



Publication Rates of Public Health Theses in International and National Peer-Review Journals in Turkey

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Abstract

Background: Thesis is an important part of specialisation and doctorate education and requires intense work. The aim of this study was to investigate the publication rates of Turkish Public Health Doctorate Theses (PHDT) and Public Health Specialization (PHST) theses in international and Turkish national peer-review journals and to analyze the distribution of research areas.

Methods: List of all theses upto 30 September 2009 were retrieved from theses database of the Council of Higher Education of the Republic of Turkey. The publication rates of these theses were found by searching PubMed, Science Citation Index-Expanded, Turkish Academic Network and Information Center (ULAKBIM) Turkish Medical Database, and Turkish Medline databases for the names of thesis author and mentor. The theses which were published in journals indexed either in PubMed or SCI-E were considered as international publications.

Results: Our search yielded a total of 538 theses (243 PHDT, 295 PHST). It was found that the overall publication rate in Turkish national journals was 18%. The overall publication rate in international journals was 11.9%. Overall the most common research area was occupational health.

Conclusion: Publication rates of Turkish PHDT and PHST are low. A better understanding of factors affecting this publication rate is important for public health issues where national data is vital for better intervention programs and develop better public health policies.

Keywords: Bibliometrics, Mentor, Publishing, Research, Scientometrics, Turkey

Introduction

Scientific research is an integral part of postgraduate studies, aimed at teaching future scientists how to formulate a research question, to choose the proper scientific method, to carry out the research, to present research data and to achieve clear and simple conclusions. The acquired new knowledge usually contains important data about the relevant country and the world. Thesis is an important part of specialisation and doctorate education and requires intense work. In Turkey, a medical doctor can obtain a graduate degree in public health in two different ways: the first is to make a PhD and

the second is to specialize in public health. Medical specialisation or PhD training is completed after submission and defence of a thesis in many countries and Turkey (1-8).

As with any research, a thesis should not be considered to be complete before its results are available to people who might use them, i.e. public and scientific community. Publication of a thesis in the form of scientific article, although not officially required by any statement or regulation during the study period, is the best test available for the quality of performed research work (2,3,5). Publication

of the theses disseminates new knowledge and completes the scientific study process (3). Whether the potential users are clinicians, researchers or public, results are not available until a paper is published. Publication in a peer-review journal is also considered that the knowledge produced during the thesis work is acceptable in the scientific community (1,4).

Previous studies performed in developed and developing countries suggest that publication rate of theses is not very high and ranges between 1.2 to 52.3 % (1,2,4,5,7,8). The aim of this descriptive study was to investigate the publication rate of Turkish Public Health Doctorate Theses (PHDT) and Turkish Public Health Specialization Theses (PHST) in international and Turkish national peer-review journals and to analyze the distribution of research areas.

Methods

All PHST and PHDT indexed by the end of September 2009 were retrieved from the thesis database of the Council of Higher Education of the Republic of Turkey where all specialization and doctorate theses are recorded obligatorily since 1978, on 30 March 2010. Theses published in the previous six months were excluded since publication of a manuscript usually takes at least six months.

Theses i) which were not from medical faculties ii) address of which were not Public Health Department or Health Sciences Institute (Social Sciences Institute, veterinary etc.) were excluded.

Between 31 March and 5 May 2010, the publication status of these theses was searched in PubMed, Science Citation Index-Expanded (SCI-E) database, Turkish Academic Network and Information Center (ULAKBIM) Turkish Medical Database, and Turkish Medline (<http://www.medline.pleksus.com.tr>) for author and mentor of the thesis. The theses which were published in journals indexed either in PubMed or SCI-E were considered as international publications, even if the journal was published in Turkey. Statistical analysis was performed by using Chi-square by using SPSS 11.0. A *P* value less than 0.05 was considered significant.

Results

Our search yielded a total of 538 theses (243 PHDT, 295 PHST). It was found that the overall publication rate in Turkish national journals was 18% (97/538). The rates for PHDT and PHST were 14.8% (36/243) and 20.7% (61/295), respectively. The overall publication rate in international journals was 11.9% (64/538). The rates for PHDT and PHST were 9.9% (24/243) and 13.6% (40/295), respectively (Table 1). Eight theses were published both in national and international journals and one thesis was published two times in international journals.

