

PERCEPTION AND KNOWLEDGE OF RATIONALE MEDICINE USE IN MEDICAL STUDENTS- A QUESTIONNAIRE BASED CROSS SECTIONAL STUDY

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Abstract

Background: Main aim of clinical pharmacology training and teaching of concepts for rationale medicine use to medical students is to make them aware of skills and knowledge for them to work in future as clinicians and make them able to assess the potential risks and benefits of treatment along with its cost-efficacy. The present study aimed to assess the perception, attitude, and knowledge of rationale medicine use in medical students. **Materials and Methods:** The present cross-sectional questionnaire-based study was done on 304 medical students. Included students were assessed using a questionnaire that was predesigned to assess the perception and knowledge of medical students for rational use of the medicines. The data gathered were analyzed for results formulation. **Result:** The study results showed that the majority of the study participants, were aware of the use of over-the-counter medications as reported by 72% of the participants in the questionnaire. Awareness about reading the label of the medicine was reflected in 86% of the study subjects. Also, in 84% of the subjects, all medicines written on prescription were purchased showing a majority of these subjects. **Conclusion:** The present study concludes that majority of the medical students are aware concerning the rationale use of the medicine which is implicated as a positive finding concerning perception and knowledge of medical students towards rationale use of medicine.

INTRODUCTION

For the healthcare system to have high efficiency for its function, key factors necessary are the rationale of medicine use, cost-efficacy, and accessibility. Rationale use of medicine includes that subjects receive drugs necessary for clinical needs, in adequate doses meeting their own individualized need, for the proper period, and the measures are cost-effective for both patients and the community. Money-driven prescription approaches, prescribing pressure, improper knowledge in patients, less monitoring by regulatory agencies, pharmaceutical industries' lucrative promotional biases, money-driven approach of prescribers, and false beliefs include irritational prescribing habits leading to gross resources wastage, increased treatment cost, development of antibacterial resistance, and more adverse drug reactions can be prevented significantly by enforcement of rational usage concept of medicine

in healthcare professionals and doctors. To eliminate this malpractice of irrational prescription.^[1]

It is vital to develop a yardstick for measurement to bring rationale, effective, and focused prescription habits to the practice. The vital stakeholders are identified as prescribers, pharmacists, pharmacy students, and nurses as various previous studies have assessed the perceptions, attitudes, and knowledge of these factors concerning rationale medicine use. As medical students are budding doctors, it is vital to impart rationale use concepts in early learning to inculcate good habits. Presently, in medical curriculum, teaching is based on symptoms and correct diagnosis making, and little focus is made on skills and concepts needed for rationale medicine use.^[2]

WHO (World Health Organization) has proposed six steps for rationale medicine prescription. In the correct rationale prescribing approach, WHO has proposed six steps to be followed in sequence

including defining of patient's problem correctly, specification of the therapeutic objective, suitability of the drug chosen appropriately, writing the prescription legibly and correctly, giving the instructions and warnings to the patient appropriately, and timely monitor or stop the treatment.^[3]

Previous literature data assessing the prescription knowledge in interns has reported that deficiency in pharmacology teaching of undergraduate students and concluded the need for interns and medical students to be assessed periodically concerning skill and knowledge of prescription during undergraduate training as a method of minimization in errors of prescription. Hence, it is vital to assess the knowledge of medical students concerning rationale medicine use and self-medications.^[4] Hence, the present study aimed to assess the perception, attitude, and knowledge of rationale medicine use in medical students.

MATERIALS AND METHODS

The present cross-sectional questionnaire-based study was aimed to assess the perception, attitude, and knowledge of rationale medicine use in medical students. The study subjects were from the Outpatient Department of the Institute. Verbal and written informed consent were taken from all the subjects before study participation.

The study assessed 304 subjects from the undergraduate curriculum of medicine. Included subjects were screened to be included in the study. Data for all the participants was kept anonymous and was not disclosed.

The study utilized a preformed structured questionnaire to assess the perception and knowledge of medical students for rationale of medicine prescription. Questionnaire utilized was closed-ended, open-ended, semi-structured, and pre-validated items.

Questionnaire were taken from the previous studies by Sontakke et al⁵ in 2013. Modifications were made considering the opinion by the experts. Questionnaire was designed in a way as to attain information concerning different issues for rationale use of medicines. The final version of the questionnaire was distributed to all the medical students.

Gathered data were statistically analyzed using the chi-square test, Fisher's exact test, Mann Whitney U test, and SPSS (Statistical Package for the Social Sciences) software version 24.0 (IBM Corp., Armonk, NY, USA) using ANOVA, chi-square test,

and student's t-test. The significance level was considered at a p-value of <0.05.

RESULTS

The present cross-sectional questionnaire-based study was aimed to assess the perception, attitude, and knowledge of rationale medicine use in medical students. The present cross-sectional questionnaire-based study was done on 304 medical students. Included students were assessed using a questionnaire that was predesigned to assess the perception and knowledge of medical students for rational use of the medicines. On assessing the participant's knowledge concerning medicine use rationale, 98% of the respondents were aware of the expiry date of the drugs, 68% that any tablet can be divided and given to pediatric subjects, 78% aware concerning precautions of using drugs in elderly subjects, 84% were aware of special precaution in children before giving drug, 90% were aware of special precaution in pregnant and lactating before giving drug 68% were aware of marked variations in costs of various brands of same drugs, 84% were aware that same generic drugs have varying brand names, 8% were aware that OTC medicine taken safely along with prescribed medicine, and 72% were aware of OTC drug [Table 1].

