THE USE AND MISUSE OF ANTIBIOTICS AS SELF-MEDICATION BY PEOPLE IN ALSAMAWA CITY-IRAQ.

Dr. Noor Thamer Al-Saadi*

MSc Pharmaceutical Sciences, Pharmaceutical chemistry Department, College of Pharmacy, Al-Muthanna University, Iraq.

ABSTRACT

The random use of antibiotics by the patient as over the counter drugs without the consult of a physician is a major problem in developing countries due to easy excess to these antibiotics, the availability of antibiotics for the patients is very challenging and rise a great risks. A 200 people from al Samawah city in Al Muthanna governate were conducted in this questionnaire study. The aim of our study was to describe the prevalence of antibiotic self-medication for respiratory tract infections, to explore factors influencing antibiotic use without prescription, and to determine the available sources of such antibiotics. Our results confirmed that 76% of participants were using self-medication and 36.5% prefer self medication to a physician prescription. The major defect in such community is the poor health education which makes most of the population lack the knowledge that is related to drug use and misuse.

KEYWORDS: Antibiotic resistance, self-medication, over the counter drugs, Acute Respiratory Tract Infections (ARI's).

INTRODUCTION

Self-medication, defined as the administration of a therapeutic agent without a physician's prescription, can contribute to the inappropriate use of antibiotics without clinical indication. The most common reasons for self-medication in Europe are ‘sore throat’ and bronchitis.[1,2] Self treatment with antibiotics is a concern not only because the antibiotics are frequently unnecessary, but also because patients may take these antibiotics sporadically (which breeds resistance), and –in cases when they actually need antibiotics– they may be taking the wrong
antibiotic. Access to doctors and prescription medications is likely to be a key factor related to self-medication with antibiotics, although other social and cultural factors have been implicated as well.\(^{[3,4,5]}\)

Pharmacists embedded in primary care medical practices, such as those modeled on the patient-centered medical home, are playing increasing roles in interdisciplinary primary healthcare teams. So many of patients depend on pharmacist advice without consulting a physician regarding antibiotics use.\(^{[6,7,8]}\)

Self-medication is cheaper and less time-consuming than visiting a health care provider but often results in inappropriate drug use, Self-medication avoids lengthy and costly formal healthcare and is possible because prescription-only regulations are not enforced.\(^{[9]}\)

Many patients presenting to family medicine clinics have already started self-medication with antimicrobial agents.\(^{[10]}\)

Previous studies have revealed that self-medication with antibiotics is commonly encountered both in the United States (US) and in Europe, predominantly in cases of common cold and upper respiratory tract infections.\(^{[11]}\)

Symptoms of the common cold usually resolve within 7 to 10 days (with some symptoms possibly lasting for up to 3 weeks) without treatment.\(^{[12,13]}\)

Nevertheless, symptoms like cough or fever may prompt patients to make therapeutic decisions without a consultation with a health care professional, which is might be related to the overuse of antimicrobial drugs.\(^{[14,15]}\)

Using unnecessary or inappropriate antibiotics can cause adverse effects, and lead to increasing numbers of drug-resistant microorganisms.\(^{[16]}\)

Acute respiratory tract infections (ARIs) account for a large share of community antibiotic use in many countries.\(^{[17,18,19]}\)

Although frequently the antibiotics prescribed for ARIs are unnecessary.\(^{[20]}\)

Multifaceted educational strategies have shown promise in reducing unnecessary antibiotic use, but their effectiveness may vary across different populations.\(^{[21,22,23,24,25,26]}\)
At present, only larger international hospitals have capacity to perform bacterial culture and antibiotic sensitivity testing. Hospitals commonly choose to provide profitable diagnostics and infectious disease diagnostics, needing expensive infrastructure, are often not profitable.[27]

Although antibiotics represent one of the major improvements in public health, their excessive use, particularly as a result of self-medication, has led to an increasing problem in antibiotic resistance.[28,29,30]

Although, self-medication with antibiotics is most common in developing countries.[31,32,33,34,35,36,37] even developed countries in Europe are not immune.[38]

Antimicrobial resistance is a global concern and a particularly pressing issue in resource-limited countries. Respiratory, diarrheal, sexually-transmitted and nosocomial infections are leading causes of death in the developing world and their management is critically compromised by the appearance and rapid spread of resistance. Antibiotic drug pressure is a key driver of resistance. While it is an unavoidable consequence of antibiotic use – rational and irrational – unnecessary antibiotic pressure can and must be reduced.[39,40]

