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RESEARCH ARTICLE

A Cross-sectional Study of Community Awareness in Al-Tal District, Syria, about the Random Use of Antibiotics

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ABSTRACT

Background: An antibiotic is a type of antimicrobial substance active against bacteria. It is the most important type of antibacterial agent for fighting bacterial infections. **Aims:** The study aimed to identify the degree of awareness about the dangers of misuse of antibiotics, and to find out the differences about the degree of their knowledge of the dangers of using antibiotics according to the variables (Gender – age – level of education – place of residence). **Materials and Methods:** This study was conducted through a questionnaire prepared by the researcher consisting of (13) items in addition to some personal information (gender – age – educational level – place of residence), and the informed consent was taken from all (166) study participants. **Results:** There are no differences in the degree of knowledge of the risks of using antibiotics due to the sex variable, and there are differences between the estimates of the study sample in the degree of knowledge of the risks of using antibiotics. The category (25–39) was the most knowledgeable, and there were differences between the estimates of the study sample members due to the variable of place of residence due to the remote areas. **Conclusion:** The degree of knowledge of the risks of using antibiotics was low, as the majority of individuals (57%) had followed the advice of someone other than a doctor or used an old prescription before taking an antibiotic. These results clearly indicate the extent to which laws controlling the sale of antibiotics in pharmacies in the Syrian Arab Republic.

Keywords: Antibiotic misuse, Knowledge, Microbial resistance, Practice

INTRODUCTION

Antibiotic misuse in Syria has been a significant health concern from 2010 to 2020, fueled by various factors such as the overuse of antibiotics, the widespread availability of antibiotics without a prescription, and limited public awareness of appropriate use. The civil war in Syria, which began in 2011, has further complicated the issue, leading to an increase in the prevalence of antibiotic-resistant infections due to disrupted healthcare systems, poor sanitation, and inadequate infection control measures. Several studies have highlighted the magnitude of the problem and the urgent need for interventions to promote rational antibiotic use in Syria. For example, a 2019 study found that approximately 80% of antibiotic prescriptions in Syrian primary healthcare centers were inappropriate, while another study from 2018 reported high rates of antibiotic resistance in Syrian hospitals.[1,2]

Some of the antibiotics used as standard treatments for bacterial infections are no longer working as well as they should and some of these medications are not completely effective against certain types of bacteria. When an antibiotic does not work against certain strains of bacteria, these bacteria are known as antibiotic-resistant bacteria, and

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antibiotic resistance has become one of the most serious problems worldwide.[3]

The overuse and misuse of antibiotics are two major factors in antibiotic resistance.

Antibiotics treat infections caused by bacteria, but not infections caused by viruses (viral infections). For example, an antibiotic is the correct treatment for streptococcal pharyngitis, but it is not the correct treatment for most pharyngitis, especially those caused by viruses.[4]

Other common viral infections that antibiotics don't help include: Cold or flu, Viral pneumonia, Viral upper respiratory tract infection, Viral gastroenteritis, Coronavirus (COVID-19), and Whooping cough (pertussis).

Thus, we find that taking antibiotics in the event of a viral infection: It will not cure the infection, it will not protect others from getting sick, it will not relieve the severity of your symptoms, it causes multi-side effects, and increased antibiotic resistance

Table 1: The demographic characteristics of the study sample

Variable	Percentage degree	Duplicates (%)
Gender		
Male	63	37.5
Feminine	103	62.5
The age		
>18	6	3.6
18–24	124	74.6
25–39	21	12.6
40–59	6	3.6
60+	9	5.6
Scientific level graduate		
Less than secondary	18	10.8
High school or institute	22	13.3
University	122	73.5
Postgraduate	4	2.4
Place of residence		
Urban	75	45.18
Rural area	91	54.82

MATERIALS AND METHODS

A questionnaire prepared by the researcher consisting of (13) items in addition to some personal information (gender – age – education level – place of residence), and the informed consent was taken from all (166) participants in the study. The results were recorded in a questionnaire, and the questionnaire form was presented in the appendices at the end of the study.

The analysis was carried out using the Statistical Package for the Social Sciences (SPSS) (version 24) (IBM Corporation, Armonk, New York, USA) and Excel 2016. A predictive value <0.05 ($P < 0.05$) was considered statistically significant.

