**Influence of Medical representatives on prescribing pattern in different Countries (Ethiopia, Nigeria, Yemen and Turkey)**

**Influence of Medical Representatives on Prescribing Practices in Mekelle, Northern Ethiopia [1]**

- Objective: assess the influence of MRs on prescribing practice in Mekelle, Northern Ethiopia.

- The World Health Organization (WHO) defines pharmaceutical promotion as “all information and activities by manufacturers and distributors aimed at stimulating prescription, supply, purchase and/ or use of medicinal drugs. Although the WHO standards exist in pharmaceutical marketing, most medical representatives fail to provide the accurate information to doctors during their promotional activities.

- Medical representatives use drug samples, brochures and gifts to help them during their promotional activities. And, many prescribers are given pens, notepads and coffee mugs so that the name of a targeted drug stays in subconscious mind of the prescribers.

- The questionnaire prepared for this study includes 2 types of questions;

Questions on the socio-demographic characteristics of the physician: age, gender, religion, average monthly income, year of experience, qualification and prescribing practice.

Questions about drug promotion and prescribing practice.

- The results of this study showed that 97, 6% of physicians were visited by medical representatives (MRs) and 48, 2% of physicians spent 2-10 minutes for discussion with MRs.

- Concerning the use of electronic media, it is the least commonly used promotional methods.

- In addition 48.2% of the physicians believed that MRs influenced their prescribing pattern and 65% of physicians dissatisfied in the current way of drug promotion.

- This study found that 84.3% of information provided by medical representatives to physicians concerns the brand name of a product and 30, 1 % about drug indication while 63,9% of physicians said that MRs had never informed the made-quietly and accurately. Only 3.6% of respondents believed that MRs focused on the scientific background of their product.

- Medical textbooks (56.6%) and academic journals (14.5%) are the most frequent resources used in the event of any problem with the prescription.

- The acceptance of gifts by physicians has 6 times more influence on their prescribing pattern than physicians who do not accept gifts provided by medical representative. Also, doctors working in private health facilities were almost 13 times more likely to be influenced to change their prescribing practices by MRs than those in public facilities.This difference might be due to the reason that public health institutions in Ethiopia are supplied their pharmaceutical consumptions by government agency, which were generic drugs.

- Therefore, doctors prescribed the drugs available in the stock, regardless of the types of drugs being promoted. At the other end, doctors working in private health facilities would be more influenced because the practice in its nature has commercial elements.

**Drug promotion in a Resource constrained Nigerian Environment: A Cross sectional Study of the Influence of Pharmaceutical Sales Representatives on the Prescribing Behaviors of Medical Practitioners in Abia State [2]**

- Different methods are used during drug promotion, such as face-to-face interviews, conference presentations, exhibits and materials, continuing medical education / CPD, drug launching, journal ads, pharmaceutical details and academic details of drugs.

- Medical research is currently being used as a new marketing strategy for drugs, including payment for publishing articles on promoted drug products.

- 185 private and public medical practitioners participated in this study.

- The questionnaire includes questions about socio demographic data, practice and attitude to drug promotion, frequency of visits by medical representatives in the previous 12 months, types of incentives received, drug promotion methods, drug promotion information, sources of drug information, and awareness of code of regulation on drug promotion.

- 89.7% of participants were males and 10, 3% were females.

- Concerning the visits of medical representatives, All the respondents were visited by medical representatives in the previous 12 months, 88.6% of doctors were visited 12 times and above and 11.4% of doctors were visited 12 times and less in the previous 12 months.

- 47, 6% of physicians are influenced by medical representatives and 66, 5% of respondents had positive attitude to drug promotion.

- All of the respondents accepted the gifts and the most common incentive received by the medical practitioners was branded office stationeries (pens, jotters, diaries, calendars). Unfortunately accepting gifts from Medical representatives can lead to a potential conflicts of interest and dysfunctional relationships, with ethical and financial dilemma for standard patient care.

- The most common method of drug promoting used by medical representatives was clinic in person meeting (face to face); Detailing aims to provide busy medical practitioners with up-to-date information on the drugs being promoted and to keep them informed of the latest developments in the pharmaceutical industry.

- This study found that the predominant drug information provided by MRs was both brand name of the drugs and drug indications. None of the respondents was informed on the boxed warnings for specific medications which are available in Nigeria.

- Asking or calling a colleague or pharmacist are the most common source of drug information (93, 5% of respondents) especially when they have problems with drug information.

- Regarding the code of conduct regulating drug promotion, 84.9% of doctors were aware by the code of ethics and regulation of promotion so this awareness should be translated to appropriate prescribing practice and positive attitude towards drug promotion.

-Working in public health facilities was statistically significant for attitude and prescribing practice.

-The results of this study have shown that doctors in Nigeria allow free and unrestricted access of medical representatives to doctors during clinical consultations with patients.

-This study showed the high level of drug promotion induced prescription practice could be reflection of the frequency of visits and enthusiastic gifts by the medical representatives to medical practitioners in Nigeria.

- Although physicians have the referral capacity to prescribe medicinal drugs, the drug promotion activities have been widely accused of changing attitudes in pharmaceutical care, leading to medication errors and associated challenges.

**Impact of pharmaceutical promotion on prescribing decisions of general practitioners in Eastern Turkey.[3]**

**-** Objective: determine the self-reported impact of pharmaceutical promotion on the decision-making process of prescription of GPs in Eastern Turkey.

