

SELF-MEDICATION WITH ANTIBIOTICS IN URBAN AREAS OF PESHAWAR

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ABSTRACT

Background: Self-medication is common in countries where prescription legislations are not strong enough and drugs are available over the counter. This study was conducted to assess the self-medication by antibiotics in urban population and determine the factors related to it.

Methodology: This descriptive study was conducted in Hayatabad Medical Complex, Peshawar and private clinic of author on patients from urban areas of Peshawar, between January 2009 and December 2009. It included 744 adult patients with fever; 350 men and 394 women, mean age 34 ± 14.5 years. They were asked to answer an anonymous questionnaire regarding use of medicines in previous 12 months.

Results: All 744 patients accepted to have used antibiotics during the past 12 months for various ailments. They commonly used antibiotics without a prescription (513 or 69% of patients) from the pharmacy. The antibiotics most frequently used were amoxicillin/clavulanic acid (45%), ciprofloxacin (31%), sulfamethoxazole/trimethoprim (18%), and clarithromycin (5%). Fever (70%), sore throat (22%) and common cold (8%) were the symptoms for self medication. High cost of health care was mentioned the reason for self-medication by majority (88%). Majority (82%) thought fever, sore throat and common cold as trivial illnesses controllable with self-medication.

Conclusion: In the urban areas of Peshawar, despite good access to health care facilities adult population resort to the use of antibioticS without a prescription for various reasons. Fever, sore throat and common cold are considered trivial illness easily controlled with self-medication.

KEY WORDS: Self medication, Antibiotic, Fever.

INTRODUCTION

It is well established that antibiotics are used indiscriminately throughout our society. This has led to antibiotic resistance and has disturbed the microbial ecosystem and diseases like water-borne and food borne infections resistant to antibiotics and antibiotics associated diarrheas have evolved.¹ Infections have become severer, resistant to treatment and prolonged. As treatment fails, the infectivity from an ill individual is prolonged and there is a chance of spread of resistant microbial infection to healthy individuals.

Self-medication can be defined as the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms.²⁻⁴

Antibiotic resistance is a global problem.^{5,6} Recent studies in Europe showed high rates of outpatient antibiotic use and resistance.⁷

The prevalence of self medication is more in low to middle income communities and is more common in countries where prescription legislations are not strong enough and drugs are available over the counter.⁸ It also gets common when left over medications from previous illnesses are available at home for future self medication in similar illnesses.

This study was conducted to assess the abuse of antibiotics in the urban population and determine the factors related to it.

PATIENTS AND METHODS

This descriptive study included 744 adults (350 men, 394 women, mean age 34 ± 14.5 years), who visited the outpatient and private clinic of the author between January 2009 and December 2009. These patients were asked to answer an anonymous questionnaire regarding their use of medicine in the twelve months preceding the present illness.

Selection of the participants was based on convenient sampling from amongst all the patients; every visitor with fever was chosen and verbal consent obtained after briefing them on the objectives of the study. The questionnaire collected demographic data such as age and gender of the participants. Respondents were asked whether they had used antibiotics during the past year. Those who confirmed antibiotic usage were asked for what symptoms they used the antibiotics. Why and how they obtained the antibiotics and what prompted them to use these antibiotics. Other medications used were also asked about and alternative medicines used were also noted.

RESULTS

All the 744 patients with fever accepted to have used antibiotics during the past 12 months for various ailments. The mean age was 34±14.5 years with the most prevalent age group was 30 to 40 years. (Table 1)

Table 1: Demographic characteristics.

	Frequency (percentage)
Males:	350 (47%)
Females:	394 (53%)
Age (years): 18-30	91 (12.2%)
30-40	582 (78.2%)
40-50	71 (9.5%)

The symptoms they described for the usage of antibiotics were fever, sore throat and flu. This was present in 521 (70%), 164 (22%) and 59 (8%) respectively. Only 26% of these patients visited a doctor while 69% resorted to self medication. (Table 2)

All the 744 (100%) patients used antibiotics while 551 (74%) also used NSAIDs, 76 (10%) antihistamines and 95 (13%) combinations including

cough suppressants, antihistamines and bronchodilators.

