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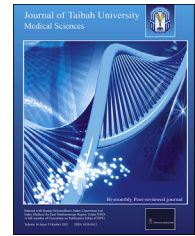


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Brief Communication

Preliminary findings of a study on the practice of self-medication of antibiotics among the practicing nurses of a tertiary care hospital



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Abstract

Objectives: Antibiotic resistance is indeed a global concern. It is of significant concern especially in the low-middle income countries because of the ease of accessibility, affordability, and absence of regulations pertaining to the dispensing of non-prescription antibiotics. This study aims to estimate the frequency and factors associated with the self-medication of antibiotics found among the practicing nurses.

Methods: We conducted a descriptive cross-sectional study at a tertiary care hospital in Karachi, Pakistan from July 2016 to August 2016.

Results: Of the 48 recruited nurses, 60.4% (29/48) were practicing self-medication of antibiotics. There were slightly more male nurses (17/29) than their female counterparts. The most frequently used antibiotic was Amoxicillin/Clavulanic acid, which was reported by 72.4% (21/29) of the nurses. The most prominent factor urging the nurses for practicing self-medication of antibiotics was their perceived knowledge of antibiotics, as was the case with 72.4% (21/29) of the nurses. Fever (79.3%) and sore throat (65.5%) were the two most frequent health problems that prompted the nurses to

practice antibiotics self-medication. An earlier experience of the use of antibiotics was reported by 51.7% (15/29) of the nurses. Only 20.7% (6/29) of the nurses completed the entire antibiotic course. The adverse effects of antibiotics were encountered by 41.4% (12/29) of the nurses, which included diarrhoea, nausea, and vomiting.

Conclusions: The self-medication of antibiotics is a frequent practice found among the practicing nurses in Karachi. It is a pressing concern and needs considerable attention from the healthcare authorities.

Keywords: Amoxicillin/clavulanic acid; Antibiotic; Fever; Nurses; Self-medication

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Introduction

As per the World Health Organization (WHO) statistics, about 80% of the antibiotics are consumed by LMICs, and the proportion of imprudent practice is sandwiched between 20% and 50%.¹ As a developing nation, Pakistan is no exception to the snowballing numbers of antibiotic self-medication practice. It is tiered 3rd for the highest consumption of antibiotics among LMICs. In fact, between 2000 and 2015, Pakistan witnessed 65% escalation in antibiotic consumption.² The practice of antibiotic self-medication has exponentially surged the distribution of antibiotic resistance

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and 'nightmare bacteria'. Antibiotic resistance is indeed a global concern. It is of significant concern more so in the low-middle income countries (LMICs) owing to easy accessibility, affordability, marginalized healthcare infrastructure, and nature of health illnesses.³ The aim of the present study is to underscore the frequency and factors associated with the practice of antibiotic self-medication found among the practicing nurses.

Materials and Methods

A descriptive cross-sectional research study was conducted at a tertiary care hospital in Karachi, Pakistan from July 2016 to August 2016. All of the study subjects were categorically informed about the objectives of the study. The practicing nurses were conveniently enrolled from the respective hospital during duty hours. The research data obtained non-identifiable details. The anonymity of the subjects was preserved and no incentives were provided to participate in this study. Once the written informed consent was obtained from the participants, they were given a predesigned self-administered questionnaire. The questionnaire comprised of both open-ended and close-ended questions, and the subjects were supposed to recall the practice of antibiotic self-medication. The research data collected was entered, tabulated, and analysed using Statistical Package for Social Sciences (SPSS) version 20.0 (SPSS-20, Chicago, IL, USA).

Results

In the present study, 54.2% (26/48) of the practicing nurses were females. The mean age was 28.1 ± 7.6 years. Of the 48 nurses recruited, 60.4% (29/48) were practicing

antibiotic self-medication. The prevalence of antibiotic self-medication was comparatively greater among males, namely 58.6% (17/29). With regard to the self-diagnosed health issues, the antibiotics found to be most frequently used were Amoxicillin/Clavulanic Acid, 72.4% (21/29), Amoxicillin, 65.5% (19/29), Ciprofloxacin, 51.7% (15/29), and Levofloxacin, 48.3% (14/29) (Figure 1). A predominant route for the antibiotic administration was oral, 93.1% (27/29) of the nurses used this route. In addition, the common factors urging for the antibiotics self-medication were knowledge about the antibiotics, 72.4% (21/29), convenience, 58.6% (17/29), and cost saving, 48.3% (14/29). Furthermore, the regular health complaints that predisposed the nurses to practice antibiotic self-medication were fever, 79.3% (23/29), and sore throat, 65.5% (19/29). Over two-thirds of the nurses procured non-prescription antibiotics from community, 86.2% (25/29), and hospital pharmacies, 75.9% (22/29). Earlier experience of antibiotics uses, 51.7% (15/29), and opinion of family and friends, 41.3% (12/29), were found to be fundamental in the selection of antibiotics. Merely 20.7% (6/29) of the nurses completed the entire antibiotic course. Interestingly, more than one-third of the nurses did not check the antibiotic instructions, 79.3% (23/29). The antibiotic adverse effects were encountered by 41.4% (12/29) of the nurses. These effects were largely related to the gastrointestinal system, issues such as diarrhoea, nausea, and vomiting. Most of the nurses calculated the antibiotic dosage based on past experiences, 55.2% (16/29), and discussions with the family or friends, 44.8% (13/29). The key factor contributing to the change in the antibiotic dosage was worsening health condition, was the case among 79.3% (23/29) of the nurses.

