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EVALUATE THE KNOWLEDGE, ATTITUDE, AND PRACTICE TOWARD ANTIBIOTIC USE AMONG JORDANIAN PATIENTS

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ABSTRACT

Introduction: Since their discovery, antibiotics have played an important role in the management and treatment of infectious diseases. However, its effectiveness is drastically reduced due to the appearance of resistant microorganisms. Infection with resistant organisms is associated with delayed treatment, longer hospital stays, higher mortality, polypharmacy, more laboratory tests, and other treatment costs. The misuse of antibiotics can be the result of a complex interaction between several factors: the behavior, knowledge, the uncertainty of the diagnosis, the needs of the patient, poor doctor-patient interaction and macro factors such as social policies, economic, regulatory and other.In addition, patients' knowledge, beliefs and attitudes, expectations, and experiences with antibiotics have major contributing factors. Therefore, the purpose of this study is to examine the general knowledge and attitudes towards antibiotic use among Jordanian patients. Method: A cross-sectional unit-based study will be conduct at King Hussies Hospital in Jordan. 110 Patients will randomly select whom to contact at their internal and surgical clinic. Only 100 of them completed the questionnaire. Respondents who are health professionals are not included in this study. Data will collect by three pharmacists and one nurse. The questionnaires will use four sections. The data will analyze using SPSS analytic technique. Result: The majority of respondent were male (58%). 20% of woman were house wife. More than halve of respondent were over than 30 years old .43% of respondents reported that antibiotics act toward bacteria.88% reported that antibiotics work against viral infections. 53% of respondents show negative action about If they have skin reactions while taking antibiotics, stop using those same antibiotics The majority of respondents agree with statement "they think friends can take antibiotics or relatives without prior consultation with a physician". More than third of them always use any antibiotic without considering the food.55% of them never rest and wait the infection will go away on its own when they get infection. Conclusion: This study reports on the widespread use of antimicrobial, most of which are available without a prescription. Respondents showed little knowledge, especially about the role of antibiotics in mild viral illnesses. Therefore, raising awareness about the use of antibiotics and its relationship to drug resistance is essential to encourage the prudent use of antibiotics.

KEYS: Patients, Antibiotics, Attitude, Jordanian.

INTRODUCTION

Since their discovery, antibiotics have played an important role in the control and treatment of infectious diseases. Its use in preventive and curative treatment has saved the lives of countless patients and has improved the life of the patient.[1]

However, its efficacy is seriously reduced due to the appearance of resistant microorganisms.[2]

Infection with resistant organisms has been associated with delayed treatment, longer hospital stays, increased death, use of medications and additional laboratory tests.[3]

Several factors arise in the development of antibiotic resistance. Antibiotic misuse can result from a complex interplay of factors: physician behavior and knowledge, diagnostic uncertainty, patient needs, poor physician-patient interaction, and macro factors such as social, economic, and public health norms.[5,6]

From a patient perspective, for example, there have been reports of antibiotic abuse. B. Treatment failure, dose negligence, reuse of drug residues, overuse of antibiotics in the treatment of viral infections, and self-medication with antibiotics.[2]

When self-care is done properly, it has positive consequences for individuals and for the health system as a whole. However, studies in various settings show that a

high prevalence of self-medication, from 38.7% to 83%, is often associated with irregular drug use.[7–10]

Increased self-medication can lead to wasted resources, resistance to pathogens and side effects, misdiagnosis, delay in finding the right treatment, and risk of addiction and substance use.[11,12]

The use of antibiotics without medical advice is the most common effective factor in the development of antimicrobial resistance.[13,14] The lack of knowledge and attitude towards self-treatment with antibiotics is explained by the increased use of antimicrobial.[16,17]

In developing countries, where infectious diseases are widespread, access to health care is limited, and regulations are inadequate, the problem is likely to get worse.

In addition, there has been little community research on antibiotic knowledge and attitudes, with studies reporting low levels of knowledge and attitudes.[17] Therefore, it is important to determine the perceptions and beliefs of communities regarding the use of antibiotics.

Therefore, the purpose of this study is to examine the current knowledge and attitudes towards the use of antibiotics among the population of Jordan.

RESULTS

Part one: sociodemographic characteristics
The majority of respondent were male (58%). only 100 of them completed the questionnaire. 20% of woman were house wife. More than have of respondent were over than 30 years old. Further results are shown in table 1.

	n	%
1- Age		
≥30	55	55
<30	45	45
2-Gender		
Male	58	58
Female	42	42
3- education		
student	25	25
Post	20	20
graduated	21	21
House wife	20	20
another	14	14

Part two: knowledge of the patient toward antibiotic use.
More than quarter of them don't know that many antimicrobials are needed to treat different diseases. 43% of respondents reported that antibiotics act toward bacteria.88% reported that Antibiotics work against viral infections. 53% of respondents show negative action about If they have skin reactions while taking antibiotics, stop using those same antibiotics. Further results are shown in table 2.

