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Research Article

Accuracy of Published Advertisements in Three Distinguished Urology Journals in 2010 and 2011: A Critical Point of View

Mohaddeseh Mokhtarkhani^a, Zahra Torabie^a, Negar TaleschianTabrizi^a, Sanaz Beig-Zali^a, Sakineh Hajebrahimi^{b*}

a: Student Research Committee, Iranian Center for Evidence Based Medicine, Tabriz University of Sciences, Tabriz, Iran

b: Urology Department, Iranian Center for Evidence Based Medicine, Tabriz University of Sciences, Tabriz, Iran

Correspondence

Professor Sakineh Hajebrahimi
Urology Department, Iranian
Center for Evidence Based
Medicine, Tabriz University of
Sciences, Golgasht Street
P.Code: 5166614766
Tabriz, Iran
Tell: +98 411 3342219
Email: Hajebrahimis@gmail.com

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Abstract

It is vital to evaluate whether a restrictive procedure is applied for selecting advertisements and assess their adherence to the available evidences in medical journals. This descriptive study was carried out to determine validity of the published ads in journals. The advertised drugs and interventions in urology journals of three top urological associations, published in 2010 and 2011, were surveyed. The study of the articles generated a low number of systematic reviews; 27.77%, among which 54% were exactly relevant to the effectiveness of drugs and 22% were recommended by SRs as highest level of evidences. Based on the systematic review, the validity of the advertised drugs was not high. Publishing the advertisements without sufficient supportive evidence could possibly lead to a degree of mistrust among the medical society. This study suggested additional filtration for the acceptance of the ads in journals.

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Introduction

Annually, a large volume of medical journals are being published all over the world. Some of them were known as internationally high impact, reliable and trustworthy resources among physicians. The articles published by international journals are being selected strictly and are almost should be evidence-based. Pharmaceutical advertisement is one of the important methods of spreading the information about drugs to the concern physicians or Prescribers [1-3]. Regulations in developed countries mandate that journal advertisements for drugs must provide sufficient, reliable information for physicians to use the medications appropriately[4]. Doctors should be cautious in assessment of advertisements[5]. According to ethical issues, the advertisement should contain valid information and sufficient literature support about the claims made in support of a medications due to the prescribing behavior of physicians[3, 6]. This fact becomes more serious when the advertised drug is presented in an internationally approved journal. However, critics have raised concerns about the quality of the information presented in these physician-directed advertisements, including a focus on relative, not certain, benefit and poor referencing and several studies have assessed the quality of pharmaceutical advertisements by considering different aspects and outcomes[4, 7]. These concerns are not new issues: a committee on pharmaceutical

advertising convened by the New York Academy of Medicine in 1962 raised questions of pharmaceutical advertising. Majority of the advertisements that are published in Medical Journals are not to spread awareness and help rational prescribing, but to promote the drugs[3]. It has been demonstrated that physicians commonly use information obtained in journal advertisements as a source for drug, which directly affects prescribing habits. Michael S. Wilkes et al indicated that in 44% of the cases, advertisement would lead to improper prescribing if a physician had no other information about the drug other than that contained in the advertisement[8]. Since up to 80% of medical expenditures can be affected by physician prescribing behavior, manufacturers of drugs and medical devices have strong economic motivation to influence physicians through advertisements[9]. Despite of commercial purposes and thus generally low credibility of the advertisements, medical drug promotion is an important filter for the medical knowledge[10]. Also have assessed the quality of pharmaceutical advertisements by considering different aspects and outcomes[1]. The accuracy of the drug advertisements in medical journals and direct-to consumer advertisements in relation to cited scientific material has been addressed by and inaccurate or misleading claims in drug advertisements have been identified[11]. Also BhattacharyyaT, et al. surveyed orthopedic advertisements and concluded that Orthopedic surgeons should interpret claims made in orthopedic print

advertisements with caution. Approximately half of the claims are not supported by enough data to be used in a clinical decision-making process[12]. A survey also indicated that evidence based advertisements in journals of rheumatology were few[13]. In 2009, Othman et al conducted a systematic review to conclude such researches that showed poor quality of advertisements in medical journals[5]. However, were done with a critical point of view to aspects such as Study Quality, Type of References, Presentation of Risk Results, Conflicts of Interest, etc[4, 5]. While accepting the importance of these outcome measures, the aim of this study was to assess the validity of the advertisements published in the urological journals according to the effectiveness of the drugs considering the fact that the most clinically functional aspect of a drug is its total effectiveness.

