



ORIGINAL ARTICLE

A Questionnaire Based Study to Assess the Knowledge, Attitude and Perception Regarding 'P-Drug Concept' among Health Care Professionals at a Tertiary Care Centre

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ABSTRACT

The term "P-drug" refers to the preferred or personal drug of choice for a particular clinician for a specific medical condition. The P-drug concept enables better medication prescriptions and enhances treatment adherence. The aim of the study is to assess the knowledge, attitude and perception regarding 'P-drug concept' among medical interns, Postgraduates and Physicians to prescribe drugs rationally. The study is a prospective, cross-sectional pre-validated questionnaire-based study conducted in the Gulbarga Institute of Medical Sciences, Kalaburagi. A total of 150 participants includes Medical interns (50), Postgraduates (50) and Physicians (50) from GIMS were enrolled and instructed to fill the questionnaire using Google form. Majority of the participants know the meaning and main purpose of P drug concept. Physicians and postgraduates having better knowledge of P drug concept compared to Interns. Positive attitude observed among health care professionals. All participants accepted that P-Drug Concept should be taught in detail to medical professionals. Poor perception observed among Interns and Postgraduates. **Conclusion:** The P-drug concept is essential tool to improve the quality of health care, improve the knowledge of essential medicine and practicing rational use of medicine. This study highlighting the necessity for educational intervention attitude enhancing awareness of P-drug concept among medical interns and postgraduates.

Keywords: P-drug concept; Essential medicine; Rational use of Medicines

INTRODUCTION

In the field of pharmacology, the term "P-drug" refers to the preferred or personal drug of choice for a particular clinician for a specific medical condition.¹ The P-drug concept encompasses the selection of the specific medication, dosage form, dosage schedule, and duration of treatment for a particular patient. This concept is a crucial aspect of rational drug prescribing, enabling clinicians to make informed and effective decisions regarding medication selection for their patients.²

The WHO defines rational use of medicines as "Patients receive medications appropriate to their clinical needs, in doses that meet their requirements, for an adequate period of time, and at the lowest cost to them and their community."³ The World Health Organization (WHO) reported that 50% of patients do not take their medications as recommended

and that 50% of all medications are prescribed, distributed, or marketed inappropriately. Prescribing is always a challenging task which requires knowledge of essential medicine, rational use of medicine and personal drugs.⁴

The development of a P-drug list involves a comprehensive evaluation of various medications available for a specific therapeutic indication. Clinicians consider factors such as efficacy, safety, cost, and convenience when selecting their P-drugs. Convenience factors include the dosage form, administration route and dosing frequency which influence patient compliance and adherence to the treatment regimen.⁵

The application of STEP criteria aids the treating physician in creating a logical treatment strategy for each unique patient.⁶

The following are the six steps criteria:

1. Evaluate the problems of the patient
2. Identify the goals of therapy
3. List the treatment options (indication oriented)
4. Provide the rationale for the best treatment for this patient
5. Write a definitive therapy plan (prescription)
6. Determine the monitoring parameters/follow-up

The P-drug idea promotes a more logical approach to medication prescription by encouraging evidence-based practice and critical thinking among healthcare practitioners. Clinicians can help patients get better results, pay less for healthcare and feel more satisfied by implementing the P-drug approach. Studying health care professional's knowledge, attitude and perception (KAP) is a useful way to gauge their comprehension, convictions and actions on a given subject.⁷ This research study has been undertaken in order to analyse the knowledge, attitude and perception regarding 'P-drug concept' among health care professionals to increase the patient safety and drug efficacy.

MATERIALS & METHODS

- **Study design:** Prospective Cross-sectional questionnaire based study.
- **Study setting:** Gulbarga Institute of Medical Sciences, Kalaburagi.
- **Study population:** Interns, Postgraduate students and Consultants/Physicians.
- **Study duration:** April 2025 to June 2025.
- **Sample size:** 150
- **Inclusion criteria:**
 - Medical Interns, Postgraduate students and Physicians of either gender.
 - Participants who have given informed consent.
- **Exclusion criteria:**
 - Participants who haven't given informed consent.