Table two: Knowledge of the patient toward antibiotic use.

Knowledge Statement	Yes %	NO %	I don't know %
Many antimicrobials are needed to treat different diseases	42	30	28
Antibiotics act toward bacteria.	43	37	20
Antimicrobial quickly cure from many forms of coughs and cold	23	47	30
Antibiotics work against viral infections	88	10	2
If you experience side effects while taking antibiotics, you should d/c it quickly	75	20	5
If you have skin reactions while taking antibiotics, stop using those same antibiotics.	40	53	7
Irrational use of antimicrobial can increase bacterial resistance to them.	25	35	40
Antibiotic resistance is a global problem	32	38	30

Part three: Attitude of the patient toward antibiotic use.

Knowledge Statement	Yes %	NO %	I don't know %
Many antimicrobials are needed to treat different diseases	42	30	28
Antibiotics act toward bacteria.	43	37	20
Antimicrobial quickly cure from many forms of coughs and cold	23	47	30
Antibiotics work against viral infections	88	10	2
If you experience side effects while taking antibiotics, you should d/c it quickly	75	20	5
If you have skin reactions while taking antibiotics, stop using those same antibiotics.	40	53	7
Irrational use of antimicrobial can increase bacterial resistance to them.	25	35	40
Antibiotic resistance is a global problem	32	38	30

More than quarter of respondents agree with "they can buy antibiotics by social media without consulting a physician". 45% of respondent agree with "they think friends can take antibiotics or relatives without prior consultation with a physician". The majority of respondent s agree with "they think friends can take antibiotics or relatives without prior consultation with a physician". 42% of respondents reported that strongly agree with "If I get good healthy after a few days, I sometimes stop taking antibiotics before the treatment is over".

Table three: Attitude of the patient toward antibiotic use.

Statement	Strongly agree(n)	Agree (n)	Neutral (n)	Disagree (n)	Strongly disagree(n)
I think a prescription should be acceptable to buy antibiotics at the pharmacy.	25	28	14	30	3
I think it's good that we can buy antibiotics by social media without consulting a physician	20	28	15	20	17
I think friends can take antibiotics or relatives without prior consultation with a physician	42	45	13	0	0
I think continue take antibiotics even when I cured.	5	6	4	45	40
If I get good healthy after a few days, I sometimes stop taking antibiotics before the treatment is over.	42	36	10	6	6
I prefer to have antibiotics at home until I need them	42	43	10	2	3
If I cough for more than a week, it is better use antibiotics	41	42	10	4	3
If I have a sore throat, I prefer to take antibiotics.	42	36	10	7	7

Part four: practice us of antibiotics

The majority of them often take any antibiotic in any infection disease.68% of them never avoid use simple antibiotics in the first time. More than third of them always use any antibiotic without considering the food 55% of them never. If they get infected, they rest and wait the infection will go away on its own. Further results are shown in table four.

Table four: Practice us of antibiotics.

Statement	Often(n)	Always(n)	Neutral(n)	Never(n)
I can use any antibiotic in any infection disease	52	40	5	3
Avoid use simple antibiotics in the first time	2	8	22	68
I can use any antibiotic without considering the food	45	40	10	5
I don't use it for minor infections antibiotics	32	33	22	13
If I get infected, I rest and wait the infection will go away on its own	2	3	40	55
If the sputum changes color during I'm cold, I take antibiotic	11	19	45	25

DISCUSSION

The purpose of this study was to assess community knowledge, attitudes, and practices regarding the use of antibiotics.

This study reports on the widespread use of antimicrobial, most of which are available without a prescription. The respondent showed little knowledge and attitude towards the use of antimicrobial.

There were also deviations, such as not taking the full dose, buying over-the-counter antibiotics. While a large number of respondents (92%) agreed that different antibiotics are needed to treat different conditions, the majority (81%) did not fully understand that antibiotics could be used to speed treatment of cough.

This result differs from the study in Kuwait and Saudi Arabia, where 54.4%.[18] and 52.2%[19] are reported.

The observed differences may be related to sociodemographic and context differences. Given the prevalence of upper respiratory disease, this understanding could lead to increased use of inappropriate antimicrobial and could contribute to antibiotic resistance crises.

In this study, many participants (40%) agreed that misuse use of antibiotics can lead to antibiotics resistance.

These results are slightly higher than those of studies conducted in Bahradar (69.7%),[20] Jordan (50%),[21] and Namibia (72%).[22] However, this result is encouraging, only a third (25%) of the participants rated the problem as global. This result is in line with the report by Jordan.[21] and reveals another knowledge gap among patients.