The first author was thesis author of the thesis in 85.5% (83/97) of articles published in national journals and 70% (45/64) of articles published in international journals. It was the mentor in 8.2% (8/97) of articles published in national journals and 19% (12/64) of articles published in international journals. In 13 articles (Six national, seven international) the first author was neither mentor, nor the thesis author. In one of these 13 articles thesis author was not among the authors of the article.

When the research areas of the theses were investigated, the most common areas were found to be occupational health, reproductive health and infectious diseases and immunization (Table 1). When analyzed in terms of research areas, publication rate in international journals ranged between 0 - 50% for PHDT and 0 - 33% for PHST whereas publication rate in national journals ranged between 0 - 67% in PHDT and 0 - 75% in PHST (Table 1). When the overall publication rates of the theses areas were investigated, the most common areas were found to be smoking-alcohol-drugs (63%) followed by child and adolescent health-school health (46%) and geriatrics (40%) (Table 1). The highest international publication rate in PHDT theses was in psychiatry (50%), whereas in PHST it was child and adolescent health-school health and medical education (33%). The highest national publication rate in PHDT theses was in geriatrics (67%), whereas in PHST it was smoking-alcohol-drugs (75%) (Table 1).

Table 1: Distribution of theses and publications according to research areas

Research areas	Doctorate Theses			Specialization Theses			TOTAL	
	n	National (%n/Doctorate theses)	International (%n/Doctorate theses)	n	National (%n/Specialization Theses)	International (%n/Specialization Theses)	Theses (%n/Total theses)	Publication (%)
Occupational health	52	10 (19)	6 (12)	29	4 (14)	2 (7)	81	22 (27)
Reproductive health	29	5 (17)	3 (10)	47	11 (23)	5 (11)	76	24 (32)
Infectious diseases and immunization	28	4 (14)	1 (4)	36	7 (19)	8 (22)	64	20 (31)
Health administration	25	4 (16)	1 (4)	24	5 (21)	1 (4)	49	11 (23)
Chronic diseases	19	3 (16)	1 (5)	28	7 (25)	4 (14)	47	15 (32)
Child and adolescent health-school health	13	1 (8)	4 (31)	33	5 (15)	11 (33)	46	21 (46)
Other areas	18	2 (11)	2 (11)	13	2 (15)	1 (8)	31	6 (19)
Environmental health	11	1 (9)	0	21	3 (14)	2 (10)	32	2 (6)
Health economics	7	0	1 (14)	12	0	1 (8)	19	2 (11)
Psychiatry	8	1 (13)	4 (50)	10	1 (10)	1 (10)	18	7 (39)
Smoking-alcohol-drugs	8	1 (13)	1 (13)	8	6 (75)	2 (25)	16	10 (63)
Health education	9	0	0	7	2 (29)	1 (14)	16	3 (19)
Nutrition	3	0	0	12	5 (42)	0	15	5 (33)
Geriatrics	6	4 (67)	0	9	2 (22)	0	15	6 (40)
Medical education	5	0	0	3	0	1 (33)	8	1 (13)
Emergencies and accidents	2	0	0	3	1 (33)	0	5	1 (20)
TOTAL	243	36 (14.8)	24 (9.9)	295	61 (20.7)	40 (13.6)	538	161 (29.9)

Type of thesis (doctorate / specialization) did not have a significant effect on publication rates, neither nationally, nor internationally whereas theses after 2001 and later had significantly higher international publication rates when compared with theses before (15 / 302 vs. 45 / 236, Chi-square = 25.18, $P=0.0001$) but similar national publication rates (51 / 302 vs. 38 / 236, Chi-square = 0.016, $P=0.89$). International publication

/ international publication + national publication was also significantly higher after 2001 (5 / 37 vs. 59 / 124, Chi-square = 12.4, $P = 0.0004$).

