



Assessment of Perception, Knowledge and Practice of Healthcare Professionals Regarding Pharmaceutical Advertisement (PA) in Pakistan

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ABSTRACT

Pharmaceutical advertising (PA) affects both healthcare professionals and consumers. Ethical and legal challenges of PA are often odious and unmet to the standards. This study was designed to assess perceptions, knowledge, and practices of healthcare professionals towards pharmaceutical advertisement in Pakistan. A survey-based descriptive cross-section study, of 764 sample records and analyzed by SPSS, version 21. A Chi-square test was performed ($p \leq 0.05$) to find out differences among variables. We found 34.8% (n=266) physicians, 8.4% (n=64) dentists, 13.6% (n=104) hospital pharmacists, 15.7% (n=120) community pharmacists, 8.4% (n=64) regulatory pharmacists, 8.3% (n=63) marketing pharmacists and 10.9% (n=83) physicians and pharmacists from distributions and other relevant fields participated in this study. The result showed that 81.4% (n=622) believed that medical advertisements should seek government approval, 71.3% (n=545) assumed that only registered drugs could be advertised. 34.0% (n=260) answered only prescription drug could be advertised. 7.2% (n=284) showed a negative response towards advertised drugs. 33.0% (n=252) answered that advertising encourages the patients to decide on their choice of a drug without the help of a healthcare professional, while 31.4% (n=240) of the respondents were agreed that advertising provided reliable information regarding a medicine. 36.4% (n=278) of respondents were agree that advertisements increased drugs cost. 32.7% (n=250) and 37.4% (n=286) answered that patients buy an advertised drug without referring a doctor. This study concluded that the awareness regarding PA was low among the healthcare professionals in Pakistan. Healthcare professionals were in the favor of advertisement, regardless of little knowledge about the current advertisement rules in the country. Comparatively, Pharmacists have better knowledge of PA than physicians do.

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INTRODUCTION

According to World Health Organization (WHO), pharmaceutical promotion is defined as “all the informational and influential activities by manufacturers or distributors, which results to increase the prescription, supply, purchase or use of medicinal drugs” (Goyal, 2013). In Pakistan, drug licensing, registration and advertisement is apportioned under rules 1976. The federal government and advertising committee has approved and authorized the advertisement. However, they have withdrawn the approval of drugs mentioned in “Schedule D”

such as home remedies aspirin, paracetamol, analgesic balm, antiseptics, anti dandruff, dental preparations, antacids, carminative mixtures, cod-liver oil and contraceptives. Moreover, PA is permitted for medical professionals such as doctors, pharmacists and allied health professionals via medical representatives, professional journals and publications ([Drug Regulatory Authority of Pakistan, 2020](#)). There are several countries, such as New Zealand and USA, which sponsor direct PA to consumers. However, Canada is bound to limited access for direct advertisement ([Ventola, 2011](#)).

Pharmaceutical advertising has various impacts on both healthcare professionals and consumers in different ways, though pharmaceutical companies merely follow this custom for their financial gain ([Ahmad et al., 2011](#)). Many prescribes found engaged in the form of financial incentives and other compensations from pharmaceutical manufacturers ([Shalowitz et al., 2016](#)). To reduce the impact on biased prescribing, which is influenced by predictive marketing, the interaction between pharmaceutical companies and health professionals must be revealed ([Tattersall et al., 2009](#)). According to Norris et al., private practitioners suggested that PA is one of the useful tools for knowledge refresher and understanding the new drugs, but this discernment proved that PA was a biased practice in the era of prescribing because those healthcare professionals influenced under marketing activities were found less suitable to prescribe appropriate medication and they adopted new medications promptly ([Norris et al., 2005](#)). Leading drug companies mostly invest more on commercialization rather than research and development ([Angell, 2004](#)). Pharmaceutical marketing impact in Pakistan illustrates that medicines being promoted to the prescribes are prescribed quickly, and physicians rely most on the information provided by pharmaceutical companies regarding their products ([Aamir and Zaman, 2011](#); [Rohra et al., 2008](#)).

Keeping in view, we have designed this study to assess perceptions, knowledge and practices of healthcare professionals towards pharmaceutical advertisement in twin cities of Pakistan (Rawalpindi and Islamabad).

