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Brief Report

Contribution of The Turkish Psychiatric Society to The International Literature: A Five Year Evaluation of PubMed Database

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ABSTRACT

Contribution of the Turkish psychiatric society to the international literature: a five year evaluation of PubMed database

Objective: To assess the scientific level of a scientific discipline, the number of publications, the number of citations these publications received and their rank in the world order are important data. In this study, we aimed to show general characteristics of the scientific studies in the psychiatry field published during the last five years in Turkey and to lead the way for the future studies.

Method: PubMed database search was limited for the five-year period between January 1, 2005 and December 31, 2010, and covered the articles containing 'Turkey' and 'Psychiatry' words in the fields of authors' institution and affiliation. The annual distribution of the articles, subject headings, type, author's institutions and its number, its impact value were examined.

Results: The most common titles were the ones about psychopharmacology. According to the type of the research, it was determined that 84.7% (n=476) of the articles were original researches; 13.0% (n=73) were case reports and the remaining consisted of 8 reviews (1.4%) and 4 meta-analysis (0.7%). 0.7% (n=4) of the studies were performed on animal models. 3.9% (n=22) of the articles were designed as randomized controlled and 2.3% (n=13) were retrospective. Only one study was determined as multicentre.

Conclusion: In line with developments in medicine, a significant increase in the production of scientific publications in psychiatry field has been observed in Turkey. The scarcity of randomized controlled clinical trials, meta-analysis and studies published in high impact factor journals suggest the need for emphasis on the quality of the publications as much as on their quantity.

Key words: Turkey, psychiatry, science, publications

ÖZET

Türk psikiyatri topluluğunun uluslararası literatüre katkısının PubMed veritabanında son beş yıllık süre dikkate alınarak değerlendirilmesi

Giriş: Bir bilim dalının bilimsel düzeyini değerlendirmek için, ne kadar yayın yapıldığı, bu yayınlara yapılan atıfların sayısı ve yayınların dünya sıralamasındaki yeri önemli bir veridir. Bu çalışmada, son beş yıl içinde Türkiye'den yayınlanan psikiyatri ile ilgili bilimsel çalışmaların genel karakteristik özelliklerini ortaya koymak ve yapılacak araştırmalara yol göstermek amaçlanmıştır.

Yöntem: PubMed veritabanındaki arama limitleri, 01 Ocak 2005 - 31 Aralık 2010 tarihleri arasındaki 5 yıllık süreyi kapsayacak şekilde ayarlanmış, yazarın kurum ve adres bilgilerini içeren 'affiliation' kısmında, Turkey (Türkiye) ve Psychiatry (Psikiyatri) bulunan makaleler değerlendirmeye alınmıştır. Makalelerin yıllara göre dağılımı, konu başlıkları, türü, yazarların kurumu ve sayısı, etki değeri gibi özellikleri incelenmiştir.

Bulgular: En sık rastlanan konu başlığı, psikofarmakoloji olmuştur. Araştırma tipine bakıldığında, makalelerin %84.7'sinin (n=476) orijinal araştırma makalesi, %13'ünün (n=73) olgu sunumu, %1.4'ünün (n=8) derleme, %0.7'sinin (n=4) meta-analiz olduğu saptanmıştır. Çalışmaların %0.7'sinin (n=4) hayvanlar üzerinde yapıldığı tespit edilmiştir. Çalışmaların %3.9'unun (n=22) randomize kontrollü, %2.3'ünün (n=13) ise retrospektif olduğu belirlenmiştir. Yalnızca bir çalışmanın çok merkezli olduğu görülmüştür.

Sonuç: Türk tıbbındaki gelişmelere paralel olarak, uluslararası bilimsel yayın üretimindeki artış psikiyatri alanında da görülmektedir. Randomize kontrollü klinik çalışmaların, meta-analizlerin ve etki faktörü yüksek dergilerde yayınlanan çalışmaların azlığı, yayın sayısı kadar yayın kalitesi konusuna da önem verilmesi gerektiğini düşündürmektedir.

Anahtar kelimeler: Türkiye, psikiyatri, bilim, yayınlar

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INTRODUCTION

Number of publications both personally and institutionally, citations to them and place of Turkey in worldwide ranking have always been in the agenda and subject to continuous debate (1). Evaluating academic merit according to number of publications in journals published in certain indexes increased importance of scientific publications in our country in recent years.

