

ADVERSE EFFECTS OF SELF-MEDICATION AMONG DOWNTOWN URBAN POPULATION OF KARACHI, PAKISTAN

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Abstract

Keywords:

Self Medication

OBJECTIVE: Evaluation of the adverse effects of self-medication among downtown urban population of Karachi, Pakistan

METHOD: A cross sectional study was conducted among 2626 participants using random sampling, in a time spend of 2 years from 2013 to 2015. A detailed questionnaire was design to collect data from urban population of a downtown area of Karachi.

RESULT: The data showed that 27.5% participants involved in self-medication experienced some acute or chronic problem. Around 7.62% participants reported dryness of mouth who were mostly on anti-histamines, anti-hypertensive and sedatives. 19% of them gave history of having nausea and vomiting while taking NSAIDS like Ibuprofen, Naproxen etc. 8% of them taking NSAIDS, aspirin gave history of epigastric pain. 28% participants taking different medicines for pain (backache and joint pain) reported acidity/gastritis. 20% participants reported diarrhea when they use antibiotics, antacids, omeprazole, naproxen and Ibuprofen. 12% participants who were on antibiotics plus aspirin, Ibuprofen and naproxen reported skin rashes. 2.4% participants gave history of swelling and edema especially on face who took aspirin products. 0.8% participants reported anaphylactic response who were on barbiturate, penicillin or sulfa drugs.

Participants who were self-medicating for a longer time period i.e. from 2 months to 2 years were also evaluated for chronic effects. 33% of the participants with slurred speech were on Ativan, Valium, Diazepam, Barbiturate Xanax, Alprazolam. 10% participants who were taking anabolic steroids and Paracetamol complained of right hypochondrial pain, and hepatotoxicity. Skin rashes were reported by 17% participants who were on aspirin, codeine, sleeping preparations and antibiotics. Impotence was reported by 10% participants who were on anti-hypertensive (nifedipine, atenolol), anti-depressants like Valium and Ativan, NSAIDS like Naproxen, anti histamine like Phenergan and Benadryl. 22% reported psychological dependence who were taking Amphetamines, Valium, Ativan, Xanax and Barbiturates. Major share is contributed by Xanax. 8% participants complained physical dependence who were Barbiturates and Anabolic Steroids. In conclusion around one fourth of the participants reported acute and/or chronic effects of self-medication which is an alarm for health departments. There is a need to expand the study in all areas of Pakistan to get the prevalence which will help to make policies for immediate action.

Introduction

The prevalence of self-medication is ubiquitous and ascending from developed countries to developing countries (Mukkaram et al., 2015). It is estimated that around 57% of health related problems in United States of America are treated by self-medication (Poprich et al., 2000). In Pakistan most of the people do not care about their health and visit to physician when the symptoms of disease are unbearable. They even do not follow the laboratory test recommendation due to unaffordable cost as Pakistan is low income country (WHO 2005). World Health

Organization reported that self-medication for some diseases is acceptable if used with responsibility and appropriately. It will help to reduce the expenses and overcome the shortage of doctors in poor areas (WHO 1998). Literature showed that misinterpretation of self-medication causing serious effects in some countries like in Jordan around 67% of youngsters using antibiotics for common cold and cough without prescription (Shehadeh et al., 2012). It is very alarming and producing resistance to pathogens (Shah et al., 2014). Self-medication is a challenge for healthcare systems of different countries. Patients are becoming independent in the selection of medicines for self-diagnosed diseases and using less or more doses of drugs for long time (Huges et al., 2001). As it is known about the venom that it has therapeutic potential and is being used for the treatment of pain (Reid, PF 2011), no one will dare to take venom without prescription due to the fear of death. It is because people know a lot about snake venom and deaths related to it. Health and nutrition are considered as marker for the social development of any country. Literacy rate has direct relation with health and well-being (Nutbeam and Kickbusch, 2000). Some people are extraordinarily health conscious and very much worried about serious illness, the condition is known as hypochondriasis. In this condition a patient tries to find web based information about disease and due to misinterpretation start self-medication and harm the body (Bouman TK 2014). The easy excess of internet to search medical information has made it easy for every one even if they are not health professionals to get better information about the diseases, its symptoms and treatment but this is causing anxiety among the people who use web based knowledge for self-diagnosis. Now the term *cyberchondria* is being coined by the researchers who are finding its prevalence in different countries (White RW and Horvitz E 2009). The objectives of this study were to determine the possible adverse effects caused by self-medication. The study also focused to find the types of side effects and its prevalence due to self-medication in a downtown urban population of Karachi.

