Assessment of Students at Pharmacy Colleges in the Kolhapur District of Maharashtra, India, in Terms of their Knowledge, Attitudes, and Practices (KAP) towards Responsible Self-Medication

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ABSTRACT

Aim/Background: This cross-sectional study aims to assess the Knowledge, Attitude, and Practice (KAP) of pharmacy students regarding responsible self-medication. **Materials and Methods:** The study involved 129 pharmacy students from various colleges in the Kolhapur district of Maharashtra, India. The participants completed a prevalidated KAP questionnaire on appropriate self-medication. The data collected were analyzed using statistical tests, and correlations between various factors were determined. **Results:** Out of the 129 participants, 78 (60.46%) were between the ages of 20 and 25. Of the total participants, 31% had a diploma, 80.16% had a bachelor's, and 6.9% had a masters. The results indicated that 43.41% of the participants had good knowledge of responsible self-medication, 96.89% had a positive attitude, and 89.14% had engaged in appropriate self-medication. The study also found significant correlations between good knowledge and sensible application of responsible self-medication and the participant's age, pharmacy division, place of living, and parents' occupation ($p < 0.05$). **Conclusion:** The study concludes that pharmacy students have a positive attitude toward responsible self-medication, but some of them lack knowledge and practice of responsible self-medication. The findings suggest that pharmacy education should focus on enhancing students' knowledge and practical skills related to responsible self-medication.

Keywords: Self Medication, Pharmacy students, OTC drugs etc.

INTRODUCTION

WHO defines "self-medication" as "the choice and use of medications by individuals to cure self-recognised medical conditions." illnesses or signs[1] Self-care includes the use of self-medication. Humans have always believed that their own health is their own responsibility. As a result of technological advancements in diagnostics, surgery, and medicine starting in the 19th century, the medical profession has grown significantly in importance in the field of caring for human health. As a result, people have been less active in their own care. Around 1960, as a result of these advances, self-care and self-medication were regarded as being unscientific. The responsible use of Over-the-Counter (OTC) medications as part of self-care in addition to other activities like hygiene, nutrition, and exercise became more widespread as the health care system became more expensive but with the emergence of an increased number of chronic noncommunicable diseases, the majority of which could be modified by self-care and by reducing risk factors.[2] Patients must assume all obligations, just like a good doctor would, in order for self-medication to be effective and safe. This entails accurately identifying diseases or symptoms, administering the right dosage, figuring out the outcome, and taking safety measures to prevent side effects and co-morbid disorders.[3]

Patients obtain medications for self-treatment through using outdated prescriptions, exchanging medications with family and friends, using leftover medications from prior illnesses, going to medical stores without a prescription, and using home treatments.[4,5] The rising usage of drugs among college students

has been attributed to the direct marketing of pharmaceutical corporations via commercials on key television channels, periodicals, and the internet.[6,7] Self-medication has increased as a result of India's poor health care and accessibility to a wide range of medications without a prescription. It may increase the likelihood of antibiotic resistance, resource waste, pain, drug dependence, and other impacts.[8,9]

MATERIALS AND METHODS

Study design and participants

This cross-sectional study was carried out in Pharmacy College in the Kolhapur district: Ashokrao Mane College of Pharmacy (AMCP) and Women's College of Pharmacy (WCOP), PethVadgaon. The study was conducted from January 2022 to January 2023 during a 12-month period. Before beginning the study, proper authorization was requested from all institution authorities. AMCP gave its approval for the study. In this study, pharmacy students pursuing diploma, bachelor's, and master's degrees were included. Due to their ignorance of the study's basic pharmacy courses, first-year diploma and bachelor of pharmacy students were not accepted for enrolment. Students that were unwilling to engage in the study were not included.

Sample size and sampling method

Using the assumptions that 50% of students had the best knowledge, a 95% confidence interval, and a 5% level of precision, MS Excel computed the sample size as 129. From all the pharmacy schools in the Kolhapur district, a total of 1500 qualified students are present for this study. After assigning each student a unique number, the desired sample (*n* = 129) from a sample frame of 1500 people was obtained.

Study tool

A prevalidated self-administered questionnaire about safe self-medication was distributed to 129 randomly chosen eligible pharmacy students. The questionnaire is divided into four sections to collect information on the socio-demographic makeup of the study population and KAP toward responsible self-medication. Age, gender, place of residence, educational attainment, religion, marital status, and family income are among the sociodemographic information given.