On assessing the attitude of respondents concerning the rational use of medicines, it was noted that 12% of doctors can rely completely on information concerning drugs given by the pharma sector, 98% responded positively that medicine from government hospitals is similar to private medical shops, 65% responded positively that higher number of medicines prescribed have earlier and better relief, 10% that medicine manufactured by foreign multinational companies are better, and 16% that costlier medicines are better than cheap medicine [Table 2].

The study results showed that on evaluating the perceptions of traditional medicine use, 95% agreed that it is vital to consult a doctor before stopping any medicine, 77% were aware that central drug control standard organizations advise doctors to prescribe only generic drugs, 84% purchased all medicine from prescription, 22% mix allopathy management with hemopathy/tradition/ayurvedic treatment, 2% agreed on the mixing of more than 1 doctors simultaneously for the same concern, 12% purchased any medicine online, 4% agreed on reusing same prescription for similar complaint in another person, and 86% always read the label on OTC medicine before use [Table 3].

Table 1: Assessment of participant's knowledge concerning medicine use rationale.

Parameters	Respondents (%)
Aware of the expiry date of drugs	98
Any tablet can be divided and given to pediatric subjects	68
Aware concerning precautions of using drugs in elderly subjects	78
Aware of special precautions in children before giving drug	84
Aware of special precautions in pregnant and lactating before giving drug	90
Aware of marked variations in costs of various brands of the same drugs	68

Aware that the same generic drugs have varying brand names	84
OTC medicine is taken safely along with prescribed medicine	8
Aware of OTC drugs	72

Table 2: Assessment of the attitude of respondents concerning the rationale use of medicines

Items	Respondents (%)
Doctors can rely completely on information concerning drugs given by the pharma sector	12
Medicine from government hospitals is similar to private medical shops	98
A higher number of medicines prescribed have earlier and better relief	65
Medicine manufactured by foreign multinational companies is better	10
Costlier medicines are better than cheap medicine	16

Table 3: Assessment of perceptions of traditional medicine use

Items	Respondents (%)
Consult a doctor before stopping the medicine	95
Aware that central drug control standard organizations advise doctors to prescribe only generic drugs	77
Purchase all medicine from prescription	84
Mix allopathy management with hemopathy/traditional/ayurvedic treatment	22
Mixing of treatment from >1 doctor simultaneously for the same concern	2
Purchase any medicine online	12
Reusing the same prescription for a similar complaint in another person	4
Always read the label on OTC medicine before use	86

DISCUSSION

The present cross-sectional questionnaire-based study was done on 304 medical students. Included students were assessed using a questionnaire that was predesigned to assess the perception and knowledge of medical students for rational use of the medicines. On assessing the participant's knowledge concerning medicine use rationale, 98% of the respondents were aware of the expiry date of the drugs. These data were comparable to the studies of Maxwell S et al in 2002 and Cameron A et al in 2012 where authors reported data similar to the present study in their respective studies.^[5-7]

The study results showed that 68% subjects agreed that any tablet can be divided and given to pediatric subjects, 78% were aware concerning precautions of using drugs in elderly subjects, 84% were aware of special precautions in children before giving drugs, 90% were aware of special precaution in pregnant and lactating before giving drug 68% were aware of marked variations in costs of various brands of same drugs, 84% were aware that same generic drugs have varying brand names, 8% were aware that OTC medicine taken safely along with prescribed medicine, and 72% were aware of OTC drug. These results were consistent with the findings of Naik M et al,^[8] in 2015 and De-Sousa F et al,^[9] in 2010 where the attitude of medical students toward rationale medicine use reported by the authors in their studies was comparable to the results of the present study.

It was seen that on assessing the attitude of respondents concerning the rational use of medicines, it was noted that 12% of doctors can rely completely on information concerning drugs given by the pharma sector, 98% responded positively that medicine from government hospitals is similar to private medical shops, 65% responded positively that higher number of medicines prescribed have earlier and better relief, 10% that medicine manufactured by foreign multinational companies are better, and 16% that

costlier medicines are better than cheap medicine. These findings were in agreement with the results of Patrício KP et al,^[10] in 2012 and Sontakke SD et al,^[11] in 2011 where the attitudes of respondents concerning the rationale use of medicines similar to the present study were also reported by the authors in their respective studies.

Concerning the evaluation of the perceptions of traditional medicine use, 95% agreed that it is vital to consult a doctor before stopping any medicine, 77% were aware that central drug control standard organizations advise doctors to prescribe only generic drugs, 84% purchased all medicine from prescription, 22% mix allopathy management with hemopathy/tradition/ayurvedic treatment, 2% agreed on mixing of more than 1 doctors simultaneously for same concern, 12% purchased any medicine online, 4% agreed on reusing same prescription for similar complaint in another person, and 86% always read label on OTC medicine before use. These results were in line with the findings of James H et al,^[12] in 2006 and Oshikoya KA et al,^[13] in 2009 where the evaluation of the perceptions of traditional medicine use reported by the authors in their studies was comparable to the results of the present study.

CONCLUSION

Within its limitations, the present study concludes that the majority of medical students are aware of the rational use of medicine which is implicated as a positive finding concerning the perception and knowledge of medical students towards the rational use of medicine.

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