Turkey was in 19th rank according to number of publications in 2007 and increased its ranking to 18 in 2008. Turkey's rank is 26 cumulatively among 45 countries according to number of publications such as article, review and correspondence between 1981 and 2007 and comes before countries such as Norway, Greece, Mexico and Portugal (2,3). When rankings of 54 scientific branches covering basic, internal and surgical medical sciences were analyzed according to number of publications, medical ethics was at 8th and pediatrics at 9th rank but cellular and tissue science was at the last ranking (45th). In the publication order, there are 18 medical sciences (33%) at 10th and 19th ranks, 19 medical sciences (34.5%) at 20th and 29th ranks and16 medical sciences (29%) at 30th and 40th ranks. Publications about psychiatry were at 26th rank (2).

Impact factor (IF) is the measure of mean frequency of citations made at a publication and an indication of citation frequency of documents. The higher the number of citations a publication gets, the higher the impact factor is and it is generally accepted that a publication with a higher impact factor has higher quality (4). USA had the highest impact factor of 20.71 with 6.634.586 having 137.391.957 citations between 1981 and 2007. Switzerland has an impact factor of 20.67 which was nearly same with USA. Sweden was in the 3rd (with 18.83), Denmark was at 4th (with 18.53) and Netherlands was at the 5th rank (with 17.99). In this period impact factor of Turkey was only 4.55 with 120.562 publications and could only be in front of Pakistan, Russia and Iran. Fifty branches in medical sciences category were between 35th and 45th ranks according to their impact factors. This number corresponds to approximately 95% of medical sciences in Turkey. However, there are only 3 scientific branches between 35th and 45th ranks according to number of publications. It is worth thinking about that having such a low impact factor, meaning low number of citations per publication of medical sciences which have the highest number of publications and citations from Turkey. For example, pediatrics which was at 9th rank according to number of publications was at 44th rank according to impact factor (3,15) and was only in front of Iran (2,99). Urology and nephrology which were both at 12th rank were at 44th rank according to impact factor. Psychiatry was at 40th rank (2).

We aimed to evaluate general characteristics of scientific publications about psychiatry published from Turkey in the last 5 years using an international database and to guide further researches.

METHODS

Our study was designed as a retrospective observational study. Search limits in Pubmed database were adjusted to cover the 5-year period between January 1, 2005 and December 31, 2010 and articles having "Turkey" and "psychiatry" words in the affiliation section which has institution and address information of authors were taken into evaluation in order to detect studies sent from psychiatry clinics of Turkey. Pubmed database was selected due to its worldwide use and high coverage of 5400 medical journals from 39 countries (5). Collected data were extracted in XML format and transferred and re-formed in MySQL database. Full texts of articles needed were accessed and information which was not covered in Pubmed were completed by using these texts. Collected data were evaluated by 2 independent authors (M.A. and A.B.) and when a conflict rises during grouping of data, decision was made by a 3rd author (A.Bz) as arbiter.

Distribution of articles according to years was examined and annual increase rates were calculated. Journals were divided into two groups as journals of psychiatry and non-psychiatry. Division process was based on its presence in psychiatry category of "Thompson Scientific Journal Citation Reports" (6). Impact factors of journals in which these articles were frequently published were determined for the year 2009.

Articles were determined according to "article category" classification which is used in article acceptance system of a national journal of psychiatry accepted in international indexes and were classified under main topics of psychiatry such as forensic psychiatry, affective disorders, alcohol and substance dependence, anxiety disorders, disorders of sexual function, child and adolescent mental health, education, epidemiology, genetics, geriatrics, movement disorders, suicide, psychopharmacology, consultation-liaison psychiatry, neuroscience, psychoanalysis-psychotherapy, psychometrics, somatoform disorders, schizophrenia, eating disorders and sleep disorders (7). Articles were gathered in four main topics as original research article, review, case report and letter to the editor. Numbers of animal studies and randomized controlled studies were also determined among all studies. Articles were also classified according to number of centers participated and other clinical branches collaborated. Studies in which cases from different centers were recruited, were accepted as multi-center studies. Institutions where studies were done were classified as university hospital, state hospital, training and research hospital and private hospital.

SPSS for Windows 15.0 software was used for statistical analyses of the data. Descriptive statistics were used and data were expressed as mean, standard deviation and percent.

