

Misuse and abuse of prescription and OTC medications sold in drugstores of Zawia, Libya

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ABSTRACT

The aim of this study was to investigate misuse/abuse of prescription and nonprescription drugs in pharmacies in Zawia Libya by random distribution of a structured questionnaire to 10 pharmacies (May–July 2018). Most respondents (80%) suspected that some level of abuse/misuse occurred in their pharmacy, which was highest for decongestants, cough/cold preparations, diazepam, and antibiotics. Abuse/misuse of prescription and nonprescription drugs is present in Zawia, but current methods for controlling the problem are ineffective, and better methods should be developed. The study's limitations are noted.

Keywords: Abuse; Community pharmacy; Drug misuse; Nonprescription; Prescription; Western Zawia, Libya

INTRODUCTION

Medications obtained by patients for treatment of minor ailments, without a prescription from a physician, are known as over-the-counter (OTC) or non-prescription medications. OTC medications provide prevention and treatment for a wide range of conditions, including but not limited to headaches, common cold, musculoskeletal pain, GIT problems, tobacco dependence, and some skin problems [1].

However, there is always a risk involved in using OTC medications [1, 2]. These include improper self-diagnosis, inappropriate dosage, addiction issues upon prolonged use, adverse drug reactions, and drug interactions [5, 6]. As most patients do not discuss their OTC medications with a physician, they are

unaware of the risks associated with OTC medications.[3,4] In addition, direct-to-patient advertising increases the exposure of medications to patients.[3] As a result, there is increased product use in the absence of professional help [3,7]. OTC medication abuse for the purpose of this review is defined as the use of non-prescription medications for non-medical purposes [8]. Abuse is often intentional, unlike OTC medication misuse, which may be medication used for medical purposes but used incorrectly, for example, incorrect dosage, lack of interactions knowledge, inappropriate medication use, and incorrect duration of use [3].

Recent data suggests that drug abuse has decreased over the past two year but not mandatory OTC abuse. FDA has responded by trying to create

OTC label that are easier to read and understand. All drugs play important role in health care. They have positive impact on individual health and the health care system, for minor illnesses; it often provides a cheap, rapid, and convenient solution, without which the health care system of any country would be overcome with demand [9, 10]. However, irrational self-medication practice may increase health risks such as misdiagnosis, drug resistance and interactions, delays in seeking medical advice, adverse drug reactions, and polypharmacy [12-15].

The history of over-the-counter medicines has been a roller-coaster. The Rose case, which culminated in a decision from the House of Lords in 1704, established that apothecaries could prescribe and dispense medicines, breaking the monopoly of the College of Physicians [9]. After that, over-the-counter medicines continued to be generally available in Britain until 1860, when drugs of abuse were designated as prescription-only medicines. However, most other medicines remained generally available until the 1960s, when, in the hope of improving safety, most of them became prescription-only medicines, following a report of the Interdepartmental Committee on Drug Addiction [12].

There are approximately 800 OTC active ingredients available today that constitute more than 100,000 OTC products in the healthcare marketplace. Like prescription drugs, OTC medicines are regulated by the U.S. Food and Drug Administration (FDA). Available at more than 750,000 retail outlets including pharmacies, convenience and grocery stores, or mass merchandisers, OTC medicines are safe and effective when used as directed and the Drug Facts label instructs consumers on how to properly choose and use them. OTCs treat many common ailments including pain, fever, cough and cold, upset stomach, and allergies. OTC medicines should not be confused with dietary supplements (vitamins, minerals, herbals, and botanicals) which have rule [18].

Literature survey suggested no research done on drug abuse/misuse of prescription and nonprescription drugs in pharmacies in Libya. The aim of this study was to investigate abuse/misuse of prescription and nonprescription drugs in pharmacies in the city of Zawia, Libya by random distribution of a structured questionnaire to 10 pharmacies.

MATERIALS AND METHODS

A questionnaire is designed to be completed anonymously; the questionnaire was based, with few modifications, however, to be able to use it in Libya [16, 17]. After minor amendments were made, the final version of questionnaire was distributed the sample and manually collected from the pharmacists working in the community pharmacy sector in Zawia. The research assistants were required to visit different areas on different days. They would deliver the questionnaire to pharmacists present in the pharmacy and fix a time to collect the filled-in questionnaire.

The study was carried out between May and July 2018 for three months. The pharmacists were told that all the information provided by them would be kept and working in community pharmacies was selected because they represented a larger portion of Zawia pharmacy profession.

