engines were sometimes duplicated between categories. However, we tried to minimize this by excluding research papers that were not closely related to mental health, for example, neuroscience (see methods above). Our search may have missed documents published in local or regional Arab journals in the Saudi context. Many faculty members, especially in the past were reluctant to get their articles published in high impact journals since the rate of rejection in these more competitive journals was high but also involved a very lengthy expensive application process for publication.^[15] A further limitation is that only articles written in English were selected by search engines, and as a result, some literature might have been left out.

Recommendations

It is noteworthy that Saudi Arabia has made remarkable progress in higher education and research, especially in the last decade. However, to get to the level of the systems in the United States and the United Kingdom, the momentum should be maintained. The following are some major strategies that would enhance the

quality of research: (1) applications for research grants should be simplified by the stakeholders, (2) there should be an increase in the mental health workforce to meet the increasing demand in the Saudi society,^[16] (3) clinicians' heavy workload, a factor in their job dissatisfaction should be reduced,^[17] and (4) adequate definite amount of time should be specifically allotted to research and financial incentives given. This will allow faculty members and other researchers not affiliated to universities ample time for research. Educational authorities should consider professional workforce development since psychiatry programs at present have few applicants. Obviously, this is possible by improving knowledge, attitude, and motivation of undergraduate students and newly qualified physicians toward psychiatry and research. A series of studies recently conducted found that improving the knowledge of psychiatry in undergraduate years and the early years of their career may enhance doctors' appreciation of the subject.^[18-20] Incorporation of mental health services into a general health program or into the primary healthcare system (ongoing trend) will improve accessibility and acceptability of mental health services, reduce the stigma, and increase research output. Researchers should be given adequate technical and specialist support for their research. Saudi Arabia should take advantage of its research facilities using such modalities as functional neuroimaging in the advancement of psychiatry and behavioral neuroscience currently going on.

The study did not discuss the issue of the quality of research productivity as it was outside the scope of this article. However, this aspect should be considered in future research.

Conclusion

Research in Saudi Arabia over the past four decades presents an impressive model for other countries in the Middle East to emulate. The provision of adequate funding, support, and infrastructure by universities to their faculty would help to increase research into mental health in the Kingdom. In spite of the impressive progress made by Saudi Arabia in mental health research, work in this area is still in its infancy. Capacity building in research workload reduction, provision of adequate research grants, and further technical support are required to bring them at par with advanced countries in mental health research.

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Conflicts of interest

There are no conflicts of interest.

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