Data Collection Tool and Collection Method

A questionnaire designed using Google forms. The questionnaire consisted of three sections which included questions on Knowledge (10), Attitude (10) & Perception (5).⁸ Each question consisted to multiple options out of which the participants had to choose single most appropriate option.

Statistical Analysis

Data was entered into Microsoft Excel spread sheet and data was analysed using descriptive statistics and results were expressed in numbers and percentage. Chi-square test was used to compare categorical data.⁹

Ethical considerations

Ethical approval (No.GIMS /KLB/PHARMA/IEC/342/202 5-26) was obtained from the institutional ethical committee

of the medical college. Participants were informed of the purpose of the study and their right to withdraw at any time.¹⁰ Confidentiality of participants' information was maintained throughout the study.¹¹

RESULTS

A total of 150 participants includes Medical interns (50), Postgraduates (50) and Physicians (50) from GIMS were enrolled and instructed to fill the questionnaire using Google form.

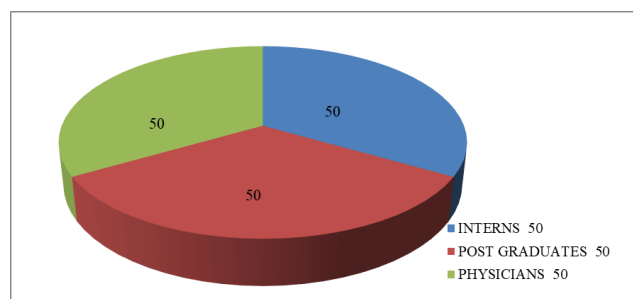


Fig. 1: Total no. of Participants

Majority of the participants know the meaning and main purpose of P drug concept. Majority of the participants know the difference between a P-Drug and a P-Treatment. Physicians (94%) and Postgraduates (68%) having better knowledge of P drug concept compared to Interns (38%). This suggests that the P-drug concept is fairly well-known among Physicians and Post graduate students.

Table 2 shows there is a statistically significant association between profession group and knowledge level.

The majority of Physicians (98%), Postgraduate students (96%) and interns (82%) have a positive attitude towards the P-drug concept. All participants accepted that P-Drug Concept should be taught in detail to medical professionals. Majority of the health care professionals aware of the common adverse effects of the drugs that commonly prescribed by them. But majority of the interns not aware of the advantages of using P-drugs list.

Table 4 shows there is a statistically significant difference in Attitude score between Interns, Postgraduates and Physicians.

Majority of the Physicians (94%) having good perception towards P-drug concept. Poor perception observed among Interns (04%) and Postgraduate students (10%). Majority of the participants agreed to encourage their colleagues in promoting rational use of medicines in their practice. Majority of the participants felt that teaching programme is needed creating awareness for selection of P drug list among practitioners.

Table 6 shows highly statistically significant difference in perception levels among Interns, Postgraduates and Physicians.

Table 1: Knowledge of the study participants toward P-drugs concept

QUESTIONS	CORRECT RESPONSES (%)		
	Interns (50)	Postgraduates (50)	Physicians (50)
1. What does "P-Drug" stand for in pharmacology?	49 (98%)	48 (96%)	50 (100%)
2. What is the main purpose of a P-Drug?	48 (96%)	50 (100%)	50 (100%)
3. Which of the following is NOT a criterion for selecting a P-Drug?	26 (52%)	33 (66%)	47 (94%)
4. P-Drugs are selected based on which essential concept?	27 (54%)	26 (52%)	47 (94%)
5. Which factor is most important when selecting a P-Drug for a specific condition?	47 (94%)	49 (98%)	50 (100%)
6. What is the difference between a P-Drug and a P-Treatment?	30 (60%)	44 (88%)	50 (100%)
7. Why is cost-effectiveness considered in P-Drug selection?	32 (64%)	41 (82%)	47 (94%)
8. Which of the following is an advantage of having a P-Drug list?	25 (50%)	41 (82%)	49 (98%)
9. What should be done if a patient does not respond to a selected P-Drug?	28 (56%)	44 (88%)	49 (98%)
10. How often should a doctor review their P-Drug list?	16 (32%)	37 (74%)	49 (98%)