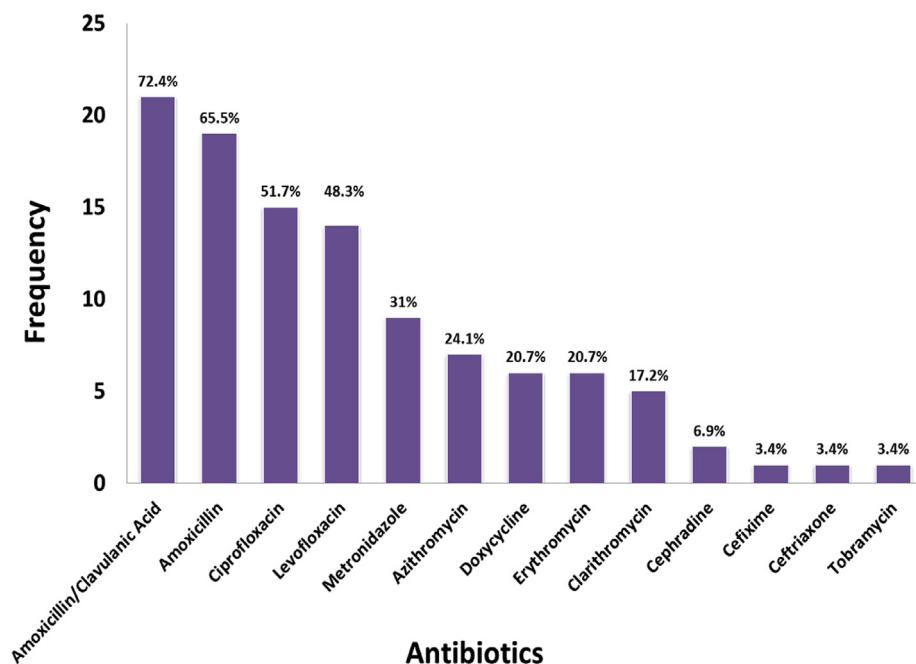


Figure 1: The Antibiotics Frequently used by the Practicing Nurses for Self-medication.

Discussion

A handful of research literature corroborates the burgeoning practice of antibiotic self-medication among the nursing students and practicing nurses.^{4,5} It is reasonable to infer that the fact of being educated healthcare personnel who handle antibiotics on a daily basis influences clinical nurses to practice antibiotics self-medication indiscriminately. Previously, education and professional standing were labelled as the prognostic factors for the antibiotic self-medication practice.⁶ Soroush et al. (2018) have suggested that the disease and treatment knowledge acquired through internships and educational courses often imparts a wrong impression and persuades nursing students to self-medicate with antibiotics, which have been recommended by others as well.⁷ If there are no prompt actions taken, especially during the nursing graduation, the pool of nurses practicing antibiotic self-medication would continue to grow if the nursing students continued with their arbitrary practice of antibiotic self-medication, and this would grow exponentially during their professional nursing careers. Awareness, education, and enactment of guidelines pertaining to the sales and usage of antibiotic should be carried out to combat the practice of antibiotics self-medication.⁸ For instance, Chile observed a substantial decline in antibiotic self-medication post the public awareness campaign and implementation of rules and regulations concerning the over-the-counter supply of antibiotics.^{9,10}

This study does have a few limitations. First, the studied subjects included both registered nurses as well as nursing interns, and thus, the patterns of antibiotic self-medication and the reasons for self-medication might differ based on knowledge and exposure. Second, there might be recall bias since the subjects were asked to recollect the antibiotic self-medication practice of the past 6 months. Third, due to this being a single centre study and using a small sample size, the study findings might not be applicable (generalized) to a larger population. Lastly, we could not determine the causality due to the cross-sectional nature of the study.

Conclusion

In conclusion, our preliminary findings delineated the frequent practice of antibiotic self-medication found among the practicing nurses. Prompt actions such as awareness sessions, antibiotic stewardship programs, and stringent policies are required in the initial phase (nursing students). Otherwise, like we witnessed in the present study, nursing students will continue to injudiciously practice antibiotic self-medication in their professional lives based on presumed knowledge.

Source of funding

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Conflict of interest

The authors have no conflicts of interest to declare.

Ethical approval

The study was approved by the Ethical Review Committee of Dow University of Health Sciences, Ojha Campus, Karachi, Pakistan (IBBPS/BE/R&DM/007) on February 04, 2015.

Consent

All the participants gave their written informed consent.

Authors' contribution

ASA and RJ conceived and designed the study, conducted research, provided research materials, and collected and organized the data. ASA analysed and interpreted the data. AAA and AASA wrote the initial and final draft of the article. All the authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.

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