The increase in resistance to antimicrobial drugs represents an important clinical and social problem.[41,42]

Community-acquired infections caused by antibiotic-resistant microbes are a major and growing threat to global public health. To help reduce the rate of antibiotic-resistant bacterial infections, there is an urgent need to curb excess antibiotic use.[43,44,45,46,47]

A recent study in Al-Samawa city- Iraq was conducted to determine *staphylococcus aureus* resistant bacteria, the results showed that Methicillin resistance was observed in 29.7% of the isolated samples of *S.aureus* isolates.[48]

Due to possible complications as well as growing bacterial resistance, antimicrobial therapy should be used only upon a physician's recommendation.[49,50]

**MATERIALS AND METHODS**

The method that was used for obtaining the results was based on a survey. We used a questionnaire that was written in simple and understandable manner and asked our participants around the samawah city to fill them. The participants were selected at random.
and were informed about the purpose of the study and only after their consent were the questionnaire given to them for answering. Total of 200 Participant selected in this study.

RESULTS
Among the participants who took part in our study the majority were between 20-29 years old, as shown in figure 1.

![Figure 1: which illustrate the percentage of different age groups of the survey participants.](image)

We found that 76% of people use antibiotics without physician prescription, while 36.5% are actually prefer using antibiotics without going for physician advice. 38.5% of people only go to pharmacist consult for treating respiratory tract infections RTI's demanding antibiotic drug, which is also confirmed by some pharmacist of private pharmacies in Al-Samawa city.

![Figure 2: shows the percentage of people using antibiotics without prescription 76%, and people prefer using ab. As home medication are 36.5%. While 38.5% of patients only ask for pharmacists advice for treating RTI's.](image)
It can be seen from figure 3 that surprisingly (27%) of participants think that the antibiotic drugs are always safe to use in spite of the majority knowing its possible allergic reactions. The knowledge of participants for the side effect of antibiotics was also checked, about (13%) were aware of the possible side effects. Only (17%) of participants confirmed that they have antibiotic related allergy.

![Figure 3](image3.png)

**Figure 3:** showing the percentage of participants (27%) who said ab. are safe. Also (13%) knew the side of antibiotics. (17%) of participants have ab. related allergies.

Furthermore (34%) reported that if they thought their condition is similar to a patient they knew they would have no hesitation in using his/her antibiotics. We found that (19%) of participants used antibiotics when they referred to them by other people they knew. 81% of people think that ab. are the drug of choice in treating common cold or flu.

![Figure 4](image4.png)

**Figure 4:** show that 19% of participants used ab. referred to them by other people, 34% use other's people ab. when they have same symptoms.
We also checked the background of participants in accordance with usage of antibiotics; it indicated that as high as 79% of them didn’t know that wrong antibiotics can lead to antibiotic resistant pathogens. 18% of them didn’t know what the term “antibiotic resistant” means. 81% of participants admitted that they discontinue the course of treatment after the relief of symptoms, because 78% didn’t know that the discontinuation will lead to antibiotic resistance.

![Figure 5](image)

**Figure 5:** represent the percentage of participants who knows about antibiotic resistance (18%), also shows who don’t know that wrong antibiotic lead to resistant pathogens, 81% of participant discontinue the treatment if they get better.

However 75% of people answered "yes" when we asked if antibiotics could recover any type of infection. 68% also reported that if we use higher dosage of antibiotics then it could lead to toxification of the body. 41% knew if an antibiotic has to be taken before or after meals.

![Graph](image)

**DISCUSSION**

A 76% of people in alsamawa city were found to use the antibiotics as self medication, this percentage is alarming. We also reported that general knowledge about antibiotic side effect
was poor. Additionally a high percentage of people never ever bother to check on the expiry date of the antibiotics. And only (18%) of participants who knows about antibiotic resistance, which is surprising and it is the major cause of the spread of bacterial resistance in such communities.

CONCLUSION
We concluded that the knowledge of the inhabitants of alsamawa city is not good enough and need further education on antibiotics and its usage. We also concluded that the perceptive and attitude of people in this city are not accurate enough and needs positive changing through education about healthcare by using seminars or any other educational means.

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