

In conclusion, the parents should be informed systematically on the harmful effects of passive smoking on children by health workers, nurses, pediatricians, and family physicians. If the parents do not want to, and cannot quit smoking, it is important to advise them not to smoke next to their children.

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References

1. Mannino DM, Siegel M, Husten C, Rose D, Etzel R. Environmental tobacco smoke exposure and health effects in children: results from the 1991 National Health Interview Survey. *Tob Control* 1996; 5: 13-18.
2. World Health Organization. International Consultation on Environmental Tobacco Smoke (ETS) and Child Health Consultation Report. Geneva: World Health Organization. 1999 Oct 17, 2006; Available from URL: http://www.who.int/tobacco/research/en/ets_report.
3. WHO Health Organization Regional Office for Europe. The European report on tobacco control policy. Review of implementation of the Third Action Plan for a tobacco-free Europe 1997-2001. WHO European Ministerial Conference for a Tobacco-free Europe (Feb 18th-19th, 2002, Warsaw, Poland), WHO Regional Office for Europe, Copenhagen, 2002 Oct 17, 2006; Available from URL: <http://www.unicri.it/wwk/publications/dacp/legislation/tobacco/nto%202002%20who%20varsavia%20conf%20tabacco%20free%20europe%20en.pdf>
4. Crone MR, Reijneveld SA, Burgmeijer RJ, Hirasings RA. Factors that influence passive smoking in infancy: A study among mothers of newborn babies in the Netherlands. *Prev Med* 2001; 32: 209-217.
5. Johansson A, Halling A, Hermansson G. Indoor and outdoor smoking: impact on children's health. *Eur J Public Health* 2003; 13: 61-66.
6. Kara İH, Sıtmacınar K. Aile Hekimliği Polikliniğine başvuran çocuklarda pasif sigara içiciliğinin solunum sistemi üzerine etkileri. *Türk Aile Hek Derg* 2006; 10: 55-59.

Analysis of Saudi Medical Journal publications in PubMed, January 2001-November 2006

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PubMed is not only a simple search engine for biomedical citations, but also a powerful tool to conduct certain statistical analyses.¹ Therefore,

analysis of PubMed publications as an indicator of the research productivity of individual countries, regions, or institutions has recently become a field of interest.² The aim of this work was to perform analysis of the last 6-years health publications produced in the Saudi Medical Journal (SMJ) from 2001 to 2006 in PubMed, to compare the progress in number of its publications, to study the types of these publications, and to examine the average number of authors distributed according to both the country and the type of publications during this period.

A search strategy was undertaken by including the name of Saudi Med J[ta] and letting it directed to PubMed within a single hour limit (November 30th, 2006). The number of PubMed- listed biomedical studies published from 1st January 2001 until 31st November 2006 totaled 2476 citations. The search was then saved in a Medline format of 5 text files, each of them comprised of 500 publications (the maximum sized text file PubMed allows to display and save its search findings) except for the last file of 476 publications. The 5 text files were then converted using a locally designed visual basic program with the technical assistance of a computer programmer, into 5 Microsoft Excel files including the same fields of the Medline format text file. The Excel files' fields started with the publication Medline identification number (PMID) and ended with the source of publication (SO). Then all the 5 Excel files were merged into one file that was captured as a new database query via SPSS software ending with a 2476 record SPSS data file format, including all and the same fields of the Medline format of these publications. The SPSS data file was then conventionally subjected to data management, and 10% of its records (250 studies) were randomly selected using its PMID and cross-validated against the original text file to guarantee the soundness and correctness of its fields after the conversion process. Cross validation revealed a zero defect in the conversion process of fields, except for the truncation of the abstract field (which was not included in the paper analysis) to only 256 characters. The next stage was to determine the variables for analysis for the current study, and to delete the columns including variables that would not be used in the current study. The variables included in the file used in the current study were: PMID, country of the study (from the original MEDLINE "AD" or the affiliated department of the first author), year of publication (from "DP" or date of publication), title of the study (from "TI"), the complete source of publication (from "SO"), number of authors for each publication (using the transform function module of SPSS, namely, recode and compute the original MEDLINE field(s) "AU"), and the type of publication as original article, review, clinical trial, case reports, or others (from the original

“PT” MEDLINE field). Added to the aforementioned 7 original variables, was another variable: the annual number of publications for each of the 6 studied years. After the management phase, analysis of the data was carried out using Excel and SPSS version 9.0. Data are given as counts, means, and percentages. The likelihood Chi squared test examined the distribution of data, while group means were compared using Analysis of Variance or General Linear Model Univariate Analysis of Variance (Bonfornni method for confidence interval adjustment). Time trend analysis to show the linear or the exponential increase of a certain variable over the studied 6 years was carried out using the curve estimation option under regression analysis. However, the graphs were not displayed in this paper due to limitation of space.

The journal showed a significant exponential increase in its publication from 2001 to 2006 ($F=4952, p=0.000$). To overcome the missing number of publications of December 2006, the average number of publications of the same year was added to the total number of publications from January 2006 to November 2006. Disaggregating by group of countries showed that authors affiliated to the Kingdom of Saudi Arabia (KSA) institutions followed by authors from other Arab and African countries and then GCC countries showed the highest rate of increase respectively.