Discussion

Although recognized by the scientific community as official scientific documents, theses are rarely read more than few scientists, because they are

usually available in the university libraries in the language where the thesis is performed but not in international databases (2,3). Thesis is an important part of specialization and doctorate education and requires intense work. The acquired new knowledge usually contains important data about the country and the world. Publication of the theses supply dissemination of new knowledge and completes the process of scientific study (1,3). Our findings suggest that publication rates of PHDT and PHST are very inadequate but these findings are in concordance with the previous findings. Yaman and Atay analyzed 227 Turkish sports sciences theses and reported 1.7% publication rate in international journals (4). Frkovic et al. reported that 34% of 634 PhD theses defended at the two major Croatian medical faculties (Rijeka and Zagreb) from 1990 to 1999, resulted in international publications (2). Salmi et al. analyzed publication rate of a sample of French theses presented in the 36 medical universities from 1993 to 1997 and reported that 17% resulted in international publication (1). Recently, Caan and Cole analyzed publication rates of 82 doctoral theses related to clinical research in England and reported 52.3% publication rate (8).

The fact that some students may finish the thesis as a ritual that is necessary for obtaining a degree may be effective in low publication rates (6). Like in France, presentation of the thesis itself is enough to finish doctorate or specialization education in Turkey (1). Thus there is no obligation that enforces the doctorate/specialization student to publish her/his thesis. However planning to be an academician may be a possible motivating factor that puts pressure on the student to publish his/her thesis. Even if this is the case, current Turkish academic promotion regulations are not motivating publication of theses (9). In Turkey an academician who wants to be an associate professor needs to admit to a nationally-organized examination arranged by Council of Higher Education of the Republic of Turkey. To enter this examination the minimum academic criteria which took effect in 2001 and did not change until now are i) to have published at least one original article that the associate professor candidate is the

first author in a journal indexed in Science Citation Index-expanded. ii) to have published at least two additional original articles in a journal indexed in Science Citation Index-expanded. However, publications relevant to the doctorate thesis or specialization thesis are not included in these minimum criteria. Despite the fact that these criteria are not in favor of publications by students, they might also have been effective on the high motivation of the mentors to be the first author in the publications related to their student's thesis observed in our sample, since the mentioned criteria do not exclude such articles for the mentors. In addition our results suggest that these criteria increased the overall international publication rate. Besides the student, if the mentor also does not insist for publishing (due to lack of time, interest or motivation), the two most important forces, i.e. student and mentor who may publish the thesis, become demotivated. Poor quality of data or rejection by journals might also have augmented low publication rates (6).

We found that publication rates of theses in international journals were about 3/5 of publication rates in national journals. This may possibly be explained by the authors being non-native speakers of English. Another factor may be the fact that the theses' subjects might have been found as local problems by international journals' peer-reviewers.

The most common research areas of PHDT and PHST were occupational health, reproductive health, and infectious diseases and immunization. A possible reason of this situation may be the "developing country" status of Turkey. However, in contrast to the most common research areas the most common publication rates of the theses areas were found to be smoking-alcohol-drugs (63%) followed by child and adolescent health-school health (46%). We may speculate that this may be due to the global problem of smoking-alcohol-drugs. Further research may delineate this contrast situation.

An important advantage of our study is that in contrast to other studies published in the literature; we did not only search the published theses in international databases but in the national data-

bases. However we cannot exclude the small possibility that some of the theses might have been published in journals that have not been indexed in the databases included in our study. Another advantage of the study is that we included all the PHDT and PHST theses but not a specific sample (1,2). However a disadvantage of our method is the fact that it might have been affected by surname changes due to marital status. Despite all, to our knowledge this is the first study analyzing publication rates of PHDT and PHST.

Conclusion

Publication rates of Turkish PHDT and PHST are low. Solutions must be generated to promote the publication of specialization and doctorate theses. The obligation to prepare a manuscript ready to be submitted to a journal or putting thesis derived publications into academic promotion criteria may theoretically be good ways to increase the publication rates, but even these may be insufficient to increase the publication rates (1). A case-control study may help understanding the factors effecting publication of theses.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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