

Short Communication

Assessment of public knowledge and attitudes regarding the use of antibiotics among the general population of Tabuke (2014)

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Accepted 30 December, 2016

ABSTRACT

Objectives: We aimed to assess the knowledge and attitudes regarding the use of antibiotics among the general population in Tabuk City, Saudi Arabia. **Methods:** A cross-sectional descriptive study was conducted among 211 general population, randomly selected by simple stratified sampling technique from all population in Tabuk during the period from October to December 2015. A structured questionnaire was used to collect: The mode of antibiotics consumption, frequency, adherence to prescription time, course completeness, an action is taken if no response, and antibiotic disposal. **Results:** They were 211 subjects, their ages ranged from 19-30 years, females dominance was apparent (62.2%). Nearly two-thirds of participants (61%) used antibiotics without doctor prescription, 45% of patients consumed 6-20 courses of antibiotics, only 39.2% Completed the full course of antibiotic, 79.2% were adherent to the medicine schedule, while 20.5% changed the antibiotics by themselves. **Conclusion:** The present study showed a sample of Saudi population with inadequate knowledge and attitude towards antibiotic use, that may increase the antibiotic resistance with deleterious health consequences in term of cost and mortality. Increasing the awareness of the public about the health hazards of antibiotic misuse is highly needed.

Keywords: Antibiotics, Knowledge, Attitude, Tabuk, Saudi Arabia

INTRODUCTION

Widespread use of antimicrobial, inside and outside the medical field play a significant role in antibiotic resistance (Bacon et al., 2000), Proper use of antibiotics in medicine and agriculture by pathogen-particular use of antibiotics,

limitation of their use for viral illnesses, and regulation of antibiotic use in food animals (Spellberg et al., 2008) can delay resistance spread and pay time for actions to take place. Convincing physician for better use of available

antibiotics is of paramount importance. Preserving antibiotic effectiveness is as important as protecting other resources like clean water and air, forests, and soil (Laxminarayan et al., 2007).

Antibiotics sales without doctor's prescription had been reported in many countries which could add much to the inappropriate use of these drugs resulting in the increased cost, serious side effects, and emerging of the dangerous antibiotic resistance among bacteria (Contopoulos-Ionnidis et al., 2001; Dameh et al., 2010; Bax et al., 1998).

Antibiotic resistance is a global health burden that is closely related to the volume of antibiotics consumption. Thus, strategies towards restricting antibiotic use and marketing regulation are important measures to prevent this epidemic with its harmful consequences (Goossens et al., 2005); Butler et al., 1998).

Antibiotic resistance (ABR) threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria. It is an increasingly serious threat to global public health that requires action across all government sectors and society. ABR is present in all parts of the world. New resistance mechanisms emerge and spread globally. Patients with infections caused by drug-resistant bacteria are generally at increased risk of worse clinical outcomes and death and need more health care resources than patients infected with the same bacteria that are not resistant. (World health organization, 2004).

Few researchers have addressed the adherence of the Pharmacists to the antibiotic restrictions in Saudi Arabia. Thus, we conducted this research to investigate the antibiotics dispensing practice in Tabuk Saudi Arabia.

MATERIAL AND METHODS

A cross-sectional descriptive study was conducted among 211 general population, randomly selected by simple stratified sampling technique from all population in Tabuk. First two areas were chosen randomly from the twenty total areas, then every tenth house has been selected, then two persons were elected from each house to fill the questionnaire. A structured self-administrated, Arabic questionnaire was used to test knowledge and attitude of the general population about antibiotics using. Data were collected in the period from October 2015 to December 2015. Data collected include mode of antibiotics consumption, frequency, adherence to prescription time, course completeness, an action is taken if no response, and antibiotic disposal. The Ethical Committee of the University of Tabuk approved the research.

Statistical analysis

The collected Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) statistical program version 19. The data were presented as percentages and ranges.

RESULTS

Out of 211 participants, their ages ranged from 19-30 years, female dominance was evident [62.2%] as compared to males [37.8%]. The current data showed that 41% took antibiotics without the Doctors prescription, 39% are taking after Doctors prescription, 7% took antibiotics based on a friends advice. Moreover, only 2% of people in this study assumed that they used antibiotics after searching their symptoms online while 10% are taken the antibiotics by them self-based on their previous experiences. 50% % of participants took 5 courses of antibiotics during the year, only 39.2% of participants completed the full course of antibiotic treatment, 72.2% of people in this study were not adherent to medications schedule, 20.5% of individuals changed the type of antibiotics by themselves without taking their doctor advice, moreover, 27.1% of the study sample are taking same antibiotics to treat different diseases while 49.6% of people are using antibiotics that prescribed for another member of family. The study also showed that 33.7% of people in this study didn't dispose of the medication after the end of its use. Table 1 below.

