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

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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.

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 Bhattacharyya T, 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 OfSociete Internationale D’Urologie ), 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/urol.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 compared 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 investigated. 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. The ads to have the rate of 27.77% SRs and the rest 50% 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 personal was 58. The RCT’s 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.
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, Vlassov 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.

Conclusions

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