Amoxicillin/Clavulanic acid was the most common antibiotic used i.e. in 45% of cases, followed by ciprofloxacin used in 31% of cases. (Table 3)

High cost of health care was quoted as the most common reason for self medication followed by the misconception that the disease is a trivial one. (Table 4)

Most of them i.e. 82% experienced by trial and error and that was the reason of self medication while others were prompted by peers and reading material from newspapers and magazines. (Table 5)

Table 3: Antibiotics used for self medication.

Antibiotic/Antibiotics	Frequency (percentage)
Amoxicillin/Clavulanic acid	335 (45%)
Ciprofloxacin	230 (31%)
Sulfamethoxazole/Trimethoprim	134 (18%)
Clarithromycin	37 (5%)
Others	8 (1%)

Table 4: Factors for self medication.

Factor	Frequency (Percentage)
Cost-effectiveness	654 (88%)
Non-serious illness	610 (82%)
Prior experience	421 (56.5%)
Emergency usage	133 (18%)
Availability of drug	321 (43%)

Table 2: Measures taken.

Measure Taken	Source	Frequency (percentage)
Visiting a doctor	Pharmacy with prescription	193 (26%)
Self medication with allopathic drugs	Pharmacy without prescription	513 (69%)
Alternative medicine	Alternative medicine outlet	10 (1%)
No action		28 (4%)

Table 5: Information for self medication.

Information Source	Frequency (Percentage)
Self experience by trial and error	610 (82%)
Peer	78 (10.5%)
Family custom of self-medication	41 (5.5%)
Advice from traditional healers	9. (1.2%)
Reading material	4 (<1%)
Internet	2 (<1%)

DISCUSSION

Antibiotics should not be dispensed without a prescription because availability of these over the counter will almost invariably result in self medication and ultimate resistance. This would certainly be more common in poor countries with high costs of health care and this has avidly been described by our study.

Antibiotics were used by 100% participants in our study. This rate is very high compared with results conducted in Jordan (23%), and Lithuania (39.9%).^{9,10} The self use of antibiotics is also very common in Sudan (48%)¹¹ while it is not very high in our neighborhood India where it has been quoted as 18%.¹² In a study conducted in Pakistan, the prevalence of self medication among university students was 76%.¹³ This study conducted in Karachi had almost similar results to ours in certain areas. The most common reason for self-medication was previous experience (50.1%) against ours 82% and the most common symptoms were headache (72.4%), flu (65.5%), and fever (55.2%) against ours 0%, 8% and 70%. The difference between the symptoms was probably due to the fact that our study was conducted exclusively on the use of antibiotics while that study was conducted on self-medication of any drug. Commonly used medicines were analgesics (88.3%) and antibiotics (35.2%) against ours 74% and 100%.

Self medication in general is quite high even in the educated class of different countries. In different studies it is 45% in Turkey,¹⁴ 94% in Hong Kong¹⁵ and 88% in Croatia.¹⁶ All these studies have been conducted on university students. Our study is on the rural population and such a high prevalence needs to be addressed seriously as it confirms this menace of self medication in the society.

It has been argued that self medication for minor ailments can reduce the burden on health care system especially in the resource poor countries.¹⁶ It is however not justifiable as who will decide about the trivial nature of the disease and the consequences of self medication with antibiotics can lead to problems like multidrug resistance, masking of fatal diseases and side effects of drugs.¹⁷

The only justifiable reason where self medication could have been allowed may be the emergency of the situation, non-availability of expert help may be another reason but surprisingly in our study this was the reason in only 18% of cases while cost effectiveness (88%), trivial nature of the illness (82%) prior experience with antibiotics (56.5%) were quoted as the prime reasons for self medication. This has similar notions to the study conducted by Zafar et al which quotes prior experience (50.3%) and trivial nature of illness (48.3%) as the most important factors for self medication.¹³

CONCLUSION

In the urban areas of Peshawar, despite good access to health care facilities adult population resorts to the use of antibiotics without a prescription for various reasons. Fever, sore throat and common cold are considered trivial illness easily controlled with self-medication.

The situation is aggravated by the availability of antibiotics over the counter. Further to it is the poverty and high cost of health care. Lack of legislation over availability of antibiotics complicates the issue further.

It is recommended to bring legislations in prescription, stop advertisement of drugs and educate the masses against self-medication.

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