-152 GPs working in the primary health centers and hospitals in Erzurum province of Eastern Turkey in 2006 participated in this study (53.3% were male, and 65.8% were working at primary health care centers.

-The questionnaire includes questions about sociodemographics, number of patients per day, time per patient, frequency of sales representative visits to GPs, participation of GPs in training courses on prescribing (in-service training, drug companies), factors affecting prescribing decision, reference sources concerning prescribing and self-reported and self-rated effect of the activities of sales representatives on GPs prescribing decisions.

-The number of patients examined per day can influence prescribing pattern because the frequency of visits by medical representatives to the physicians examining a large number of patients per day may be higher. In addition, high number of patients examined per day means shorter time per patient and this may affect rational decision-making process regarding prescription.

-Work site can influence also prescribing decision because daily burden of GPs with regard to number of patients per day in primary health care settings is relatively higher than that in the hospitals in Turkey.

- Year of practice of GPs may affect prescribing decisions. The effect of MRs on experienced GPs may be less because more years of practice years may indicate more experience with the prescription.

- Meeting doctors with medical representatives requires adding of promoted drug to the hospital formulary that can increase the costs of prescribing drugs and causing a less rational prescribing.

- 75.6% of the GPs participated in training programs of pharmaceutical companies and 28.2% had gone into in-service training provided by public sector on prescribing.

-Concerning the visits of MRs, 72.3% of the physicians were visited by MRs more than once a month and 61.2% reported that their prescribing decisions were always affected by MRs activities.

-The self reading after graduation (50.7%) and activities of pharmaceutical representatives (40.7%) had high effect on the prescribing decisions. In contrary, Pharmacology courses at medical school (49.4%) and post-graduate in-service training provided by public sector (42.1%) had low effect according to the GPs statements.

- The impact of promotional activities on physicians who participated in training courses of pharmaceutical companies was significantly higher on general practitioners who did not participate in any training of companies.

- The results of this study demonstrate that the impact of promotional activities are high on physicians working at primary health care centers, on physicians whose year of practice was 5 years and under, on physicians who examined 60 or more patients per day and on physicians who were visited by MRs more than once a month.

- Furthermore, the physicians who examined 60 and more patients a day participated in training courses of pharmaceutical companies more frequently than the physicians who examined fewer than 60 patients a day.

- The quality and content of formal pharmacology education during medical faculties affected directly the prescribing decision and the attitudes of GPs towards the relations between doctors and pharmaceutical companies.

- The reference resources in case of any problems in prescribing are drug guides of pharmaceutical companies (73,7%), medical books, and the documents of pharmaceutical companies.

- As conclusion, this study shown that primary reference sources concerning prescribing was commercial information provided by sales representatives of pharmaceutical companies. All these results indicates a lack of formal continuing medical education and an adequate monitoring of prescribing behaviors provided by public sector.

**The Influence of Information, Brand, Medical Representatives and Sales Promotion on Physician Prescribing Decision [4]**

**-**Objective : Determine the influence of four marketing efforts (available information on a drug, brand of a drug, medical representatives (MRs) and sales promotion) on the drug prescribing decisions of physicians in Yemen.

- Information drug availability and physician prescribing decision

Unsubstantiated, unscientific and incorrect information can lead the inappropriate prescribing of medicines, which can affect the treatment outcome of patients.

Empirical evidence shows that physicians search for drug information in journal articles; The information contained in medical journals inadvertently influences doctors' decision-making regarding the prescription of medicines.

This study hypothesizes a possible relationship between available information on a drug and prescribing behavior of physicians.

H1: A significant relationship exists between the availability of drug information and physicians’ decision to prescribe!

-Pharmaceutical brand and physician prescribing decision

H2: A significant relationship exists between the brand of drug and physicians’ decision-making when prescribing.

-Sales promotion and physician prescribing decision

Sales promotions can be classified into two categories, namely positive and negative impact during drug prescribing

Positive promotions play an informative and persuasive role by retaining an existing relationship and creating physicians’ drug awareness.(Positive impact)

Promotion tools have been reported to reduce the quality of prescriptions and increase the price of promoted drugs.(Negative impact)

H3: A significant relationship exists between sales promotion and physician decision to prescribe.

-The influence of medical representatives (MRS) on physicians’ prescribing decision

H4: A significant relationship exists between the effectiveness of medical representatives and physicians’ prescribing decisions.

As results, this study showed a relationship between branding and the prescription decision, but information available on a drug, medical representatives and sales promotion do not influence the prescribing decision. A plausible justification for this phenomenon may be the continuous introduction of new products by the pharmaceutical industry, which makes it more difficult for doctors to join a particular brand.

Only branding had a great impact on prescribing pattern, so it is necessary for pharmaceutical companies in Yemen to identify doctors who show their brand description in brand loyalty. On the contrary, since the brand of drug is associated with a prescription, increased safety and insurance can help physicians make better decisions about potential drugs and the benefits of prescribed drugs.

Concerning visits of medical representatives, physicians mentioned several reasons for declining to meet MRs: bad experience with MRs, differences about some commercial transactions, lack of conviction about the product and lack of integrity of MRs. The unethical behavior of some MRs has also discouraged physicians.

In conclusion, it appears that marketing efforts (MRs and sales promotion) are ineffective on prescribing decisions, although it can act as a deterrent and change the prescribing decision.

**References**

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