RESULTS

The study was conducted on (166) individual [Table 1]. There are no statistically significant differences in the degree of knowledge of the risks of using antibiotics due to the gender variable (male/female) Table 2, and there are statistically significant differences between a study and a study in the degree of knowledge of the risks of using antibiotics Table 3. Education (less than secondary) are the least aware of the risks of infection with antibiotics, and there were differences due to the age variable in favor of a group of (25–39), so they were the most knowledgeable and the least knowledgeable were (60+ younger than 18 years old).

Table 2: The relationship to the risk of antibiotic use is due to the gender variable

Gender	The sample	Average	Standard deviation	Value (T)	Df	Sig	The decision
Males	63	4.048	0.426	0.301	165	0.763	There are no differences
Females	103	4.010	0.598				

Table 3: Study in the degree of awareness about the risks of misuse of antibiotics due to the variable of scientific level

Variance	Sum of squares	Df	Mean of squares	Value (F)	Sig	The decision
Between groups	289.786	3	99.1601	3.041	0.0001	There are differences
Within groups	535.621	163	32.6265			
Groups	555.312	166				

Table 4: The relationship between the degree of awareness of the dangers of misuse of antibiotics is due to the region variable

Variance	The sample	Average	Standard deviation	(T)	Df	Sig	The decision
City	75	3.154	0.386	0.154	165	0.0001	There are differences
Remote area	91	4.217	0.218				

DISCUSSION

The majority of individuals (57%) had followed advice from someone other than a physician or used an old prescription before taking an antibiotic; only 43% reported that an antibiotic was prescribed by a doctor to treat the condition. These results clearly indicate the extent to which laws controlling the sale of antibiotics in pharmacies in the Syrian Arab Republic are ignored.[1,3,5] There were no statistically significant differences in the use of modern antibiotics by gender, but only the differences were due to the age variable, which ranged between 25 and 39 years in their knowledge of the dangers of taking antibiotics, and the ignorance of individuals under the age of (18) and older than (60+). This is due to the availability of over-the-counter antibiotics through unregulated and unauthorized drug stores, In the general public, the need to take antibiotics quickly for a quick recovery, Stop taking the course of antibiotics completely when the symptoms start to improve and the treatment is not completed completely, Inability to distinguish between a bacterial infection that requires antibiotics and viral infection that depends on other treatments,[4] The low standard of living in addition to the deteriorating economic situation prompted individuals to take the least expensive antibiotic without researching its harmful effects or showing any allergic reactions, The remote areas are far from the city center, which makes the residents of those areas depend on antibiotics based on their previous experience or from a family member's prescription [Table 4].[5] There are no awareness campaigns about the dangers of taking antibiotics without consulting a doctor. The antibiotic misuse is pandemic and is becoming serious issue in Syria. We further stress taking proactive steps and develop a strategical plan that help raise public awareness toward antibiotic and antibiotic misuse.

CONCLUSION

There are no awareness campaigns about the dangers of taking antibiotics without consulting a doctor. The antibiotic misuse is pandemic and is becoming serious issue in Syria. We further stress taking proactive steps and develop a strategical plan that help raise public awareness toward antibiotic and antibiotic misuse.

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COMPETING INTERESTS

None declared.

REFERENCES

1. Jakovljevic M, Al Ahdab S, Jurisevic M, Mouselli S. Antibiotic resistance in syria: A local problem turns into a global threat. Front Public Health 2018;6:212.
2. Osman M, Rafei R, Ismail MB, Omari SA, Mallat H, Dabboussi F, *et al*. Antimicrobial resistance in the protracted Syrian conflict: Halting a war in the war. Future Microbiol 2021;16:825-45.
3. Osman M, Cummings KJ, El Omari K, Kassem II. Catch-22: War, refugees, COVID-19, and the scourge of antimicrobial resistance. Front Med (Lausanne) 2022;9:921921.
4. Kasir D, Osman N, Awik A, El Ratel I, Rafei R, Al Kassaa I, *et al*. Zoonotic tuberculosis: A neglected disease in the middle east and north Africa (Mena) region. Diseases 2023;11:39.
5. Pei S, Blumberg S, Vega JC, Robin T, Zhang Y, Medford RJ, *et al*. Challenges in forecasting antimicrobial resistance. Emerg Infect Dis 2023;29:679-85.