

A cross sectional survey assessing the knowledge attitudes and practices of antibiotic use among medical students in Jordan

R. M. Darwish¹, M. Shehadeh², G. Suaifan². ¹Pharmaceutics and Pharmaceutical Technology, The University of Jordan, Amman, Jordan, ²The University of Jordan, Amman, Jordan.

Introduction: Emergence of antibiotic resistant strains is becoming a worldwide public health problem. Irrational antibiotic use among the public has been reported in literature. The aim of the present study was to assess the knowledge attitudes and practices of antibiotic use among university medical students at The University of Jordan.

Method: The study was carried out during the month of November 2010. A cross-sectional, questionnaire-based survey involving medical students (n=200) at The University of Jordan was conducted. A structured questionnaire was developed by reviewing relevant literature (You et al., 2008; McNulty et al., 2007). An expert committee revised and validated the questionnaire and tailored it to the Jordanian setting. Furthermore, it was field-tested several times on a pilot sample of 10 students (5% of the target sample) to clarify any ambiguities. The questionnaire comprised a total of 31 questions and was handed to students at the beginning of different classes. Completed anonymized questionnaire were returned at the end of the class. All data were coded and analyzed using Statistical Package for Social Sciences program (SPSS), version 16.0.

Results: Out of the 200 questionnaires distributed, 199 were returned (response rate = 99.5%). Scoring level analysis revealed insufficient knowledge, high consumption rates and self-medication as shown in table 1.

Table 1 The knowledge of respondent regarding antibiotic use

Statements evaluating indication and efficacy of antibiotics ^a	Number	Total ^a	Percent ^b	P
(A) The antibiotic is use for				
Bacterial infection ¹	140	199	70.4	< 0.001
Viral infection ²	55	198	28.1	< 0.001
Common cold, cough and nasal congestion ²	86	197	43.7	< 0.001
Analgesic ²	14	199	7.0	< 0.001
Fever ²	44	198	22.2	< 0.001
Stomach ache ²	55	197	27.9	0.212
(B) An antibiotic will always be effective in the treatment of same infection in the future²				
	50	197	25.4	0.003
(C) Antibiotic resistance is due to:				
Using antibiotics when they are not necessary ¹	153	191	80.1	< 0.001
Not completing the full course of antibiotic ¹	161	191	84.3	< 0.001
Using antibiotic without physician prescription (Self medication) ¹	132	188	71.0	< 0.001
Using the same antibiotic with a different brand ²	99	181	54.7	< 0.001
(D) Antibiotic safety				
Antibiotic might develop allergy leading to death ¹	156	197	79.2	< 0.001

^a, Total percentage denote those who answered the question and agreed with the statement. ¹, Statements awarded students one point in scoring the level of knowledge upon agreement. ², Statements deducted students one point in scoring the level of knowledge upon agreement.

Conclusion: Misapprehension in terms of knowledge, attitude and practice of antibiotics use among medical students were observed. Therefore, it is important to incorporate more courses on antibiotics proper use into medical colleges' curriculum and to conduct follow up studies to ensure that goals have been fulfilled regarding improper use, over prescription of antibiotics and its association with resistance. Moreover, adopting strict policies that enforce regulations regarding procurement of antibiotics prohibit their purchase without prescription and controlling over the counter sale is a necessity. This will result in reduction of self-medication and high rates of consumption. Furthermore, consultation strategies and guidelines which improve antibiotic policies and procedures should be followed.

References:

1. McNulty et al. (2007). *J. Antimicrob. Chemother.*, 60: I63-I68.
2. Sawair FA et al. (2009). *Med. Princ. Pract.*, 18: 5-21.
3. You JHSet al. (2008). *Infection*, 36: 153-157.