



SURVEY ON KNOWLEDGE TOWARDS ANTIBIOTICS AMONG THE NURSING STUDENTS

SATISH KUMAR BP^{1*}, SANTHOSH YL¹, MOHAMMED GULZAR AHAMED², NAVEEN MR¹

Department of Pharmacy Practice, SAC College of Pharmacy, B.G.Nagara, India, Department of Pharmaceutics, SAC College of Pharmacy, B. G. Nagra, India. Email: satik75@gmail.com

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ABSTRACT

Background: The increasing prevalence of antimicrobial resistance remains an issue of concern to patients as well as health care professionals. Antibiotics are a class of drugs used to treat bacterial infection where they destroy bacteria (bactericidal) or prevent bacteria from multiplying (bacteriostatic).

Aim: The present study was done to assess and evaluate the nursing students for knowledge focused on general information about antibiotics, classes, side effects and contraindication, where the information about antibiotics were reviewed through online, scientific journals, text books and articles.

Methodology: An observational survey based study was done, where the data was collected among randomly selected final year nursing students by using a questionnaire.

Results and discussion: The study shows students knowledge on side effects of antibiotics is very poor. However, their general knowledge and understanding on classes of antibiotics is just average. Inadequate knowledge of medication use may directly lead to overuse or patient noncompliance with a drug regimen, and result in serious outcomes.

Keywords: MUCH- Master skill University College of Health Sciences, Antibiotics, Nursing students

INTRODUCTION

Antibiotics are among the most frequently prescribed medications in modern medicine.¹The world becomes a smaller place with viruses, bacteria and other pathogens traveling with great ease which lead us to be more exposed to challenges to our health. They exist all around us and can be transmitted from person to person by direct contact, inhalation of infected air and consumption of contaminated food or water. It may cause infectious disease when the body is invaded by microbes and the body has little or no natural immunity to the invading microorganism, or the number of invading microbes is too great for the body's immune system to overcome. They are mostly treated by using antibiotics. Antibiotics are a class of drugs used to treat bacterial infection where they destroy bacteria (bactericidal) or prevent bacteria from multiplying (bacteriostatic). Antibiotics are vital in today's medical practice, even though as with all medications, there may be some side effects which overall, are outweighed by the benefits. However, we now have come to understand that overuse or misuse of antibiotics can result in bacteria developing ways of resisting the effect of the antibiotics on them.² Knowledge on antibiotics Chemical structure, Mechanism of action, Type of organism against which primarily active, Spectrum of activity, Origin of antibiotics plays an important role among health care professionals in the better management of patients' condition. Doctors try to prevent the development of antibiotic resistance by selecting the drug most likely to eliminate the bacteria present in each individual case as quickly and as thoroughly as possible. Failure to complete a course of antibiotics that has been prescribed by a doctor increases the likelihood that the infection will recur in a resistant form.³ Antibiotics are powerful medicines that fight bacterial infections. If used properly, antibiotics can save lives. They either kill bacteria or keep them from reproducing. If a virus is making you sick, taking antibiotics may do more harm than good. Each time you take them, the body could get or spread an infection that those antibiotics cannot cure.

MATERIALS AND METHODS

Study design: Prospective observational survey based study

Place of study: The study was conducted at Master skill University College of Health sciences which is located in G-8 Jalan Kemacahaya 11, Taman Kemacahaya, Batu 9, 43200 Cheras, Selangor Darul Ehsan, Malaysia.

Duration of study: The study was conducted over a period of 3 weeks

Study population: Randomly 160 final year Diploma in nursing students were selected for the study.

Data collection method: The data was collected by using questionnaire. The questionnaires focus on the student's general knowledge towards antibiotics, uses, classes, side effects and contraindications of antibiotics. Also students were assessed on their understanding about cytotoxic antibiotics.

Analysis of data: The collected data was transferred to a Microsoft Excel worksheet to obtain the results which has been expressed as percentage. The results of data are shown in the tables, plotted graphs and statistics for the parameters of focused questionnaire by using Microsoft Excel.

RESULTS

The table 1 shows that the result of the study reveals knowledge towards antibiotics among the nursing students in MUCH. The result shows that 43% of students are at the high range who answered 5-6 numbers of questions correctly, followed by 31% of students answered 3-4 number of questions correctly. While 18% of students answered 7-8 questions correctly, 4.3% of students answered 1-2 questions correctly and very less number of students which is only 3.7% of students answered 9-10 questions correctly. From graph 1 it is evident that 96.3% of students agree that awareness of antibiotics use is important among the medical professional. While 75.6% of students believe that antibiotics can cure a disease, 68.8% of students understand that the usage of antibiotics is to prevent infections disease, 57.5% of students knew that penicillin was the first antibiotic used, and only 25.6% of students understand that it is not required to give any antibiotics for any mild disease.