Table 2: Knowledge Level of study participants towards P-drugs concept

Group	Good	Moderate	Poor	$\chi^2 = 38.78$ $df = 4$ $P < 0.00001$
Interns (50)	19	20	11	
Postgraduates (50)	34	14	02	
Physicians (50)	47	02	01	

Table 3: Attitude of study participants towards P-drugs concept

QUESTIONS	POSITIVE RESPONSES (%)		
	Interns (50)	Postgraduates (50)	Physicians (50)
1. Do you consider cost of treatment while prescribing medicines?	38 (76%)	49 (98%)	50 (100%)
2. Do you include FDC combinations in your P-drug list?	47 (94%)	49 (98%)	50 (100%)
3. Do you prescribe generic drugs in your P-drug list?	41 (82%)	49 (98%)	49 (98%)
4. Do you prescribe essential medicine in your P-drug list?	45 (90%)	48 (96%)	50 (100%)
5. Do you prescribe drugs based on the promotional activities of a pharmaceutical company? (NO)	46 (92%)	47 (94%)	50 (100%)
6. Are you aware of the common side effects/adverse effects of the drugs that you commonly prescribe?	46 (92%)	49 (98%)	50 (100%)
7. Are you aware of the advantages of using a P-drug list?	24 (48%)	29 (58%)	49 (98%)
8. Do you consider the comorbidities of the patient while prescribing the drugs?	47 (94%)	49 (98%)	50 (100%)
9. Do you consider socio-economic background of patient while prescribing drugs?	41 (82%)	47 (94%)	49 (98%)
10. Do you think P-Drug Concept should be taught in detail to medical professionals?	50 (100%)	50 (100%)	50 (100%)

Table 4: Attitude level of study participants toward P-drugs concept

Group	Positive	Moderate	$\chi^2 = 10.32$ $df = 2$ $P < 0.0057$
Interns (50)	41	09	
Postgraduates (50)	48	02	
Physicians (50)	49	01	



Table 5: Perception of study participants towards P-drugs concept

QUESTIONS	POSITIVE RESPONSES (%)		
	Interns (50)	Postgraduates (50)	Physicians (50)
1. Have you attended any CME/teaching programme about P-drug List?	02 (04%)	03 (06%)	46 (92%)
2. Do you feel teaching programme are needed creating awareness for selection of P drug list among practitioners?	49 (98%)	49 (98%)	50 (100%)
3. Do you feel there is need to conduct similar studies in the health care setups for improving the quality of health care?	48 (96%)	48 (96%)	50 (100%)
4. Have you come across a similar study on the P-drug concept previously?	08 (16%)	07 (14%)	47 (94%)
5. Will you encourage your colleagues in promoting rational use of medicines in their practice?	41 (82%)	46 (92%)	50 (100%)

Table 6: Perception level of study participants toward P-drugs concept

Group	Good	Moderate	$\chi^2 =$
Interns (50)	02	48	109.89
Postgraduates (50)	05	45	df = 2
Physicians (50)	47	03	P < 0.00001

DISCUSSION

A P – drug should be selected based on logical, deductive process including comprehensive and objective information. It is a part of good prescribing skills that promote the rational use of medicine and enhances knowledge about essential medicines.¹² P-drug practice is a worthy and constructive concept that should depend only upon prescriber's professional skill and not on the advice of senior doctors or copying reputed clinician or inducement from sales representatives. In promoting the rational use of medicine, knowledge on P-drug is very important as it is one

of the contributors toward rationalization.¹³

The P – drug concept is crucial for the prescribers to choose the best drugs with maximum benefit & minimum side effects. Health care professionals can help patients get better results, pay less for healthcare and feel more satisfied by implementing the P-drug approach. Studying health care professional's knowledge, attitude and perception (KAP) is a useful way to gauge their comprehension, convictions and actions on a given subject. This research study analyse the knowledge, attitude and perception regarding 'P-drug concept' among Medical Interns, Post graduate students and Physicians to increase the patient safety and drug efficacy.

