

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: <http://www.journals.elsevier.com/infection-disease-and-health/>

Research paper

# Knowledge, practices & attitude toward antibiotics use and bacterial resistance in Jordan: A cross-sectional study

Dawood Yusef <sup>a,\*</sup>, Ahmad I. Babaa <sup>b</sup>, Alaa Z. Bashaireh <sup>b</sup>,  
Haitham H. Al-Bawayeh <sup>b</sup>, Kenan Al-Rijjal <sup>b</sup>, Maisa Nedal <sup>b</sup>, Sajeda Kailani <sup>b</sup>

<sup>a</sup> *Pediatric Infectious Diseases, Jordan University of Science and Technology, King Abdullah University Hospital, Irbid, Jordan*

<sup>b</sup> *Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan*

Received 5 September 2017; received in revised form 4 November 2017; accepted 5 November 2017

## KEYWORDS

Antibiotics;  
Bacterial resistance;  
Survey

**Abstract** *Background:* Antimicrobial resistance represents a significant public health problem worldwide. Irrational use of antibiotics is the main driving factor for the evolution of antimicrobials-resistant organisms. The aim of this study is to evaluate the areas of defects in the knowledge and practices of the community about antibiotic use.

*Methods:* A cross-sectional study on a sample of 1060 randomly-selected adults residing in the North of Jordan using a pre-validated questionnaire to evaluate knowledge, practices and attitude toward antimicrobial use and misuse, as well as to assess knowledge about antimicrobial resistance.

*Results:* Of all respondents, 41% ( $n = 437$ ) stated that they have received oral antibiotics in the past two months, of which 38% acquired the antibiotics without a prescription. 32% of those who received antibiotics did not complete the recommended course of treatment. 39–54% of the sample population believe in common misconceptions/malpractices of antibiotics use. The majority (70%) of the respondents have not known about the term “antimicrobials resistance”. Although people with higher education and higher income were generally more knowledgeable about appropriate antibiotics use and antimicrobial resistance, responses to some of the most important aspects in the assessment of knowledge showed no statistical difference between the different groups.

*Conclusions:* Our data revealed major defects in the public knowledge about appropriate antibiotics use, as well as lack of awareness on “antimicrobial resistance” problem. Awareness

\* Corresponding author. Pediatric Infectious Diseases Department, Jordan University of Science and Technology, King Abdullah University Hospital, P.O. Box 3030, Irbid 22110, Jordan. Fax: +962 27201064.

E-mail address: [Dawood\\_hh@hotmail.com](mailto:Dawood_hh@hotmail.com) (D. Yusef).

<https://doi.org/10.1016/j.idh.2017.11.001>

2468-0451/© 2017 Australasian College for Infection Prevention and Control. Published by Elsevier B.V. All rights reserved.

about appropriate antibiotic use and the serious consequences of antibiotic misuse should reach everyone in the community regardless of their educational or economic status.

© 2017 Australasian College for Infection Prevention and Control. Published by Elsevier B.V. All rights reserved.

### Highlights

- A cross-sectional study to assess knowledge & practices of antibiotics use in Jordan.
- There are major defects in the public knowledge about appropriate antibiotics use.
- There is also lack of awareness on the “antimicrobial resistance” problem.
- Awareness about appropriate antibiotic use should reach everyone in the community.

## Introduction

Antimicrobial resistance represents a significant public health problem worldwide that is associated with high mortality and morbidity [1]. Irrational and excessive use of antibiotics is the main driving factor for the evolution of antimicrobials-resistant organisms by increasing the bacterial exposure to resistance “selective-pressure” [2]. Antimicrobials use also alters the human’s normal microbiome and thereby may enhance the growth of pathogenic bacteria and increase susceptibility to infections [3], which will happen more often if antibiotics were used unnecessarily. These serious consequences of antimicrobials misuse, in addition to the burden of unnecessary cost and potential adverse events; make it a global rather than a personal health problem. Public lack of awareness and wrong practices on antibiotics use were shown to be at high levels especially in the developing countries, including Jordan [4–8]. The aim of this study is to evaluate the areas of defects in the knowledge and practices of the community about antibiotic use and the consequent bacterial resistance; in order to provide the most appropriate and meaningful awareness and plan of actions toward this significant problem.

## Methods

This is a cross-sectional study that was performed on a sample of 1060 randomly-selected adults (18 years of age and older) residing in the North of Jordan using a pre-validated, pre-tested questionnaire. We excluded adults who are practicing or studying health care professions (e.g. physicians, dentists, pharmacists, nurses, etc.) from the survey, trying to best reflect the cultural practices and knowledge rather than the established medical background. We built a 22-item questionnaire to evaluate knowledge, practices and attitude toward antimicrobial use and misuse, as well as to assess knowledge about antimicrobial resistance. These revised items were developed after a careful review of the similar literature and general evaluation of the current public malpractices regarding antimicrobial use to maximize content validity. We established face validity by having the questionnaire evaluated individually by two physicians (a pediatrician and an

infectious diseases specialist) and a clinical pharmacist who have experience in the field of the study to make it applicable to the target population. To facilitate the interviewing process, the final version of the questionnaire was translated from English into Arabic language, and the responses were translated back to English by two individuals who are fluent in both languages. The survey was pre-tested on a sample of fifty randomly-selected adults to reach a revised and validated questionnaire that complies most appropriately with the goals of the study. We used Kuder–Richardson Formula 20 (KR-20) to measure reliability of the questionnaire items that were used to assess knowledge toward antimicrobial use, and the score was 0.72. The data from the pilot test were excluded from the final analysis and were used only for validation of the survey. Questionnaire responses were collected by a group of

**Table 1** Demographics of the respondents to the survey (total,  $n = 1060$ ).

Demographic feature	Number	Percentage
Gender		
Male	402	38%
Female	658	62%
Age (years): median = 34 (range 18–77)		
18–25	332	31.3%
26–40	382	36%
41–60	306	28.9%
>60	40	3.8%
Education		
Higher education	787	74.3%
College	637	60.1%
Postgraduate	150	14.1%
Lower education	273	25.7%
No school education	26	2.5%
Primary	40	3.8%
Secondary	207	19.5%
Family members: median = 6 (range 2–15)		
Income (in JOD <sup>a</sup> /month)		
<300	173	16.3%
>600	463	43.7%
300–600	424	40%

<sup>a</sup> JOD: Jordanian Dinar, usual exchange rate: 1 JOD = 1.41 USD (US dollar).

Download English Version:

<https://daneshyari.com/en/article/8583143>

Download Persian Version:

<https://daneshyari.com/article/8583143>

[Daneshyari.com](https://daneshyari.com)