Methodology

It is a cross sectional study carried out in the area of Garden West Union Council 2 with a population of 60,000. This area is surrounded by densely populated areas of sadder town and Lyari Town. A total of 2626 people were randomly included who came for OTC or medicines without first consulting a doctor. The excluded subjects from the study were medical and paramedical staff, and people not willing to participate in the study. The people of extreme age groups, disturbed behaviors were also not included because these conditions could affect the results of the study. A questionnaire was made available to 6 dedicated, certified medical stores (3 of which were 24 hr pharmacy). Prevalence of complications arising due to self-medication were evaluated by giving 12 questions. The objective was briefed to the participants, consent was taken and was assured of confidentiality. Participants were asked to tick the appropriate answer and was assisted by the manager of pharmacy. Questions were divided into two parts. The first part having questions to assess prevalence and practice of self-medication while the second dealt with the side effects and complications faced by the participants.

Results

Self-medication was significantly associated with age, gender, socio economic status. Table no. 1 showing demographic characteristics of study participants. 66.7% participants were males and 33.3% were females with a mean age of 35-45 years. It was found that 69.5% subjects were totally uneducated, having no education at all, 12% having primary education, 7.50% attended Madrasas, 6.02% Matric and 4.99% having college education. Table no. 2 showing reasons of using self-medication. The common reason of self-medication was found to be time saving and previous experience and cost of consultation. Around 15.50% said that it is cost effective or lack of the health facilities in and around their area. 20.98% said that it is convenient urgency of problem or advice from family friend. Table no 3 showing statistics of participants facing complications due to self-medications. Out of 2626 participants 724 (27.57%) participants gave history of same acute or chronic states of ill health as a result of self-medication. Around 652 (24.83%) participants refused or were not sure about this issue and 1250 (47.60%) participants were very clear about the issue and said that they never faced any symptoms.

In figure no. 1, the data showed that 27.5% participants involved in self-medication experienced some acute or chronic problem. Around 7.62% participants reported dryness of mouth who were mostly on anti-histamines, anti-hypertensive and sedatives. 19% of them gave history of having nausea and vomiting while taking NSAIDS like Ibuprofen, Naproxen etc. 8% of them taking NSAIDS, aspirin gave history of epigastric pain. 28% participants taking different medicines for pain (backache and joint pain) reported acidity/gastritis. 20% participants reported diarrhea when they use antibiotics, antacids, omeprazole, naproxen and Ibuprofen. 12% participants who were on antibiotics plus aspirin, Ibuprofen and naproxen reported skin rashes. 2.4% participants gave history of swelling and

edema especially on face who took aspirin products. 0.8% participants reported anaphylactic response who were on barbiturate, penicillin or sulfa drugs.

Participants who were self-medicating for a longer time period i.e. from 2 months to 2 years were also evaluated for chronic effects and the results were shown in figure no. 2. 33% of the participants with slurred speech were on Ativan, Valium, Diazepam, Barbiturate Xanax, Alprazolam. 10% participants who were taking anabolic steroids and Paracetamol complained of right hypochondrial pain, and hepatotoxicity. Skin rashes were reported by 17% participants who were on aspirin, codeine, sleeping preparations and antibiotics. Impotence was reported by 10% participants who were on anti-hypertensive (nifedipine, atenolol), anti-depressants like Valium and Ativan, NSAIDS like Naproxen, anti histamine like Phenergan and Benadryl. 22% reported psychological dependence who were taking Amphetamines, Valium, Ativan, Xanax and Barbiturates. Major share is contributed by Xanax. 8% participants complained physical dependence who were on Barbiturates and Anabolic Steroids.

