



Research Article

EVALUATION OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS DRUG USE ALONG WITH GOOD PHARMACY PRACTICE AMONG PHARMACY STUDENTS OF SRI VENKATESWARA COLLEGE, CHITTOOR, INDIA

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ABSTRACT

Irrational use of medicines is a global problem due to poor knowledge and understanding about drug utilization by healthcare professionals and patients. To assess knowledge and perceptions of drug use along with good pharmacy practice (GPP) among pharmacy students of Sri Venkateswara College of Pharmacy (SVCOP) belonging to different age groups, gender and ethnicity. This Cross-sectional study was conducted in Sri Venkateswara College of Pharmacy of Chittoor, Andhra Pradesh by using questionnaire which consists of 21 questions. Among these questions, 10 were related to the knowledge, 6 were related to attitude and the remaining 5 questions were related to the practice aspects. All statistical analyses were performed using Microsoft Excel 2010 and Graph Pad Prism 7.0 software. The response rate obtained was 84%. Among 350 students, 155 were male and 195 were female. The mean (SD) age of the studied population was found to be 19.77 (1.56) years with a median age of 20 years. The result of this research study has shown that the students possess good attitude and practice but lack appropriate knowledge in drug use and GPP. The current practice of pharmacy in Indian scenario is not adequate and it needs further improvement. Most of the pharmacists are not accessible to update their knowledge on drug information. It is necessitate for strengthening the pharmacy profession by providing trainings and continuing professional development to update their knowledge and skills to dispense, counsel and in analyzing the prescription.

Keywords: Attitude, Pharmacy students, Knowledge, Pharmacy practice, Drug use.

INTRODUCTION

Drugs play a major role in every individual's life. According to WHO, fifty percent of drugs were prescribed enormously all over the world¹. Studies revealed that about half of patients with treatment failure are due to poor medication adherence and polypharmacy. Irrational use of medications (increased use of over the counter (OTC) drugs, prescription, non-prescription drugs and traditional medicines) leads to increased health hazards, failure of therapy and lack of patient satisfaction making medication use and safety a global issue^{2,3,4,5}. Thus, rational drug use is an essential factor in ensuring patient safety, effective management of diseases and promoting good health care services⁶. Appropriate use of drugs can enhance therapy success and prevention of adverse event. Counselling patients could promote strict adherence to the dosage regimen, avoid drug interactions, identifying predictable adverse drug reactions and recognising possible toxic effect at earliest. Therefore every pharmacist is obliged to ensure that the service they provide to every patient is of appropriate quality i.e., GPP. World Health Organization (WHO) and International Pharmaceutical Federation (FIP) encourage all countries to develop minimum standards for pharmacy practice^{7,8}. The goal of GPP guidelines is to promote health, to supply medicines and medical devices, to educate patient regarding self-care, to promote medication adherence⁹. Application of these standards in pharmacy practice results in improving both clinical and economic outcomes of the patient's healthcare¹⁰.

Medication knowledge evaluation is used to assess the ability of understanding necessary information for appropriate use of medications^{11, 12}. Information obtained from medication knowledge assessment could aid in developing an appropriate knowledge improvement plan. Various studies revealed that loss of efficacy and inefficient use is due to lack of knowledge and information regarding medication and inappropriate use of medication¹³. Attitude evaluation is used to assess the coping ability with patients and other healthcare professionals. It aids in improving implementation and quality of practice¹⁴. Practice analysis is used to assess the professional roles of healthcare professionals. It aids in identifying the barriers in application of the medication knowledge¹⁵. Knowledge, attitude and practice regarding safe medication use along with GPP are essential for pharmacist in successful implementation of safe medication program, identifying areas of intervention and appropriate resources to promote rational use of drugs¹⁶. The aim of the present study is to investigate knowledge, attitude and practice (KAP) of pharmacy students regarding drug use and GPP.

MATERIALS AND METHODS

Study Design and sample size

This Cross-sectional study was conducted in Sri Venkateswara College of Pharmacy of Chittoor, Andhra Pradesh by using questionnaire and approved by Institutional Ethical Committee. The KAP questionnaire was designed through searching in related internet websites. This KAP questionnaire consists of a total of 21 questions. Among these questions, 10 were related to the knowledge, 6 were related to attitude and the remaining 5

questions were related to the practice aspects and the questionnaire was validated by expert and senior pharmacist working in Sri Venkateswara College of Pharmacy. Among 419 students, 350 of them filled and returned the questionnaire.

Data Collection Process

The data was collected from September 11 to October 11, 2016. A questionnaire prepared by the investigator was used to collect the information on drug use and GPP. Then the questionnaire was given to the students to fill it in their home or at their free time and collected in the next day. For better quality of data the investigator of the study explained highlight of the questionnaire to the students during delivery of the questionnaire. In the next day during collection of questionnaire the students were asked if there were any unclear ideas in the questionnaire and was checked for any unfilled information. Verbal consent was obtained from each student during data collection. The confidentiality of the data obtained was assured and the name and address of the student was omitted from the questionnaire.