Knowledge toward responsible selfmedication

On a 16-point scale, self-medication knowledge was evaluated. There were 16 right responses to the 17 knowledge-related multiple choice, closed-ended, and open-ended questions. Each right response received a point of 1, and each incorrect response received a point of 0. Knowing the definition of self-medication (1 point), being aware of drug indications (1 point), being aware of drug therapy discontinuation (1 point), being aware of the safe use of antibiotics (1 point), being aware of illnesses for which

self-medication is advised (1 point), being aware of the drugs preferred for self-medication (1 point), being aware of the dose and dosage schedule of these drugs (1 point), and being aware of self-medication (1 point), Knowing when to seek professional advice during self-medication therapy (1 point), knowing the side effects of drugs preferred for self-medication (1 point), knowing the dosage of drugs preferred for self-medication (1 point), knowing when to favors self-medication (1 point), knowing the sources of information about self-medication (1 point), and knowing the reasons to stop self-medication (1 point). Following the evaluation of knowledge points, the original Bloom's cut-off points were used to classify knowledge levels. According to these cut-off points, good knowledge was defined as 80%-100% correct responses with a score of (13-16), moderate knowledge as 60%-79% correct responses with a score of (10-12), and poor knowledge as 60% correct responses with a score of (9 or 9).[10]

Attitude toward responsible selfmedication

Eight statements on using self-medication responsibly were put on a Likert scale, with responses ranging from strongly agreeing 5, agreeing 4, not agreeing at all, not disagreeing 3, disagreeing 2, and strongly disagreeing 1. This attitude was evaluated. All statements should receive a minimum of 8 and a maximum score of 40. A favourable attitude toward responsible self-medication practise will be assumed if the respondent's score is greater than or equal to 20, and a negative attitude will be assumed if the score is less than 20.[11]

Practice toward responsible selfmedication

Five closed-ended questions were used to evaluate practise in relation to appropriate self-medication. If the patient responds "no" to every inquiry, it will be assumed that they take their medications responsibly and rationally. It will be assumed that the patient is engaging in unreasonable self-medication if they answer "yes" to at least one of the questions.

RESULTS

A total of 129 pharmacy students completed the self-medication questionnaire; the majority of them, 78 (60.46%), were between the ages of 20 and 25. The average age of the students was 20.5 (plus or minus 2), and 58.13% of the students are female. The majority of pharmacy students who responded are pursuing bachelor's degrees in the field (80.61%), diplomas in the field (31.0%), and master's degrees (6.97%).

The majority of the participants 65, or 50.38%), lived in urban areas; 126 (97.67%) were Hindu; and 127 (98.44%) were single. 124 (96.12%) of the students' parents were employed in non-medical fields, and their household income ranged from 10,000 to 80,000 Indian rupees.

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Among the 129 respondents, 117 (90.69%) were given the proper definition of responsible self-medication; the majority of them, 120 (93.02%), were told that self-medication requires a fundamental understanding of drug action. More than half of the students are knowledgeable about when to begin, continue, and stop using medicines that they frequently use for self-medication. The majority of the students, 115 (89.14%), are aware of the conditions for which self-medication is advised. The majority of students 78 (60.46%) are aware of drug use and storage. Self-medication was most frequently used. Only 40 (31.0%) of the students knew the trade name, generic name, dosage, and course of medications that are best for self-medication. In order to practice self-medication, the majority of them used informational resources like consulting a pharmacist 65 (50.38%), consulting a doctor 35 (27.13%), having prior experience 42 (32.55%), having prior prescriptions 35 (37.13%), books/newspapers 32(24.80%), package inserts 10(07.75%), and the internet/social media 8(6.20%). Pharmacy students typically self-medicate for the following reasons: rapid relief (75/58.13%), no need for doctor consultation for minor illnesses (59/45.73%), emergency (51/39.53%), time savings (39/30.23%), cost-effectiveness (39/30.23%), and to escape the hospital congestion (35/27.13%). Risk of an unpleasant drug reaction (80, 62.01%), wrong dose (60, 46.51%), wrong medicine (60, 46.51%), missed diagnosis (51, 39.53%), and drug dependence (22, 17.05%) are the most frequent reasons. Most of the students are taught how to take their medications responsibly. All respondents, 56 (43.41%), 35 (27.13%), and 38 (29.45%), have good knowledge, moderate knowledge, and weak knowledge, respectively. The majority of 125 (96.49%) are in favors of prudent self-medication.