Methods

A descriptive, cross sectional study was conducted for evaluation of the advertisements of drugs and interventional devices which were extracted from randomly selected top urology journals published in 2010 and 2011. Seasonal distributions considered in randomization. These journals included *The Journal of Urology* the official journal of the American Urological Association (AUA), *Urology* published by SIU (Official Journal Of Societe International D'urologied'), and *European Urology* published by EAU (Official Journal of the European Association of Urology). The aforementioned journals are amongst the highly cited journals in the field of urology; noted as Top Urology Journals in academic.research.microsoft.com website ranking 1st, 2nd and 7th respectively. And also they are among high impact factor journals of urology (<http://impactfactor.weebly.com/renal.html>). The total number of the monthly-pressed journals for the three mentioned associations was 16 in this study. For all drugs and interventional devices, systematic review and Randomized Controlled Trials (RCTs), if existed, were precisely studied through Cochrane, PubMed, Google- Scholar and Trip database. In the case a drug had any Systematic Reviews (SRs), SRs were preferred over RCTs. Searching strategy was to limit the articles to Systematic Review (if available) or RCT and both generic or commercial labels in title considered. The criteria for evaluations were the results reported in SRs which were appraised by SR Appraisal Sheet of Oxford University, 2005. Financial Conflicts of interests can influence how drug trials are designed and carried out[1, 2]. Similarly, industry support of systematic reviews and meta-analyses has been associated with conclusions more likely to favor a sponsor's drug comparing with the ones which were not linked to industry [3, 4]. To limit this potential bias, the companies providing financial supports for these researches were considered and SRs or RCTs sponsored by the pharmaceutical industry were excluded from the study. In order to obtain the desired data from SRs, two factors, Relative Risk (RR) and the range of 95% Confidence Interval (95%CI) were studied. The drug for which RR was reported bigger than 1, CI was checked for certainty and was declared as an effective drug. In the cases RR was reported equal 1 or smaller than that, the drug was spotted as an ineffective. For surveying the drugs which did not have any Systematic Reviews, Randomized Controlled Trials were studied. RCTs were first appraised by the standard checklist of CASP (Clinical Appraisal Skilled Programme) and Absolute Risk Difference (ARD) and/ or Number needed to treat was the main efficacy mark for RCTs. Finally, the collected data were transferred to SPSS¹⁶ for analysis.

Results

For the sample of sixteen issues of journals in the field of urology published between 2010 and 2011, eighteen unique advertisements were obtained. Among the total of eighteen

advertisements, sixteen (89%) were related to single drugs, one (5.5%) was related to chemotherapy and one (5.5%) for interventional device.

Some ads mentioned more than one pharmaceutical product. Some of the drugs were manifested as their generic names and some as their trade labels.

Among sixteen drugs, no RCTs were found for four of advertised drugs, this indicated lack of evidence. For five drugs less than five RCTs were found and for eleven drugs more than 10 RCTs were found. Totally 81 related RCTs selected and appraised.

Through searching for advertisements, only 27.77% had SRs, among which 54% were exactly relevant to the effectiveness of drugs. Among those which did not have any SRs, 69% had RCTs.

Among all the systematic reviews retrieved, 54% were exactly relevant to the effectiveness of the drugs, while the rest were about other aspects of the drugs not their effectiveness. The rate is almost in average. Totally 22% of the drugs were recommended by SRs (RR>1). This means that among the low rate of 27% of all advertisements possessing SRs, they supported and recommended only 22% of the drugs. For studying the advertisements which did not have any systematic reviews, randomized controlled trials were investigated. This paper illustrated that among the ads which did not have SRs, 69% had RCTs and 23% of the published advertisements had neither SRs nor RCTs. This rate is not pardonable.

To determine whether the claims were evidence-based, the RCT supported the claims. According to CASP checklist, 97% of RCTs represented a clear question to define population, intervention and outcomes of the studies. Randomization methodology was unclear. The percentage of blinding the study for its participants, staff and study personnel was 58. The RCTs' sponsors were also considered, although the RCTs with drug companies supports excluded, less than half of the rest RCTs showed enough effect size (ARD>0 with narrow CI). A considerable rate of 23 percent of the advertisements had neither SRs nor RCTs, in spite of the general explanation of the medical society, while 27% had SRs and the rest 50% had only RCTs (Fig 1).