Pharmacies are spread throughout western Zawia (Libya) areas and pharmacists working in these pharmacies are in day-to-day contact and service of all classes of the society. Their background, skills, and abilities make them a valuable source of information regarding medication use. The questionnaire consisted of two parts. In the first part, respondents were asked to name the drug they sold without a prescription and the second one the prescription only drugs during last 3 months (Table 1).

Multiple OTC medications have abuse potential. Commonly abused medications include antihistamines, sleep aids, caffeine, ephedrine, pseudoephedrine, antitussives and expectorants, dextromethorphan, laxatives, and anabolic steroids [21]. Laxatives are abused for weight loss and high antihistamines doses are used for euphoria [22]. From the studies done across the world for OTC medication abuse, opiate-based combination products and cough/cold products containing dextromethorphan, sleep aids, antihistamines, analgesic, hypnotics, and laxatives have been highlighted as having abuse potential. Cough medicines and painkillers are most abused medications. OTC codeine or other opiate-containing products and OTC cough and cold medications are the most commonly implicated medications for abuse [3]. Codeine is not available as OTC in the US.

However, it is a primary medicine with abuse potential in other countries [23]. Numerous studies have recorded OTC codeine analgesics as the most commonly abused medication [3, 24].

Drugs they suspected of being abused/misused in Zawia, and whether the trend of abuse/misuse was changing. The pharmacists were asked to indicate if they had suspected cases of abuse/misuse in their

pharmacy and to give a profile of the typical suspect for each identified product. Respondents were also requested to indicate the number of clients they had suspected of purchasing medicines for the purpose of abuse/misuse over the previous three months and whether these clients were regular customers or strangers.

Table 1: Questionnaire with drug classification

Drug class	Number (%)	Gender	Age group in years
Nonprescription drugs			
Systemic nasal decongestants	40 (32%)	Males	16 – 45
Cough and cold preparations	20 (16%)	Males	16 –45
Analgesics	5 (4%)	Equal	No preference
Antihistamine	5 (4%)	Equal	Less than 26
Laxatives	10 (8%)	Females	No preference
Disinfectant alcohol	5 (4%)	Males	No preference
Prescription drug			
Sedative hypnotics	20 (16%)	Males	16 – 45
Antibiotics	15 (12%)	Equal	No preference
Anticholinergic/anti-Parkinson's drug	5 (4%)	Males	16 - 45

RESULTS

The questionnaire was distributed to a total of ten community pharmacies, out of which 8 (80%) were completed by the pharmacists holding charge of those pharmacies. Most respondents (90%) suspected that some level of abuse/misuse occurred in their area. Reported number of suspects over the last three months for more than 100 customers. The mean estimate of abusers visiting each pharmacy in the last 3 months was considered for present investigation. The frequency of abuse/misuse was perceived as increasing, and more than half of the perceived suspects (55%) were regular customers of the pharmacy. Pharmacists believed that the vast majority of abusers were males (65%) who were in the age group of 16 to 45 years. This study revealed

a long list of drugs, identified by pharmacists, with a potential for abuse or most likely to be misused. Pharmacists reported abused/misused nonprescription drugs 200 times and prescription only medication (POMs) were reported 150 times.

Most pharmacists selected to report suspected drugs for the ease of presentation. The most frequently reported drugs were classified according to therapeutic classes and divided into nonprescription drugs and POM. Among the nonprescription drugs, systemic nasal decongestant combinations and cough and cold preparations were by and large the most reported drugs of abuse, others in descending order included simple analgesics, antihistamines, laxatives, and disinfectant alcohol (Fig. 1)