MATERIALS AND METHODS

A descriptive cross-sectional study was designed to assess perceptions, knowledge and practices of prescribers and pharmacists. This survey was conducted during the period of April 2017 to November 2017. According to the requirement of the National Bioethical Committee (NBC), ethical approval was

granted from the Ethics committee of Hamdard University for proceeding with this research. The entire respondents (medical superintendent of the hospitals) were consented and guaranteed for the confidentiality of information through a signed undertaking by the principal investigator. The setting of this research included public and private health-care facilities and offices of the regulators, while the study population included Prescribers, Hospital pharmacists, Community Pharmacists, Pharmacists working in regulatory authorities, and Pharmacists working in sales and marketing department of pharmaceutical industries were sampled conveniently for the collection of prospective data through a validated and pretested questionnaires under the supervision of thesis supervisor. Incomplete and unreadable responses were excluded from the total sample size, respectively 382 sample records collected from Rawalpindi district and 382 from Islamabad district of a total of 764 to achieve a 95% confidence interval with a 5% margin of error that is calculated with the help of Rao soft sample size. Pilot testing was done to test the reliability of the tool after data collection of 10% of the total sample size. Statistical tests were run and Cronbach's alpha, value was calculated, which was 0.687 that confirmed acceptable value within protocol limit. Finally, the collected data was coded and entered in SPSS version 21 for analysis. A Chi-square test was performed ($p \leq 0.05$) to find out differences among variables.

RESULTS AND DISCUSSION

Demographical Characteristics of Healthcare professionals

Out of 764 respondents, 60.9% (n =465) were from Islamabad while the remaining 39.1% (n=299) were from Rawalpindi among them 63% (n=481) were male while 37% (n=283) were female. 18.1% (138) of the participants belonged to rural areas and 81.9% (n=626) from urban areas. Respondents working in public sector 43.7% (n=334) and 56.3% (n=430) were working in private sector. Of the total respondents, 34.8% (n=266) were physicians, 8.4% (n=64) were dentists, 13.6% (n=104) were hospital pharmacists, 15.7% (n=120) were community pharmacists, 8.4% (n=64) were regulatory pharmacists, 8.3% (n=63) were marketing pharmacists and 10.9% (n=83) were the physicians and pharmacists from distributions and other relevant fields those can be influenced by pharmaceutical advertisements.

Knowledge of healthcare professionals towards pharmaceutical advertising

Table 1: Pharmaceutical advertising and knowledge of healthcare professionals

| Variable | Yes n (%) | No n (%) | Not Sure n (%) |
|--|------------|------------|----------------|
| Only drugs without any side effects are Allowed to be advertised to the public | 370 (48.4) | 335 (43.8) | 59 (7.7) |
| Medical advertisements should seek Government approval | 622 (81.4) | 112 (14.7) | 30 (3.9) |
| Only registered drugs are allowed to be Advertised | 545 (71.3) | 185 (24.2) | 34 (4.5) |
| Direct advertising of prescriptio -only Drugs to the pu lic is permitted | 260 (34.0) | 405 (53.0) | 99 (13.0) |
| Direct adverti ng of over the counter Products to the public is permitted | 438 (57.3) | 241 (31.5) | 85 (11.1) |
| Only safe medicines are allowed to be Advertised to the public | 513 (67.1) | 195 (25.5) | 56 (7.3) |

Table 2: Perceptions of healthcare professionals towards pharmaceutical advertisements in respect of improving patient compliance

| Variables | Strongly disagree n (%) | Disagree n (%) | Neutral n (%) | Agree n (%) | Strongly agree n (%) |
|--|-------------------------|----------------|---------------|-------------|----------------------|
| Advertised drugs are better than non-advertised drugs | 155 (20.3) | 284 (37.2) | 155 (20.3) | 141 (18.5) | 29 (3.8) |
| Pharmaceutical advertising encourages patients to decide on their choice of a drug without the help of a healthcare professional (physician, pharmacist, etc.) | 166 (15.2) | 252 (33.0) | 164 (21.5) | 185 (24.2) | 47 (6.2) |
| Pharmaceutical advertising provides reliable information regarding a particular medicine. | 66 (11.1) | 219 (28.7) | 192 (25.1) | 240 (31.4) | 47 (6.2) |
| Pharmaceutical advertising informs a patient of potential side effects | 85 (11.1) | 264 (34.6) | 160 (20.9) | 214 (28.0) | 41 (5.4) |
| Pharmaceutical promotions better inform patients of their medical Problem | 88 (11.5) | 253 (33.1) | 201 (26.3) | 178 (23.3) | 44 (5.8) |
| The quality of a particular product depends on the frequency of the advertising activities | 162 (21.2) | 277 (36.3) | 166 (21.7) | 124 (16.2) | 35 (4.6) |
| Pharmaceutical advertising increases drug cost | 55 (7.2) | 113 (14.8) | 180 (23.6) | 278 (36.4) | 138 (18.1) |
| Advertisements of drugs help your patient to have better discussions about their health. | 50 (6.5) | 164 (21.5) | 227 (29.7) | 266 (34.8) | 57 (7.5) |