Discussion

Self-medication is an emerging issue which should be considered by the regulatory and health authorities. It is expanding from Asia to Europe. According to literature review, it was found that very little data is available but the percentage of prevalence is going high as it is being explored. Majority of the research used medical students and/or medical professionals as study participants and claimed that the percentage of self-medication is higher in educated people (Verma et al 2010). In this study which was conducted in the area where around 70% population is illiterate, one fourth of the study participants reported acute and /or chronic illness.

It is reported that 78% of university students in Pakistan use analgesics without prescription (Amin et al 2014). In this study it was found that although the people used NSAIDs but also use with combination of other drugs. In this study we found that acidity/gastritis, nausea and vomiting are the major side effects of using analgesics without prescription. The use of pain killer depends upon the severity of pain and the major reason behind the use is the effectiveness in urgency. Due to the hectic life style, shortage of doctors, same office hours of people and doctors in economical hospitals, ignorance, family matters and many social problems urge people to do self-medication. Self-medication is acceptable according to World Health Organization (WHO 1998) but at certain level with great responsibility and basic knowledge. This positive approach has been taken negative by self-medicators which lead to the emergence of acute and /or chronic side effects due to self-medication. The availability of the more complex drugs groups without prescriptions is a source of great concern. The habits of self-medication often has many adverse effects which can lead to many problems like anti microbial resistance, drug addiction, masking of malignant and potentially fatal diseases, misdiagnosis, problems relating to over and under dosaging, drug interactions and tragedies relating to the side-effects of specific drugs (Amin et al 2014). The chronic side effects observed in this study revealed that 33% of the participants with slurred speech were on Ativan, Valium, Diazepam, Barbiturate Xanax, Alprazolam.

Conclusion

The study showed that more or less all drugs have their side effects when taken in high or low doses for longer time. The new side effects are being reported and will be reported when self-medicators use combination drugs. This may harm the user in a serious manner that the receptors for drugs desensitize and the person will show resistance and allergic response with some drugs. That person might be a challenge for the doctors due to extraordinary change in the metabolism of that person. It is the duty of pharmacist to discourage the self medicators to purchase drugs. This matter should be highlighted in newspapers and media so that the people as well as the government officials understand the severity of the issue.

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Table 1. Demographic characteristics of study participants

Characteristics	n	%
Age		
25- 35	289	11.01
35-45	1760	67.02
45- 55	341	12.99
55- 65	236	8.99
Gender		
Males	1751	66.7
Females	875	33.3
Level of education		
Uneducated	1825	69.50
Primary education	315	12.00
Matriculation	158	6.02
College education	131	4.99
Madarsas	197	7.50

Table 2. Reasons for using self-medication

Reasons	n	%
Time saving and previous experience	1668	63.52
Cost effective or lack of health facilities in and around their area	407	15.50
Urgency of problem or advice from family friend	551	20.98

Table 3. Statistics of participants facing complications due to self-medications

Characteristics	n	%
Faced any complication		
Yes	724	27.57
No	1250	47.60
Not clear	652	24.83
Problem is acute or chronic		
Acute	499	68.9
Chronic	225	31.1
Gender		
Male	488	67.40
Female	236	32.60

Table 4. Physical and psychological dependence due to self-medication

variables	n	%
Ill health due to use of this self- medication drug		
Yes	253	34.94
No	263	36.33
Don't know	208	28.73
Psychologically dependent on the drug		
Yes	50	6.91
No	206	28.45
Not clear	468	64.64
Physically dependent on the drug		
Yes	18	2.49
No	206	28.45
Not clear	500	69.06

Figure 1. Acute Sign and Symptoms after using self-medication