Table1: Shows the number of students and their answers towards the questionnaire

Total No. of Question Asked	Total No. of Students taken for survey (include male and female)	Total no. of question answered	No. of students answered	Percentage (%)
10	160	1-2	7	4.3
		3-4	50	31.0
		5-6	68	43.0
		7-8	29	18.0
		9-10	6	3.7

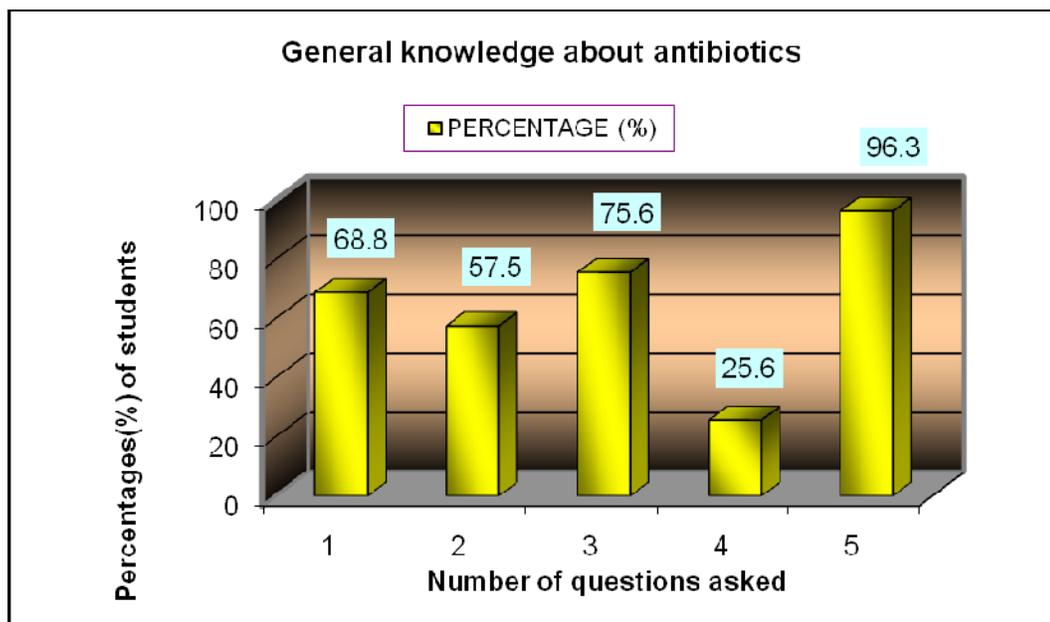


Fig. 1: Shows the general Knowledge about antibiotics

The table 2 shows that 75% of students understand that contraindications are required for choice of antibiotics; while 31% of students knew that side effects are exist due to administration and over dosage of antibiotics.

Table 2: Shows Knowledge on side effects and contraindication

Knowledge on	No. of Students answered correctly	Percentage (%)
Side effects	49	31%
Contraindication	120	75%

Table 3 shows that about 73.8% of nursing students have good knowledge towards classification of antibiotics into broad spectrum and narrow spectrum. However 42.5% of students only knew the total classes of antibiotics. Student's knowledge towards cytotoxic antibiotics drugs is very less where the percentage shows only 15%.

Table 3: Shows knowledge on classification / classes of antibiotics

Knowledge on	Total no. of students answer correctly (n=160)	Percentage (%)
Total classes of antibiotic	68	42.5
Broad spectrum & narrow spectrum antibiotics	118	73.8
Cytotoxic antibiotics drugs	24	15

DISCUSSION

Knowledge and attitudes influence patients' behaviors and outcomes. Improvements in knowledge are often correlated with better health practices. Yuan Hsiao, et al, (2006) reported that college students in Taiwan have positive attitudes toward medication consultation but lack knowledge about proper use of medications and drug safety.⁴ In this study overall knowledge towards antibiotics among the nursing students is less than average which is only 43%. It is evident from the study that 68.8% of nursing students only knew that antibiotics are prescribed to against infectious disease. Only average students are aware of the history of antibiotic discovery. McNulty et al study shows that 97% of respondents knew that antibiotics should not be taken unnecessarily.⁵

However 75.6% of students understand that antibiotics can cure the disease because it is given as prophylaxis to cure from the disease. Only 25.6% of students are agrees that antibiotics are not necessary for mild disease because it may lead to antibiotic resistance and difficult in further infection. Almost 75% of them believe that contraindications have to be considered before selection of antibiotics. The misunderstandings about antibiotics use were also found in a telephone survey, which showed that 27% of respondents with common cold believed that antibiotics made them recover more quickly, 32% believed that antibiotics prevented a more serious illness, and 48% expected their doctor to write a prescription for antibiotics. Gichangi et al study on knowledge and practice with regard to emergency contraception are poor among the nursing students.⁷ Knowledge towards classes are lower than average. Nursing students understanding about presence of side effects by antibiotics is poor.

CONCLUSION

From this study it is concluded that knowledge towards antibiotics among the nursing students in MUCH is less than average. This highlights the need for educational strategies to be developed to enable students to reflect on the antibiotics knowledge.

For that further studies required to create awareness on antibiotics among the nursing students.

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