Figure 1 below illustrated the routes of antibiotic use in which near half of participants use the antibiotic from the pharmacy, 39% used the antibiotic based on doctor prescription, 7% by self-prescription, 10% by friends, while 2% used the antibiotic based on the internet.

DISCUSSION

Previous studies concluded that Pharmacies are usually not asking questions regarding past use of antibiotic and dispensing them without prescription which adds to antibiotics resistance and increasing costs because of the need for broader antibiotics, more visits to general practitioner, and increase prescription and hospitalization due to antibiotics failure, in the present study only 41% of participants used antibiotics without doctor's prescription confirming the above observation (Memish et al., 2004).

In the present study antibiotics self-prescription was 61%, similarly, a survey carried out in Riyadh, Saudi Arabia (Alrashid et al., 2016) concluded that 78.7% of patients attending a primary health center used

Table 1. Participants behavior towards antibiotics

Character	%
Sex	
Males	37.8
Females	62.2
Doctors prescription	39
Without doctor's prescription	41
Friends advice	7
Searching their symptoms online	2
Previous experiences	10
No of courses of antibiotics /year	
1-5	50
6-10	22
11-15	23
16-20	3
More than 20	1
Complete the full course of antibiotic	39.2
Adherent to prescription schedule	79.2
Changed the antibiotics by themselves	20.5
Using the antibiotics for various diseases	27.1
Using antibiotics that prescribed for another member of family	49.6

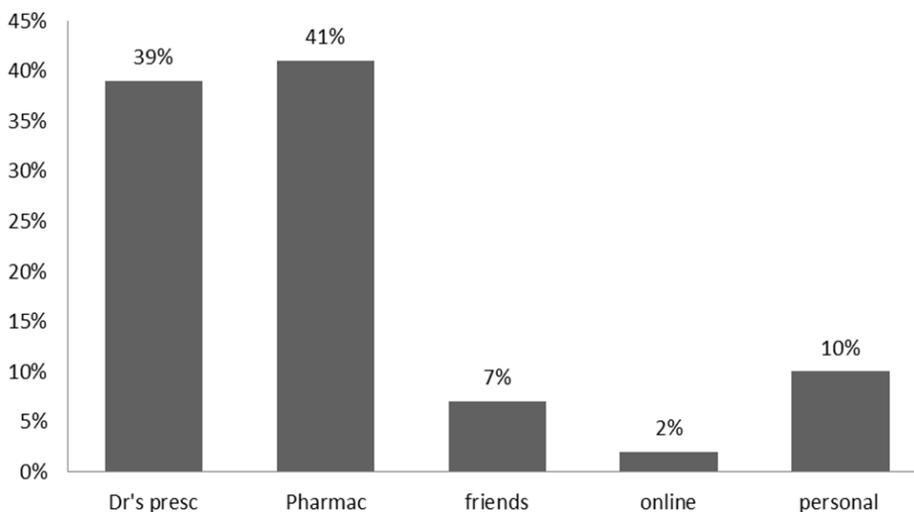


Figure 1. Percentage of antibiotics prescribed by different resources

antibiotics without Doctors prescription, the present data are comparable to researchers conducted in the United Arab Emirates, and Yemen, in which non-doctor antibiotic use was 68.4%, and 79.5%, respectively (Shehnaz et al., 2014; Belkina et al., 2014) The antibiotics can be brought from private pharmacies without prescription in most countries, so the above results are not surprising.

The current data showed that the majority of the participant were females in contradiction to previous literature (Alrashid et al., 2016) this can be explained by the fact that females are less informed by the health hazards of the over the counter use of antibiotics.

Antibiotics are the cause of up to 19% of adverse drug reactions, also, dangerous drug interactions may

happen with harmful consequence for example antibiotics may lead to hemorrhage in patients on warfarin. Furthermore, pregnant ladies exposed to ciprofloxacin may end up with deadly hazards to the fetus and congenital malformations Bin Abdulhak et al., 2011). The evidence supports avoiding this drugs during pregnancy and those below 18 years of age.

CONCLUSION

Antibiotic use without a prescription is common in Tabuk, Saudi Arabia. It can be avoided by reducing unnecessary prescribing and overprescribing of antibiotics. The public

awareness about the proper use of antibiotics lack. The knowledge about the appropriate use of prescribed antibiotics, good hygiene, and infection control can reduce the risk of antibiotic resistance.

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