Discussion

This study aimed to evaluate validity of advertised drugs in the top international Urology journals of three associations. A good way for evaluating validity and reliance of advertised drugs is to assess the published articles and their adherence to best available evidences. For the ads to have the rate of 27.77% SRs is too low. It showed the low level of evidence of the ads which are being published in the international reputed special medical journals. Recommendation of the systematic reviews for only 22% of the drugs shows that though some drugs have SRs, they are not all recommended by the SRs. This little percentage indicates the low validity of the advertisements published in medical journals.

Precise study of the RCTs and screening them by the CASP checklist lead to slightly unexpected results. The high 97% for RCTs indicates that in most articles (RCTs), the questions introducing the subject in title or abstract were clearly advanced. But less than 60 % followed valid randomization and/or blinding method, and unfortunately most of big RCTs were supported by drug companies.

Despite the general expectation of medical society, a considerable rate of 23 percent of the advertisements had neither SRs nor RCTs, in a total statistics.

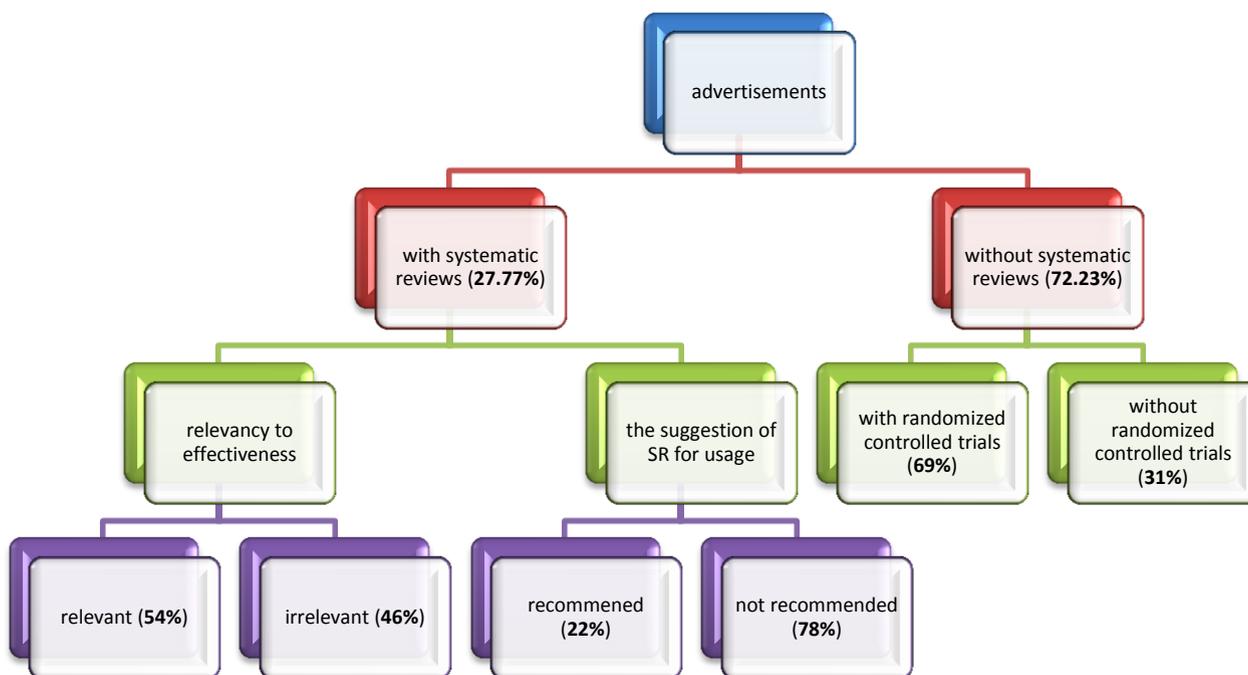


Figure I. Classification of the relevancy of the advertisements published in urology journals