RESULTS

A total of 591 articles having "Turkey" and "Psychiatry" in "affiliation" section were found in Pubmed database search. Twenty-nine of these which are irrelevant to psychiatry were excluded and remaining 562 articles were reviewed. Number of articles in Turkish Journal of Psychiatry which is in Pubmed database should have been around 200 within defined limits but only four of them could be determined by the method used. This was possibly due to inadequate author addresses and other institutional information. This determination problem and confusion due to 50% of total publications were from only one journal lead us to exclude Turkish Journal of Psychiatry from this study.

There were three fold increase in the number of publications in 2006 and five fold increase in 2007 and 2010 when compared to 2005.

Journals other than psychiatry category were less preferred (23.3%) for the publication of articles. Mostly preferred journal in non-psychiatry category was The Turkish Journal of Pediatrics with 14 articles followed by Clinical Drug Investigation with 6 articles and Advances in Therapy and Pediatrics International with 5 articles (Table 1). Mostly preferred journal in psychiatry category was Progress in Neuro-Psychopharmacology & Biological Psychiatry with 49 articles followed by Psychiatry and Clinical Neurosciences with 31 articles, Comprehensive Psychiatry with 21 articles, Psychiatry Research with 20 articles and Journal of Psychopharmacology with 16 articles (Table 2).

When articles were reviewed according to contents, it was seen that 20.8% (n=117) were about psychopharmacology, 14.2% (n=80) were about affective disorders, 12.6% (n=71) were about anxiety disorders and 10.3% (n=58) were about child and adolescent

Table 1: Journals other than psychiatry

	Name of Journal	Number of Articles (n)	Impact Factor 2009
1.	The Turkish Journal of Pediatrics	14	0.333
2.	Clinical Drug Investigation	6	1.414
3.	Advances in Therapy	5	0.936
4.	Pediatrics International	5	0.737
5.	Journal of Pediatric Endocrinology & Metabolism	3	0.858
6.	Epilepsy	3	3.569
7.	DNA And Cell Biology	3	1.861
8.	Archives of Medical Research	3	1.772
9.	International Journal of Eating Disorders	3	2.269
	Other	76	-
	TOTAL	121	-

Table 2: Psychiatry journals

	Name of Journal	Number of Articles (n)	Impact Factor 2009
1.	Progress In Neuro-Psychopharmacology & Biological Psychiatry	49	2.823
2.	Psychiatry And Clinical Neurosciences	31	1.326
3.	Comprehensive Psychiatry	21	2.082
4.	Psychiatry Research	20	2.373
5.	Journal of Psychopharmacology	16	3.647
6.	General Hospital Psychiatry	13	2.669
7.	World Journal of Biological Psychiatry	11	5.564
8.	The Journal of Affective Disorders	10	3.763
9.	European Child & Adolescent Psychiatry	8	1.651
	Other	209	-
	TOTAL	379	-

Table 3: Distribution of articles according to subjects

	Topic	n (%)
1.	Psychopharmacology	117 (%20.8)
2.	Afffective Disorders	80 (%14.2)
3.	Anxiety Disorders	71 (%12.6)
4.	Child and Adolescent Mental Health	58 (%10.3)
5.	Schizophrenia	44 (%7.8)
6.	Neuroscience	36 (%6.4)
7.	Somatoform Disorders	26 (%4.6)
8.	Psychometrics	25 (%4.4)
9.	Sexual Function Disorder	18 (%3.2)
10.	Suicide	16 (%2.8)
11.	Other	159 (%12.9)

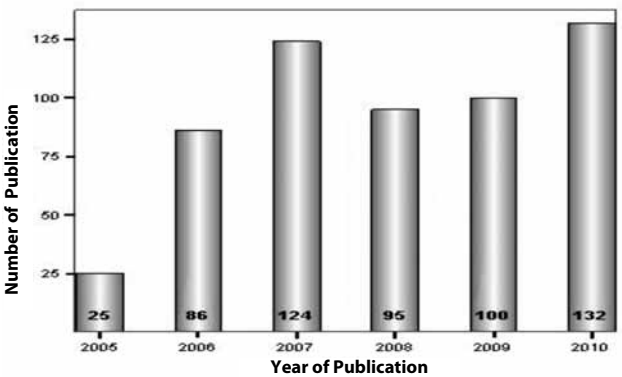

Figure 1: Distribution of publications according to year of publication

mental health and these make up 57.9% of total articles (Table 3). When type of the article was examined, it was observed that 84.7% (n=476) were original research article, 13% (n=73) were case reports, 1.4% (n=8) were reviews, 0.7% (n=4) were meta-analyses. Animal studies were 0.7% (n=4) of total articles. It was seen that 3.9% (n=22) of them were randomized controlled studies and 2.3% (n=13) were retrospective in nature. Only one study was multi-centered.