Table 3: Perceptions towards pharmaceutical advertising in respect to prescribing practice

| Variables | Strongly disagree n (%) | Disagree n (%) | Neutral n (%) | Agree n (%) | Strongly Agree n (%) |
|---|-------------------------|----------------|---------------|-------------|----------------------|
| I like Pharmaceutical Advertisement | 80 (10.5) | 168 (22.0) | 279 (36.5) | 182 (23.8) | 55 (7.2) |
| PA help me make better decisions about my patient's health | 84 (11.0) | 208 (27.2) | 224 (29.3) | 203 (26.6) | 45 (5.9) |
| Pharmaceutical advertisements help make me aware of new drugs | 49 (6.4) | 130 (17.0) | 148 (19.4) | 300 (39.3) | 137 (17.9) |
| I trust the quality of the frequently advertised drugs more than those prescribed by healthcare professionals | 137 (17.9) | 276 (36.1) | 184 (24.1) | 140 (18.3) | 27 (3.5) |
| Advertisements of pharmaceutical drugs do not give enough information about the possible risks and negative effects of using a drug | 97 (12.7) | 127 (16.6) | 123 (16.1) | 309 (40.4) | 108 (14.1) |
| PA does not give information about the possible benefits and positive effects of using the drug | 86 (11.3) | 272 (35.6) | 157 (20.5) | 200 (26.2) | 49 (6.4) |
| Pharmaceutical advertisement make the drugs look better than their reality | 34 (4.5) | 147 (19.2) | 177 (23.2) | 319 (41.8) | 87 (11.4) |
| I support direct to consumer advertising | 88 (11.5) | 286 (37.4) | 235 (30.8) | 128 (16.8) | 27 (3.5) |
| I prefer all drugs to be advertised to the public | 163 (21.3) | 257 (33.6) | 165 (21.6) | 133 (17.4) | 46 (6.0) |
| I prefer only over the counter drugs to be advertised to the public | 48 (6.3) | 154 (20.2) | 200 (26.2) | 266 (34.8) | 96 (12.6) |

The result highlighted that 48.4% (n=370) of the respondents were aware that only drugs without any side effects to be advertised to the public. However, 81.4 % (n=622) believed that medical advertisements should seek government approval and 71.3% (n=545) assumed that only registered drugs were allowed to be advertised. Thus 34.0% (n=260) of respondent were agree for the direct advertising of prescription-only drugs. Furthermore, it is illustrated from results that 57.3% (n=438) of the respondent showed positive response towards direct advertising of over the counter products to the public and 71.3% (n=513) suggested that only

safe medicines to be advertised to the public (See Table 1).

Perceptions of healthcare professionals towards pharmaceutical advertisements improving patient compliance

The results highlighted that respondents 37.2% (n=284) showed negative response towards advertised drugs were better than non-advertised drugs. Though 33.0% (n=252) were disagree for advertising, encourage the patients to decide on their choice of a drug without the help of a healthcare professional. More than thirty per cent, 31.4%(n=240) of

the respondents were agreed that advertising provided reliable information regarding a particular medicine, respondents those disagreed that advertising informs a patient of potential side effects and patient medical problems were 34.6% (n=264) and 33.1% (n=253) respectively. Most of the respondents, 36.3% (n=277) were disagreed that the quality of drugs depended upon its advertising frequency. A greater number of respondents were agreeing that advertisements increased drugs cost 36.4% (n=278) and helped patient to have better discussions about their health 34.8% (n=266) (See Table 2).