Statistical Analysis

Comparison between two groups was analyzed by means of student t-test to determine the presence or absence of statistically significant difference. Wherever computed, a P value of less than 0.05 was considered significant, since the confidence interval was maintained at 95%. All statistical analyses were performed using Microsoft Excel 2010 and Graph Pad Prism 7.0 software.

RESULTS

350 students out of 419 students filled and returned the questionnaire, giving the response rate of 84%. The demographic characteristics of participated students are shown in Table 1, 2 and Figure 1.

Table 1: Age wise Distribution

Age range	No. of students (%) N=350	Mean ± SD
17-18	85 (24.3)	17.54±0.49
19-20	110 (31.4)	19.45±0.49
21-22	148 (42.3)	21.13±0.34
23-24	7 (2)	23.28±0.45

The mean (SD) age of the studied population was found to be 19.77 (1.56) years with a median age of 20 years.

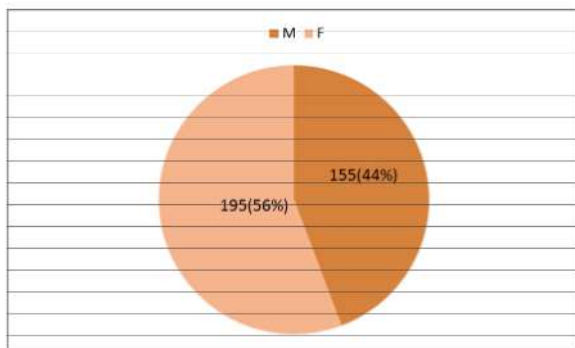


Figure 1: Gender wise Distribution

155 (44%) students were male whereas 195 (56%) students were female. Statistically significant difference was not observed

between mean (SD) age of males (19.90 (1.62)) and females (19.67(1.51)) (P Value= 0.1600).

Table 2: Education wise Distribution

Educational Qualification	No. of students (%) N=350
B.Pharm	226 (64.6)
M.Pharm	15 (4.3)
Pharm-D	109 (31.1)

Students knowledge, attitude and practice about the drug use and GPP was evaluated by using twenty one questions. The result is shown in Table 3, 4 and 5.

Table 3: Pharmacy students' knowledge on drug use and GPP

Knowledge Questions	Correct answer N (%)	Incorrect answer N (%)	No answer N (%)
Q1	226 (64.6)	104 (29.7)	20 (5.7)
Q2	147 (42.0)	158 (45.1)	45 (12.9)
Q3	152 (43.4)	184 (52.6)	14 (4.0)
Q4	183 (52.3)	138 (39.4)	29 (8.3)
Q5	144 (41.1)	194 (55.4)	12 (3.4)
Q6	176 (50.3)	150 (42.9)	24 (6.9)
Q7	142 (40.6)	135 (38.6)	73 (20.9)
Q8	150 (42.9)	138 (39.4)	62 (17.7)
Q9	179 (51.1)	122 (34.9)	49 (14.0)
Q10	91 (26.0)	215 (61.4)	44 (12.6)

Knowledge questions

- Q1: Can antibiotics be taken without prescription?
- Q2: Are you aware of the term "Essential drugs"?
- Q3: Are antibiotics effective against viruses?
- Q4: Will improper use of antibiotics leads resistance to humans?
- Q5: Can nutritional supplements be taken without prescription?
- Q6: Will irrational use of nutritional supplements cause harmful effects?
- Q7: Should we take Proton pump inhibitors before food?
- Q8: Is it necessary to add antacids to all prescriptions to avoid GI upset?
- Q9: Are you aware of abbreviations BID, TID, HS?
- Q10: Can patient discontinue antibiotics without completing the course?

Table 4: Pharmacy students attitude on drug use and GPP

Attitude Questions	Positive N (%)	Negative N (%)	No answer N (%)
Q1	313 (89.4)	34 (9.7)	3 (0.9)
Q2	278 (79.4)	66 (18.9)	6 (1.7)
Q3	316 (90.3)	25 (7.1)	9 (2.6)
Q4	294 (84.0)	45 (12.9)	11 (3.1)
Q5	313 (89.4)	30 (8.6)	7 (2.0)
Q6	121 (34.6)	205 (58.6)	24 (6.9)

Attitude questions

- Q1: Pharmacists are responsible for safety evaluation of prescriptions.
- Q2: Performance of pharmacist should be based on professional factors rather than economic factors.
- Q3: Pharmacist professional services are necessary complementary part in health care system.
- Q4: Pharmacist is a trusted consultant on drug.
- Q5: It is important to consult pharmacist before taking any drug.
- Q6: Current pharmacy services are not appropriate in India.