Neurology became first among all specialties that were collaborated with 22 studies. 15.1% (n=85) of the studies were done by child psychiatrists. Fifty-seven articles (10.1%) were from Ministry of Health training and research hospitals, 6 (1.1%) were from private hospitals, 15 (2.7%) from psychiatrists working in psychiatry clinics of state hospitals. Remaining 484 (86.1%) articles were sent by physicians working in university hospitals. Numbers of authors in these articles were between 1 and 14 and mean 4.84.

DISCUSSION

Increase in number of psychiatric publications done in Turkey is in parallel with regular increase of scientific publications in international journals in recent years (1,2). Accelerated increase in number of psychiatry publications in recent years like in other branches suggest further increase in both ranking of publications and impact factor as well in the following years (4).

When journal preferences were evaluated, journals other than psychiatry category were largely preferred. Mostly child psychiatrists preferred journals other than psychiatry category. This may be due to relatively low number of child psychiatry journals in international indexes compared to psychiatry journals. Reason that The Turkish Journal of Pediatrics is the mostly preferred publication as a non-psychiatry journal may be due to being a national journal, having also Turkish as the

language of publication and being in SCI-E. On the other hand, it is noteworthy that number of articles at important psychiatry journals with high impact factors was found to be low. Low number of articles in these journals may be due to lack of well-designed, high quality scientific studies. Impact factor is still under debate but relationship between high IF and publication quality is now well-accepted (1,4). Lower ranking of Turkey in evaluations considering impact factors of other medical sciences and non-medical fields which are in parallel with our findings showed us the need of questioning characteristics of publications. Inadequate resources allocated for research and publications in Turkey, inadequate infrastructure for research facilities, unproductive utilization of electronic resources and low number of publications from Turkey in international indexes can be some of the possible reasons (2). Furthermore, only accessed articles can be cited. Thus, distribution of the journal, number of readers, surveying by international indexes and online accessibility (through internet) are all important factors (8).

We think that there is strong need to develop publication quality in addition to number of publications, considering only 3 of the studies were meta-analyses, only one study was multi-centered, only four studies were animal studies and only 4.4% (n=22) of the studies were randomized controlled. When grouping of studies according to their subjects were examined, psychopharmacology, affective disorders and anxiety disorders were subjects which were mostly studied. Rapid advances in the field of psychopharmacology and higher prevalence of affective and anxiety disorders among psychiatric disorders may be the reason of high number of studies about these subjects (9).

85.3% of articles were sent from university hospitals and this may be due to higher efforts of academic psychiatrists to publish for their careers and higher research resources in universities. Academic titles and compulsory certain number of publications for associate professorship may be an important motivation. These findings can also be interpreted as universities carry nearly all of the responsibility to make scientific publications and this may be one of the most important reasons of low mean number of publications per person. "Complete addresses of authors whom articles were published in the journal" which is among the basic standards of journals which will be in international indexes is an important point to detect articles from Turkey. However, there are problems to detect publications from Turkey due to dual names of some authors, family name changes and lack of a standard when writing down the names of institutions. For this reason, realistic numbers on Turkey could not be obtained in our search. Moreover, our search was limited to Pubmed database and this might have increased the number of studies which were not in this database and could not be accessed. Although it is a comprehensive database, not covering some international journals and not covering articles published in these journals is an important limitation. Important studies done in the field of psychiatry and published in important national journals were not covered as well. Nevertheless, it was thought that data obtained from Pubmed database contained an important portion of the universe in our study which we aimed to evaluate the contribution of Turkish psychiatry to world literature and general characteristics of scientific publications. Determining number of publications per academician in order to determine real publishing performances will be more appropriate to make an accurate assessment. In conclusion, parallel to advances in Turkish medicine, increase in number of international publications is also observed in the field of psychiatry. It is noteworthy that psychopharmacology is the most prevalent topic among psychiatry publications and number of publications done by university hospitals is clearly high. Low number of randomized-controlled studies, meta-analyses and studies published in journals having high impact factors suggested to give more importance to publication quality as much as number of publications.

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