The present study showed a positive approach to the need for full antibiotic treatment (82%) and a refusal to use the remaining drug (79%). This finding is consistent with another study in which only 17% of respondents received antibiotics at home for future.[23]

However, this is much better than the Namibian study, in which 28.5% of users saved antimicrobials for later use at home.[24]

Further results are shown in table three below. In the present study, the majority of the respondents agreed with the need to consult a doctor before buying antibiotics (28%) and to obtain a prescription to buy antibiotics (28%).

This result is only slightly higher than that of the study conducted in Saudi Arabia, with 76.6% and 66.6%.[18]

In this study, about 65% of patients had taken antibiotics at least once a year before the study. This proportion is similar to the study in Namibia (80%).[22] However, this is much higher than in the Lithuanian study of 24.9%.[24] and 35.9%.[25]

The present study shows that approximately one halve of antibiotics are used as OTC. This finding is focusing because most of the respondents believed in the need to prescribe antibiotics. For example, approximately 76% of OTC antibiotics were registered in India,[26] 32.7% in Italy,[27] 28.8% in Saudi Arabia,[19] and 9% in Hong Kong. Kong.[28]

This difference may be due to the diversity of standards in different areas and their application. In this study, most participants reported taking antibiotics as OTC.

These observations suggest widespread use of over-the-counter antibiotics. Therefore, it is very important that we see the problem from the point of view of a pharmacist and take the necessary measures, including establishing strict rules for OTC drugs.

Unlike other studies,[21,26] sharing antibiotics with family and friends was minimal in the present study. In our study, deficiency of courses were another area where participants were deficient.

In this study, approximately 28% of respondents did not take a course of antibiotics. Fortunately, this result is lower than the Chinese study by 49.8%,[29] and the Malaysian study by 55.9%.[30]

However, this is significantly higher than in Namibia, where only 20% of offenses are reported.[22] This inappropriate action has been reported in other studies and is associated with increased antibiotics resistance.[4,5]

5. CONCLUSION

This study reports on the widespread use of antimicrobial, most of which are available without a prescription.

Respondents showed little knowledge, especially about the role of antibiotics in mild viral illnesses.

The participants had limited access to antibiotics for colds and sore throats. There were also significant instances of inappropriate behavior, such as not taking a full dose o, buying over-the-counter antibiotics.

Therefore, raising awareness about the use of antibiotics and its relationship to drug resistance is essential to encourage the prudent use of antibiotics.

REFERENCES

1. L. J. V. Piddock, “The crisis of no new antibiotics-what is the way forward?” The Lancet Infectious Diseases, 2012; 12(3): 249–253.
2. B. Spellberg, J. G. Bartlett, and D. N. Gilbert, “The future of antibiotics and resistance,” The New England Journal of Medicine, 2013; 368(4): 299–302.
3. T. H. Dellit, R. C. Owens, J. E. McGowan Jr. et al., “Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America guidelines for developing an institutional program to enhance antimicrobial stewardship,” Clinical Infectious Diseases, 2007; 44(2): 159–177.
4. C. A. Michael, D. Dominey-Howes, and M. Labbate, “The antimicrobial resistance crisis: Causes, consequences, and management,” Frontiers in Public Health, 2014; 2: 145.
5. B. E. Franco, M. A. Martínez, M. A. Sánchez Rodríguez, and A. I. Wertheimer, “The determinants of the antibiotic resistance process,” Infection and Drug Resistance, 2009; 2(1): 1–11.
6. P. Davey, C. Pagliari, and A. Hayes, “The patient's role in the spread and control of bacterial resistance to antibiotics,” Clinical Microbiology and Infection, 2002; 8(2): 43–68.