The results indicated that there had been some ads with no or low supportive evidence background published in these top journals, on contrary to expectations. As these journals known to be reliable and trustworthy among experts, it is expected that they promote the best drugs and interventional devices available to experts. The ads have great influence on physicians and their decision-making, furthermore increasing in prescription of advertised drugs were reported[14]. Previous studies proved the importance of advertisements and their quality of reporting and validity. Studies surveyed on various journals published in different zones, had approved that the quality of advertisements was poor [5, 6]. In addition orthopedic advertisements studies showed less than half evidence support (12). As a matter of fact, the large numbers of ads in these journals were evidence based and reliable but publishing even small number of non-evidence based drugs in these journals seems to be not acceptable. Publishing non evidence based drugs among credible drugs might lead to mistrust in medical society. Having some unreliable ads in such journals illustrated the fact that the procedure for selecting the ads was not that much strict as their selection of articles for publishing, and might allow publishing untrustworthy ads, which may threaten health of society because of misleading the specialists. The financial outcomes of advertisements and the fact that they are known as the profitable marketing strategy probably might affect the publishers to ignore the validity of advertisements and they might prefer the profits to the quality of advertised drugs. On the other hand, Vlassoy V, et al. reported that facing severe financial restrictions, medical journals accept the poor-quality advertisements that seem to accompany them[4]. We conclude that, more constrictive procedure and evaluating advertisement before publication in spite of profits should be performed.

Conclusion

Despite the international fame and reliability of scientific subject matters of top journals, the advertisements published through such journals seem not to be valid as expected. It is recommended that the journals provide a clear guideline for acceptance of advertisements to improve quality of them and even note disclaimer message for readers/clinicians.

References

1. Levy R: The role and value of pharmaceutical marketing. *Arch Fam Med* 1994, 3(4):327-32.
2. Wind Y: Pharmaceutical advertising. A business school perspective. *Arch Fam Med* 1994, 3(4): 321-3.
3. Charan J, Yadav P, Saxena D, Kantharia ND: Drug advertisements published in Indian Medical Journals: Are they ethical? *J Pharm BioalliedSci* 2011, 3(3): 403-6.
4. Vlassov V, Mansfield P, Vlassova A: Do drug advertisements in Russian medical journals provide essential information for safe prescribing? *West J Med* 2001, 174(6): 391-4.
5. Villanueva P, Peiro S, Librero J, Pereiro I: Accuracy of pharmaceutical advertisements in medical journals. *Lancet* 2003, 361(9351): 27-32.
6. Korenstein D, Keyhani S, Mendelson A, Ross JS: Adherence of pharmaceutical advertisements in medical journals to FDA guidelines and content for safe prescribing. *PLoS One* 2011, 6(8): e23336.
7. Othman N, Vitry A, Roughead EE: Quality of pharmaceutical advertisements in medical journals: a systematic review. *PLoS One* 2009, 4(7): e6350.
8. Wilkes MS, Doblin BH, Shapiro MF: Pharmaceutical advertisements in leading medical journals: experts' assessments. *Ann Intern Med* 1992, 116(11): 912-9.
9. Del Signore A, Murr AH, Lustig LR, Platt MP, Jalisi S, Pratt LW, Spiegel JH: Claim validity of print advertisements found in otolaryngology journals. *Arch Otolaryngol Head Neck Surg* 2011, 137(8): 746-50.
10. CambroneroSaiz B, Ruiz Cantero MT, PapíGálvez N: Quality of pharmaceutical advertising and gender bias in medical journals (1998-2008): a review of the scientific literature. *GacSanit* 2012, 26(5): 469-76.

11. Santiago MG, Bucher HC, Nordmann AJ: Accuracy of drug advertisements in medical journals under new law regulating the marketing of pharmaceutical products in Switzerland. *BMC Med Inform Decis Mak* 2008, 8: 61.
12. Bhattacharyya T, Tornetta P 3rd, Healy WL, Einhorn TA: The validity of claims made in orthopaedic print advertisements. *J Bone Joint Surg Am* 2003, 85-A(7): 1224-8.
13. vanWinkelen P, van Denderen JS, Vossen CY, Huizinga TW, Dekker FW: How evidence-based are advertisements in journals regarding the subspecialty of rheumatology? *Rheumatology (Oxford)* 2006, 45(9): 1154-7.
14. Spurling, GK, Mansfield PR, Montgomery BD, Lexchin J, Duost J, Othman N, et al: Information from pharmaceutical companies and the quality, quantity, and cost of physicians' prescribing: a systematic review. *PLoS Med* 2010, 7(10): e1000352.