DISCUSSION

Self-medication is the practice of using pharmaceuticals that are deemed safe and effective when taken as directed and are permitted and readily available without a prescription to treat symptoms and illnesses.[12] However, if used improperly, it will have undesirable effects. Self-medication is a major issue, particularly among students studying medicine.[13] Consequently, KAP for safe self-medication among pharmacy students is crucial to promoting health and lowering drug-related issues. The majority of studies are conducted to evaluate self-medication practises and behaviour; however, this is the main study that concentrates on responsible self-medication among pharmacy students. According to the study, 115 pupils (89.14%) are aware of responsible self-medication. In this study, students will prefer self-medication for ailments such body aches, headaches, colds and coughs, fever, diarrhoea, vomiting, gastritis, and period cramps.[14] Similar infections were also identified in a prior study

by Sawalha among Palestinian university students studying medicine and non-medicine.[15] Students should remember that if certain illnesses or symptoms occur frequently or for an extended period of time, it is best to see a doctor because they could be indicators of more serious illnesses. The majority of students are aware of medications like Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) 65 (50.38%), antihistamines 59 (45.73%), cough suppressants 75 (58.13%), antispasmodics 66 (51.16%), antibiotics 69 (53.48%), and antacids 71 (55.03%) that can be used for self-medication. Similar results were found in the study conducted by Verma *et al*. This knowledge, combined with prior prescriptions and experiences, could result in unreasonable self-medication. According to this study, the top two justifications for self-medication are immediate relief (58.13%) and the avoidance of doctor visits for minor illnesses (45.73%). This might be because pharmacy students are less likely to seek a doctor's treatment for their ailment because they know more about medications. The study conducted by Bollu *et al*. among pharmacy students in Guntur came to the same conclusions.[16] The majority of students consult a pharmacist for information on self-medication. All community pharmacists must receive training on treating minor ailments and preventing the non-prescription selling of prescription-only medications. More than half of the students exhibit weak knowledge and unreasonable self-medication behaviour, the survey reveals, yet 96.89% of students have a good attitude toward responsible self-medication. These findings will provide as support for the development of teaching programmes on appropriate self-medication for pharmacy students, the general population, and professional pharmacists. This will have a significant effect on future appropriate self-medication practices. With a P 0.05, the respondent's age, pharmacy division, place of living, and parents' occupation were substantially correlated with good knowledge and sensible practice toward responsible self-medication. Similar results were found in studies done by Gandhi *et al*. and Selvaraj *et al*. as well.[17,18] Gender, religion, place of residence, and monthly household income of the respondent are not related to KAP toward responsible self-medication.

CONCLUSION

Pharmacy students generally had a good outlook on responsible self-medication. To advance knowledge and practice, it is strongly advised that pharmacy students be exposed to the concept of responsible self-medication through seminars, workshops, and other activities. The sensible use of Over-the-Counter (OTC) and POM medications, which increases pharmaceutical safety, will benefit from this.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ABBREVIATIONS

KAP: Knowledge, Apptitude, Practie; **WCOP:** Womens College of Pharmacy; **AMCP:** AShokrao Mane College of Pharmacy; **OTC:** Over the counter; **POM:** Prescription Only Medicine; **NSAID:** Nonsteroidal Anti-inflammatory drugs.

Ethics Statement

The studies involving human participants were reviewed and approved by Ethics Approval was taken in this study from Institutional Review Board of College, and content to participate was obtained from all the individuals through online/offline platform. The patients/participants provided their written informed consent to participate in this study.

SUMMARY

Pharmacy students generally had a good outlook on responsible self-medication. To advance knowledge and practise, it is strongly advised that pharmacy students be exposed to the concept of responsible self-medication through seminars, workshops, and other activities. The sensible use of Over-the-Counter (OTC) and POM medications, which increases pharmaceutical safety, will benefit from this. Practice of Mediation will help to improve their knowledge about the drugs, and it will be beneficial for society in minor and moderate illness.

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