In this study majority of the participants know the meaning and main purpose of P drug concept. Majority of the participants know the difference between a P-Drug and a P-Treatment. Physicians (94%) and Postgraduates (68%) having better knowledge of P drug concept compared to Interns (38%). This suggests that the P-drug concept is fairly well-known among Physicians and Post graduate students.

The present study we observed that among post graduate students, 88% participants are aware of P-drug, 68% are aware of P-treatment, 98% participants are including fixed-dose combinations in their P-drug list and 58% participants are aware of the advantages of prescribing P-drug. These findings compared with similar study done by Rao SKT et al found that 49.7% participants are aware of P-drug, 43.4% are aware of P-treatment, 28.4% are not including fixed-dose combinations in their P-drug list and 42% are aware of the advantages of prescribing P-drug.⁸

In this study, the majority of Physicians (98%), Postgraduate students (96%) and Interns (82%) have a positive attitude towards the P-drug concept. All participants (100%) accepted that P-Drug Concept should be taught in detail to medical professionals and 68% of the participants aware of the advantages of using P-drugs list. These findings compared with similar study done by Jyothi DB et al observed that 97.3% felt that teaching programs were needed for preparing P-drug list and 33.6% were aware of advantages of prescribing P-drug.¹⁴

Majority of the health care professionals (96%) aware of the common adverse effects of the drugs that commonly prescribed by them compared with a study done by Swetha K et al found that 88% participants aware of the common adverse effects of the drugs prescribed by them.¹⁵

The present study we observed that majority of the Physicians (94%) having good perception towards P-drug concept. Poor perception observed among Interns (04%) and Postgraduate students (10%). 98% participants felt that teaching programmes are necessary to create awareness and practice of P drugs, and 66% participants did not attend any CME/teaching programmes about the P-drug list. These findings compared with a study done by Swetha K et al observed that 87 % participants felt that teaching programmes are necessary to create awareness and practice

of P drugs, and 85.2 % participants did not attend any CME/teaching programmes about the P-drug list.¹⁵

Early implementation of P-drug exercises in undergraduate medical training should be introduced because present discrepancies demonstrate poor familiarity and confidence toward prescribing among undergraduate students.¹⁶ The National Medical Commission (NMC) of India has integrated the concept of Personal Drugs (P-drugs) into its Competency-Based Medical Education (CBME) curriculum.¹⁷ This integration will enhance rational prescribing, reduce medication errors and standardize treatment approaches among future medical graduates. This will lead to improved patient safety, better pharmacological decision-making, and a long-term positive impact on public health.

Recommendations

- Further education and enhanced training include workshops, seminars and CMEs on P-drug concept should be provided to Intern and Postgraduate students.
- Educational materials like hand-outs, posters and online resources on the P-drug concept should be made available to medical professionals.
- Research should be conducted to identify most effective educational interventions for promoting the use of the P drugs.

Limitations

The study results reflect self-reported knowledge, attitudes, and practices, which may introduce response bias. The study was conducted in a single medical institution and with a smaller sample size, limiting the generalizability of the findings. The study primarily evaluates theoretical knowledge and self-reported practices rather than actual prescribing behaviours, which would be a stronger indicator of competency.

CONCLUSION

In order to provide rational treatment and prevent economic burden to the patient, WHO has recommended 'Guide to Good Prescribing', a guidance for selecting and prescribing the best suitable drug for an individual patient, i.e., P-drug concept.¹⁸ The present study we assessed the knowledge, attitude and perception regarding 'P-drug concept' among Medical Interns, Post graduate students and physicians. We observed that majority of the participants know the meaning and main purpose of P drug concept. Physicians and postgraduates having better knowledge of P drug concept compared to Interns. Positive attitude observed among health care professionals. All participants accepted that P-Drug Concept should be taught in detail to medical professionals. Poor perception observed among Interns and Postgraduates. This study highlighting the necessity for

educational interventions aimed at enhancing awareness of P-drug concept among medical professionals.

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Conflict of interest

None declared.

Ethical Approval

The study was approved by the Institutional Ethics Committee.

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