7. F. Jafari, A. Khatony, and E. Rahmani, "Prevalence of self-medication among the elderly in Kermanshah-Iran," Global Journal of Health Science, 2015; 7(2): 360–365.
8. L. Garofalo, G. Di Giuseppe, and I. F. Angelillo, "Self-medication practices among parents in Italy," BioMed Research International, vol. 2015, Article ID 580650, 8 pages, 2015.
9. C. Lee, F. Chang, S. Hsu et al., "Inappropriate self-medication among adolescents and its association with lower medication literacy and substance use," PLoS ONE, 2017; 12: 12. e0189199.
10. M. Martín-Pérez, V. Hernández Barrera, A. López de Andrés, I. Jiménez-Trujillo, R. Jiménez-García, and P. Carrasco-Garrido, "Predictors of medication use in the Roma population in Spain: A population-based national study," Public Health, vol. 129, no. 5, pp. 453–459.
11. Panda, S. Pradhan, G. Mohapatra, and J. Mohapatra, "Drug-related problems associated with self-medication and medication guided by prescription: A pharmacy-based survey," Indian Journal of Pharmacology, 2016; 48(5): 515–521.
12. S. Fainzang, "Managing medicinal risks in self-medication," Drug Safety, 2014; 37(5): 333–342.
13. Rather, B.-C. Kim, V. K. Bajpai, and Y.-H. Park, "Self-medication and antibiotic resistance: Crisis, current challenges, and prevention," Saudi Journal of Biological Sciences, 2017; 24(4): 808–812.
14. M. Shafie, M. Eyasu, K. Muzeyin, Y. Worku, and S. Martín-Aragón, "Prevalence and determinants of selfmedication practice among selected households in Addis Ababa community," PLoS ONE, 2018; 13(3). Article ID e0194122.
15. Shah, H. Ahmad, B. Rehan et al., "Self-medication with antibiotics among non-medical university students of Karachi: A cross-sectional study," BMC Pharmacology & Toxicology, 2014; 15(1).
16. B. Lv, Z. Zhou, G. Xu et al., "Knowledge, attitudes and practices concerning self-medication with antibiotics among university students in western China," Tropical Medicine & International Health: TM & IH, 2014; 19(7): 769–779.
17. M. André, A. Vernby, J. Berg, and C. S. Lundborg, "A survey of public knowledge and awareness related to antibiotic use and resistance in Sweden," Journal of Antimicrobial Chemotherapy, 2010; 65(6): 1292–1296.
18. Awad, E. A. Aboud, and A. C. Singer, "Knowledge, Attitude and Practice towards Antibiotic Use among the Public in Kuwait," PLoS ONE, 2015; 10(2): e0117910.
19. S. Abdulaziz Aldhafar and W. Talat, "Attitude, and Practice toward the Usage of Antibiotics among Public in Al-Ahsa, Saudi Arabia," International Journal of Scientific Study, 2017; 4: 11.
20. Z. Tesfaye, "Patient Knowledge and Practice on Antimicrobial Use and Resistance in Felege Hiwot Hospital, Bahir Dar, Ethiopia," Journal of Basic and Clinical Pharmacy, 2017; 8: S010–S015.
21. D. A. Darwish, S. Abdelmalek, W. Abu Dayyih, and S. Hamadi, "Awareness of antibiotic use and antimicrobial resistance in the Iraqi community in Jordan," The Journal of Infection in Developing Countries, 2014; 8(5): 616–623.
22. D. D. Pereko, M. S. Lubbe, and S. Y. Essack, "Public knowledge, attitudes and behaviour towards antibiotic usage in Windhoek, Namibia," Southern African Journal of Infectious Diseases, 2015; 30(4): 134–137.
23. Lim and C. C. Teh, "A cross sectional study of public knowledge and attitude towards antibiotics in Putrajaya, Malaysia," Southern Med Review, 2012; 5(2): 26–33.
24. E. Pavydė, V. Veikutis, A. Mačiulienė, V. Mačiulis, K. Petrikonis, and E. Stankevičius, "Public knowledge, beliefs and behavior on antibiotic use and self-medication in Lithuania," International Journal of Environmental Research and Public Health, 2015; 12(6): 7002–7016.
25. E. Gebeyehu, L. Bantie, and M. Azage, "Inappropriate use of antibiotics and its associated factors among urban and rural communities of Bahir Dar city administration, northwest Ethiopia," PLoS ONE, 2015; 10(9).
26. P. Chandrakanth, T. S. Mohamed Saleem, M. M. Reddy, C. Gopinath, and M. M. Rao, "Assessment of public knowledge and attitude regarding antibiotic use in a tertiary care hospital," Asian Journal of Pharmaceutical and Clinical Research, 2016; 9(1): 118–122.
27. F. Napolitano, M. T. Izzo, G. di Giuseppe, and I. F. Angelillo, "Public knowledge, attitudes, and experience regarding the use of antibiotics in Italy," PLoS ONE, vol. 8, no. 12, Article ID e84177, 2013. J. H. S. You, B. Yau, K. C. Choi, C. T. S. Chau, Q. R. Huang, and S. S. Lee, "Public knowledge, attitudes and behavior on antibiotic use: A telephone survey in Hong Kong," Infection, 2008; 36(2): 153–157.
28. C. Chen, Y. M. Chen, K. L. Hwang et al., "Behavior, attitudes and knowledge about antibiotic usage among residents of Changhua, Taiwan," Journal of Microbiology, Immunology, and Infection = Wei Mian Yu Gan Ran Za Zhi, 2005; 38(1): 53–59.
29. F. Islahudin, A. M. A. Tamezi, and N. Mohamed Shah, "Knowledge, attitudes and practices about antibiotic use among the general public in Malaysia," Southeast Asian Journal of Tropical Medicine and Public Health, 2014; 45(6): 1474–1482.