Perceptions of healthcare professionals towards pharmaceutical advertisements influencing prescribing practice and selection of drug by patients

The result of the research highlighted that 29.3% (n=224) of respondents thought that pharmaceutical advertising helped them to make a better decision about their health. While 39.3% (n=300) were also agreed that ads helped them in awareness for new drugs. 40.4% (n=309) of health professionals agreed that advertisement did not provide enough information about the possible risks and negative effects of using a drug. A surged value of 41.8% (n=319) indicated that advertisement makes a drug look better than their reality. The results showed that 34.6% (n=264) of the respondents disagreed that they were asked to prescribe advertised drugs. It is found that 40.3% (n=308) agreed that patients visited another doctor when they have not prescribed an advertised drug. 32.7% (n=250 and 37.4% (n=286) of respondent thought that patients buy an advertised drug without referring a doctor and they recommend advertised drugs to friends and family members (See Table 3).

According to this study, most of the healthcare professionals were not clear about the pharmaceutical regulations and laws in Pakistan. Most of them pointed out only drugs, which are safe and registered by the drug regulatory authority of Pakistan, to be advertised to the public. Several respondents were conscious about the prior approval of the advertisements from the legal services of the government. But this group showed two different view about PA of OTC and POM drugs directly to the public. It is also found that only two countries, "New Zealand & USA," allow the direct advertisement to the patient, but Canada only allows a limited ads consisting of the name of drug or indications but not both at the same time (Ventola, 2011). The results of the present study are in line with the study conducted in the Kingdom of Saudi Ara-

bia, in which it is mentioned that respondents were aware of the type of drugs being advertised in the country (Al-Haddad *et al.*, 2014). Another study reported in Ethiopia showed the effects of pharmaceutical advertisement on self-medication lead to a significant number of students involved in self-medication due to PA of OTC (Gutema *et al.*, 2011). This research stressed the disagreement between respondents about advertised drugs were better than no -advertised drugs. In this regards study from Finland demonstrate that almost all the physicians were co trary to such advertisement (Toivainen *et al.*, 2004).

Furthermore, 31% of all participants supported that PA provides reliable information on a particular medicine, which is also featured by a study conducted in Hartford U A, that described an assessment of advertising information content which resulted to a clear balance between benefit and risk information and rarely neglected information that found in favor of patients welfare (Roth, 1996). Many participants were not unanimous that advertising informs patient about potential side effects and other medical problems. A related Indian study described that healthcare providers were often not provided with critical details through PA, such as a drug's adverse reactions. Pharmaceutical companies are liable for such information given to doctors. But literature showed very limited and biased information regarding the side effects of drugs (Roy *et al.*, 2007). Another study from Bethesda, USA, stated that DTC advertising might promote truth in patients that there is a pill for every ill' and contribute to the medicalization of small medical complaints, leading to an over medicated culture (Wilkes *et al.*, 2000).

Moreover, from the support said results of the study that many of believed that drug's quality depends upon its advertising frequency, besides, a greater number of respondents agreed that advertisements increased drugs cost. The results of the present study highlighted that PA has had helped in patient awareness. A relevant research conducted in the UK, which illustrates that patients were well-informed through PA regarding their illness and health (Fox *et al.*, 2005). Respectively in Egypt, health professionals acknowledged that pharmaceutical promotion was considered as one of the necessary learning components, especially for less experienced physicians (Kamal *et al.*, 2015). Similarly, this study has also regarded the previously mentioned study by explaining that most of the participants agreed that drug advertising helped them regard the awareness of possible side effects of drugs. In this study, we found that participants do not rely on the quality

of those drugs which are commonly advertised. A study from Pakistan support these results that the majority of advertisements was poorly organized, bearing, Irrelevant and misleading claims and the term “safety” was used in most of the advertisements without scientific proof (Vakani and Amin, 2011).

CONCLUSIONS

This study concluded that the awareness regarding pharmaceutical advertisement was low among the healthcare professionals in Pakistan. Healthcare personals were in the favor of advertisement, regardless of knowledge about the current advertisement rules and regulations in the country. Comparatively, Pharmacists have better knowledge of PA than physicians do. There is a need that pharmaceutical companies should comply with the ethical criteria of drug promotion in Pakistan.

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Conflict of interest

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