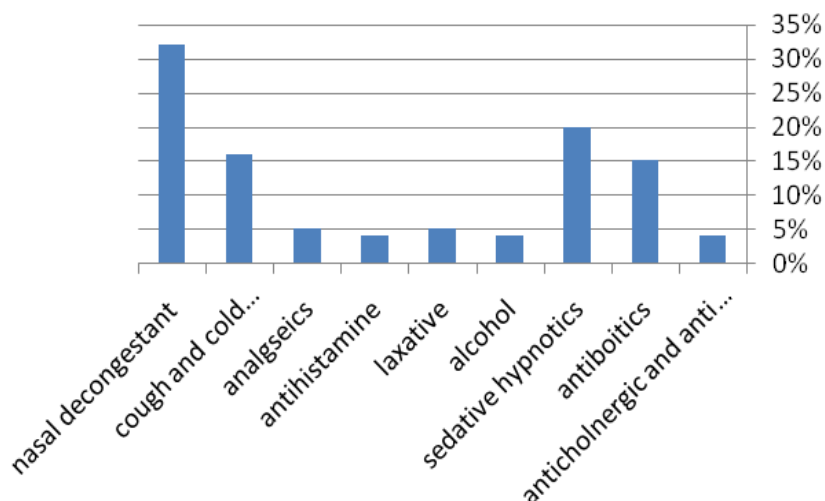


Fig. 1: Number (%) according to drug classification

The list of prescription drugs reported for potential abuse was lead by diazepam sedative hypnotics, followed by anticholinergics. Other drugs misused included antibiotics. Miscellaneous prescription drugs were also reported to be misused with the corresponding frequency in parentheses: sex hormones, vitamin D, clomiphene, and metformin. Therapeutic class of the most frequently reported drugs was influenced by customers, gender, age, and socioeconomic status. Cough and cold preparations, sedatives–hypnotics, and nasal decongestants were associated more with customers aged between 16 and 45 years. Customers younger than 26 years were more likely linked to antihistamines. Disinfectant alcohol preparations were thought to be equally abused/misused by customers less than 26 years of age and those aged between 16 and 45 years.

Pharmacists employed several methods to limit customers' access to suspected products of abuse, most of which was the traditional method of sale refusal and stating that the product was not available (50%). Pharmacists reported other methods like advising or requesting a prescription for dispensing. Surprisingly, most the pharmacists reported that they did nothing regarding their suspicion and dispensed the drug. Pharmacist networking can also help limit the problem of abuse/misuse.

More than half of participating Zawia pharmacists (60%) reported that they contacted and/or have been contacted by other pharmacists regarding the problem when asked about their opinion on what is best to control drug abuse/misuse, the majority of pharmacists (70%) agreed on their role in controlling abuse of products in the pharmacy, about one-third of

pharmacists (30%) thought that referring abusers to substance abuse facility should be used in controlling this problem.

DISCUSSION

Apparently, the uncontrolled consumption and monitoring of consumption of medicines in Zawia is one reason of confusion among medications. This fact appears in our study as 80% of pharmacies received “suspicious requests” for abused sedative hypnotics, cough and cold preparations, nasal decongestants, and misused antibiotics, during the past 3 months. Zawia pharmacists dispense such drugs only on their perception that the customer is suspicious or not. This practice is dangerous as abuser is known to be indulge in “pharmacy-hopping,” i.e., he goes from pharmacy to pharmacy trying to get his medicine, and eventually succeeds in getting what he wants either by deceiving or encountering the pharmacist in spite of latter's suspicion

This all is probably because of easy availability of such drugs. When compared with illicit drugs and controlled drugs, drugs sold without prescription are easily available [17, 19]. This availability is more pronounced in Zawia, considering the current practice of selling any drug without prescription. The classes and frequency of OTC drugs in Zawia with potential abuse differed from that in United Kingdom [17]. In the United Kingdom opioids containing products were most frequently reported to be abused/misused; this was not the case in Zawia as these are controlled drugs.

The methods employed by Zawia pharmacists to limit the supply of products liable for abuse do not differ from those reported by pharmacists in other countries [17, 20]. Traditional methods used by pharmacists have included refusal of the sale of such products or keeping them out of sight. These methods are of limited value as patients may seek a supply from another pharmacy. This problem could be minimized if pharmacists networked more frequently with one another whereby a suspected abuser would be reported to other pharmacies of the locality. A better and a more comprehensive system is connecting all pharmacies electronically on national level to report about drugs of potential abuse.

In future we wish from the Ministry of Health frequently visits community pharmacies to check any violation in general and check special prescriptions for medicines, such as opioids, opioid derivatives. The pharmacist is required to keep the record of these special prescriptions for Ministry of Health inspection. As such, it is a rare incidence for a community pharmacy to sell such products. Most pharmacists in Zawia considered that their role could be extended to include some form of harm-reduction program. In such a program pharmacist will be required to identify abusers/misusers, enroll them in a special program for treatment and referrals. Of

course, pharmacists can't function alone, other stakeholders in this process are Ministry of Health.

CONCLUSION

This study indicated that a problem of drug abuse/misuse of drugs that can be bought without prescription exists in Zawia. In order to limit abuse of such drugs, the cornerstone is to work on law enforcement in community pharmacies through inspectors of the Ministry of Health. Moreover, it is necessary to establish and implement practice guidelines with respect to the dispensing of such drugs in addition to networking of pharmacies. Pharmacy faculties in Libya should play a more active role in training pharmacists in matters pertaining to the management of drug abuse/misuse by adopting a concentrated reduction program. Other healthcare professionals should also be aware of the abuse/misuse as a potential problem, and further research into the methods for quantification, identification, and treatment should be conducted. The most important point is the role of community pharmacist through health promotion education that encourages that patient to avoid misuse, abuse of these medications.

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