Table 5: Pharmacy students practice on drug use and GPP

Practice Questions	Correct answer N (%)	Incorrect answer N (%)	No answer N (%)
Q1	350 (100.0)	0 (0.0)	0 (0.0)
Q2	273 (78.0)	63 (18.0)	14 (4.0)
Q3	305 (87.1)	38 (10.9)	7 (2.0)
Q4	129 (36.9)	211 (60.3)	10 (2.9)
Q5	45 (12.9)	297 (84.9)	8 (2.3)

Practice questions

Q1: Is professional appearance necessary in pharmacy?

Q2: Do you ask female patients, if they are pregnant/ lactating before dispensing medicines?

Q3: Is it necessary to provide patient counselling while dispensing medicines?

Q4: Will you dispense drugs to children if they come with prescriptions?

Q5: Will you react in front of patients if you find a serious drug-drug interaction in prescription?

Distribution of knowledge, attitudes and practice variables shows the mean and other statistical factors in Table 6. These statistics are obtained from descriptive analysis of knowledge, attitude and practice variables after summing the percentage of correct answer and positive attitude scores.

Table 6: Distribution of knowledge, attitudes and practice variables

	Knowledge	Attitude	Practice
Mean±SD	45.43±10.06	77.85±21.59	62.98±36.62
Median	43.15	86.70	78
Range	38.60	55.70	87.10
Minimum	26	34.60	12.90
Maximum	64.60	90.30	100

DISCUSSION

The mission of pharmacy practice is to contribute to health improvement and to help patients with health problems to make the best use of their medicines. Students' knowledge about drug use and GPP was evaluated by using ten questions regarding rational drug use along with providing a range of high standard pharmacy services to the patients. The first knowledge question had the maximum response rate among all knowledge questions and 64.6% of the students suggested that antibiotics should not be taken without prescription. The last question had the minimal response rate and 26% expressed that antibiotics can be discontinued without completing the course. Misunderstanding of antibiotics use leads to resistance. In a study Abdelmoneim IA et al, 47% of participants had low knowledge regarding action, use, safety and resistance of antibiotics¹⁷. Students' response rates to the remaining questions were shown in Table 3. This study has demonstrated that students lack adequate knowledge regarding abbreviations which are used in prescription, antacid administration, nutritional supplements use and antibiotics efficacy. Only 45.43% of students have answered correctly which is shown in Table 6. It is well documented that safe and effective drug therapy is possible when patients are well informed about medications and their use. The person dispensing medicine has to be in a position to enforce this information. Thus competent and qualified pharmacists should be trained for dispensing and giving clear instructions to the patient on effective use of drugs¹⁸.

Students' attitude towards drug use and GPP was evaluated by using six questions regarding different aspects of current situation of pharmaceutical services in India. The third attitude

question had the maximum response rate and 90.3% of the students expressed that pharmacist professional services are necessary complementary part in health care system shown in Table 4. Despite students' low level of knowledge, their attitude towards this subject was at a high level (77.85%) which is shown in Table 6. Pharmacy students showed a positive attitude regarding the trustworthiness of a pharmacist to give a consultation. Nearly all other health science students showed a negative attitude¹⁹. Pharmacists play a valuable role in identifying, solving and preventing drug-related problems for the purpose of achieving optimal patient outcomes and quality of life²⁰. Therefore it is necessary to consult physician and pharmacist before taking any drugs.

Students' practice towards drug use and GPP was evaluated by using five questions regarding their professional appearance, dispensing drugs to children and women along with asking their reactions towards drug interactions in prescription. The first practice question had the maximum response rate and 100% of the students suggested that professional appearance is necessary shown in Table 5. 62.98% of students have answered correctly which is shown in Table 6. Before dispensing medicines to pregnant and lactating women, it is necessary to discuss about the drugs by the pharmacist since drugs leads to teratogenicity and also have the ability to pass through milk which affects infants²¹. While receiving a prescription and when he finds any error or drug interactions in the prescription, a pharmacist should not change his facial expression which gives a negative impact to the patient²². The result of this research study has shown that the students possess good attitude and practice but lack appropriate knowledge in drug use and GPP.

In Conclusion, Pharmacists have a significant role on public health and improving patient's quality of life. The current practice of pharmacy in Indian scenario is not adequate and it needs further improvement. GPP is poorly applied worldwide. To improve the success rate of treatment, it is important to create awareness among public and health care professionals in rational drug use. Most of the pharmacists are not accessible to update their knowledge on drug information in order to provide this information for patients, other health professionals and to the general public. In our study, majority of students were aware about drug use and GPP addressed in the questionnaire which seems to be a positive finding. This study has its own limitation that the study was conducted among students of our college only. So the findings cannot be generalized to all students. However, it is necessitate for strengthening the pharmacy profession by providing trainings and continuing professional development to their knowledge and skills to dispense, counsel and in analyzing the prescription.

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