Researchers working in the KSA published 46.6% of the total publications in the SMJ in the studied

period. The share of the GCC countries publications from the total number of publications averaged around 11% of the overall publications, whereas Arab countries (16.5%) and Turkey had a higher share (13.6%). The review articles constituted only 4.4%, and clinical trial articles constituted only 4% from the total publications (Table 1). Disaggregating the types of publications by country, the group of Western countries, South America, and Japan produced more review articles (11%), and Iran produced more clinical trails than other countries (8.3%). The average number of authors for the overall publications was 3.1 and the percentage of articles with single author was 23.1%. The average number of authors was significantly lower in papers with authors working in the KSA (mean=2.94), with 27.7% of the articles by a single author, where it was the highest in Turkey (mean=4.51), with only 4.1% of the articles with single author. The average number of authors differed also significantly according to the type of the study, where it was 2.2 in review articles and 4.1 in clinical trials. There is a significant increase in the mean number of authors per publications over the studied years, even after controlling for the country of origin and type of publication ($F= 8.67, p=0.000$).

The number of scientific publications is often used to measure scientific achievement. However, the advantages of PubMed as a powerful database and searching tool may be easily degraded if the user does not utilize proper keywords or implement correct syntaxes

Table 1 - Total number of publications in the Saudi Medical Journal distributed by countries' groups and type of publication.

Country	Average number of authors per publication by countries' groups (n=2330)	Number of articles (%)					Total
		Journal article	Review	Clinical trial	Case report	Others	
Kingdom of Saudi Arabia	2.94	814 (74.5)	68 (6.2)	35 (3.2)	156 (14.3)	20 (1.8)	1093 (100)
Other GCC countries	3.08	183 (70.7)	11 (4.2)	5 (1.9)	60 (23.2)	0 (0)	259 (100)
Arab and African countries	2.9	306 (79.7)	8 (2.1)	31 (8.1)	38 (9.9)	1 (0.3)	384 (100)
Asian countries	3.27	39 (66.1)	1 (1.7)	2 (3.4)	17 (28.8)	0 (0)	59 (100)
Iran	3.54	91 (84.3)	1 (0.9)	9 (8.3)	7 (6.5)	0 (0)	108 (100)
Turkey	4.51	257 (80.8)	2 (0.6)	11 (3.5)	47 (14.8)	1 (0.3)	318 (100)
West countries, South America and Japan	3.07	83 (76.1)	12 (11)	0 (0)	14 (12.8)	0 (0)	109 (100)
Total publications	3.2	1773 (76.1)	103 (4.4)	93 (4)	339 (14.5)	22 (0.9)	2330 ^{†*} (100)
F= 32.19, p=0.000							
Average number of authors per publication by type of publications (n=2476) (F=43.02, p=0.000)		3.31	1.76	3.48	3.04	1.72	3.11

[†]Likelihood Chi squared = 129.86; p=0.000,

*PS - 146 publications (5.9% of the total 2476 journal publications) were not included in this cross-tabulation because of missing of authors' affiliation department in PubMed and belonged mostly to either letter section, news, or historical articles.

GCC - Gulf Cooperation Council

which could lead to biased results or even sometimes be misleading.³ The percentage of the GCC countries publications from the total number of publications in the journal was neither satisfactory in its number (relative to Turkey and other Arab countries), nor its rate of increase over the studied year. Therefore, the SMJ as a leading journal in the Gulf and in the Arab world has to work on attracting more researchers and publications from the other GCC countries.

Giving the credit of authorship in biomedical publications sounds straightforward only in theory. In practice, the question of authorship is vexed.⁴ Number of authors per paper published in most medical journals is also gradually increasing.⁵ Similarly, the current study shows that there was a significant increase in the number of authors per publications over the last 6 years in the journal even after controlling for the type of publication and the group of countries to which authors were affiliated to. However, the KSA showed the least average number of authors per publications relative to other countries despite its exponential increase in the number of publications from the Kingdom. Another study analyzing GCC countries publications in the last 10 years also proved that the SMJ had a significantly lower number of authors per publication relative to other journals in which GCC countries authors published their research.⁶ That could be explained by the strong ethical awareness of the Saudi authors, as well as the SMJ, to the criteria of authorship. However, the trends of increasing number of authors per article over the studied years could also imply positive aspects as the increasing complexity of research, the multidisciplinary nature of research especially in clinical trials, and researchers' networking and cooperation inside and outside their countries.⁷ The review articles only constituted 4.4% from the total publications, whereas clinical trials constituted 4%. Review articles and clinical trials constituted 12% and 5% from the overall PubMed publications for the whole world during the same period. Such a finding denotes

that the journal published less review and clinical trials articles than other journals. That could be explained by the relatively short experience of the authors in the Gulf region, or by the poor access to full articles for some researchers, which is necessary to conduct review studies. Such an argument could also be ascertained through our findings that authors from the West, South America, and Japan countries' group had 11% of their publications as review articles and Iran had 8.3% of their publications in the SMJ as clinical trial articles. However, barriers in writing review articles in the region should be identified and appropriate measures should be taken accordingly.

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References

1. Tadmouri GO, Tadmouri NB. Biomedical research in the Kingdom of Saudi Arabia (1982-2000). *Saudi Med J* 2002; 23: 20-24.
2. Tutarel O. Geographical distribution of publications in the field of medical education. *BMC Med Educ* 2002; 2: 3-10.
3. Robinson KA, Dickersin K. Development of a highly sensitive search strategy for the retrieval of reports of controlled trials using PubMed. *Int J Epidemiol* 2002; 31: 150-153.
4. Bhopal R, Rankin J, McColl E, Thomas L, Kaner E, Stacy R, et al. The vexed question of authorship: views of researchers in a British medical faculty. *BMJ* 1997; 314: 1009-1012.
5. Zetterstrom R. The number of authors of scientific publications. *Acta Paediatr* 2004; 93: 581-582.
6. Afifi M. Analysis of ten-years GCC Countries' health publications in PubMed, 1996-2005. *Saudi Med J* (In press).
7. Rennie D, Yank V, Emmanuel L. When authorship fails: A proposal to make contributors accountable. *JAMA* 1997; 20: 579-585.