



## ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF PHARMACISTS

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### ABSTRACT

Hospital Pharmacy services are designed to meet the primary needs of all patients. Pharmacy services include dispensing of pharmaceuticals in accordance with country regulations, appropriate inventory maintenance functions, drug monitoring, patient drug assessment functions, appropriate record keeping, drug information, education services, and performance improvement functions. The objective of the study was to analyze the knowledge, attitude and practice of Pharmacists to do better pharmaceutical care. It's an observational study with 1329 samples. A standard proforma containing the very basic information about the pharmacists was prepared where several questions regarding the knowledge, attitude and practice of the working pharmacists was given and they were asked to give the suitable answers and necessary remarks if any. There were a total of 37 questions in the KAP questionnaire. 7 questions was regarding the knowledge of the working pharmacists, 10 questions regarding the attitude of the pharmacists and finally 20 questions regarding the practice of the working pharmacists. In the study, majority of the pharmacists were female (63.2%) and majority belong to the age group >25-35 years (36.5%). Majority was Permanent staff (63.1). 71.6% had sufficient information about efficiency and effectiveness of medications. 73.2% had sufficient information about adverse effects of medications. 95.8% had sufficient information about dosage and administration of medications. 89.3% give advice and assistance on some common life style diseases like DM, HTN etc. Approximately 81.7% always allot enough time for giving advice to patients on medications. 80.5% maintain a well-documented service strategy. 88.6% give various levels of attention for elderly and regular patients. 95.4% are ready to work overtime in case of any urgency. The study concluded that the primary and secondary care hospitals need much more implementation of quality indicators to improve the pharmaceutical care. The knowledge of the pharmacists was also not up to the mark. So there must be continuous education programmes for all working pharmacists in the hospitals so as to improve the profession of pharmacy in the minds of the common people and other health care professionals.

**KEYWORDS:** Health care system, Hospital Pharmacy, KAP Questionnaire, Patient education, Pharmacists, Rational Prescribing.

### INTRODUCTION

Health care system around the world is rapidly changing. The role of the pharmacist is well accepted in patient care. The pharmacist in the developed countries is well recognized as a health care professional due to the practice of pharmaceutical care philosophy. Most of these pharmacists discharge the roles and responsibilities recommended by World Health Organisation in the Hospital pharmacies such as, maintaining patient medication records, dispensing drugs with ancillary labels, patient counselling, treating the patients for their minor ailments, providing drug information and therapeutic consultation on rational prescribing to the general practitioners. Well designed and practice oriented curriculum, involvement of professional bodies in maintaining the professional standards in the practice and Government encouragement are the key factors for

their success. Nowadays most of the Hospital pharmacies are engaged only in dispensing of medicines and surgicals to the patients.

Development of a patient oriented health care system can be possible only through accelerating the pace of growth of Hospital pharmacy services. Patient oriented health care involves the process through which a pharmacist co-operates with a patient and other professionals in designing, implementing and monitoring a therapeutic plan that will produce specific therapeutic outcomes for the patient.

Hospital Pharmacy services are designed to meet the primary needs of all patients. Pharmacy services include dispensing of pharmaceuticals in accordance with country regulations, appropriate inventory maintenance

functions, drug monitoring, patient drug assessment functions, appropriate record keeping, drug information, education services, and performance improvement functions. In an international point of view the Hospital Pharmacy services are not at all limited to dispensing of drugs, moreover it focuses on evidence based therapy, ADR monitoring, Prescription analysis, TDM, patient counseling and education, bed side pharmaceutical care, ward round participation, direct case study analysis, interpretation of laboratory parameters etc.

In India, the Hospital Pharmacy services are forced to limit in the area of dispensing only. But if there is system to extract the full potential of Hospital Pharmacy services, the above said functions can be easily practiced and definitely the patients who approaches the Pharmacy will be benefited. The purchase and inventory control of medicines is of great importance in running the hospital pharmacy successfully. The pharmacist in-charge shall be responsible regarding the quality and source for purchase of all drugs, chemicals, biologicals, Surgical items. Inventory management is essential to maintain a large size inventory for efficient and smooth control of drug distribution in Hospital Pharmacies for better pharmaceutical care. For the smooth conduct of a Hospital Pharmacy Service, it is evident that it should keep neither excessive nor inadequate inventories. We may say that inventories to be maintained in a level lying between the excessive and inadequate. If there is an effective quality assurance system, standard guideline is available in the Hospital Pharmacy, the above said aim can be easily achieved.

#### METHODOLOGY

**Objective:** To analyze the knowledge, attitude and practice of Pharmacists to do better pharmaceutical care.

**Study Design:** Observational study

#### Inclusion Criteria

1. Hospitals those are practicing the Modern system of medicine.
2. Those Hospital Pharmacies with the availability of a Pharmacist in charge.

#### Exclusion Criteria

1. Hospitals those are not practicing the Modern system of medicine.
2. Central Government Controlled Hospitals.

#### Study Procedure

The investigator will visit the hospitals and explain the objective of the study to the concerned person of the respective hospital. A standard proforma containing the very basic information about the pharmacists was prepared. After that a questionnaire was prepared called KAP questionnaire which is otherwise called as knowledge, attitude and practice questionnaire where several questions regarding the knowledge, attitude and practice of the working pharmacists was given and they

were asked to give the suitable answers and necessary remarks if any.

The study was conducted in the respective hospital after obtaining permission from the concerned person. The KAP questionnaire proforma was distributed to all pharmacists and was asked to fill them. There were a total of 37 questions in the KAP questionnaire. 7 questions was regarding the knowledge of the working pharmacists, 10 questions regarding the attitude of the pharmacists and finally 20 questions regarding the practice of the working pharmacists. The collected data was entered into Excel sheets and analyzed using SPSS software.

## RESULTS

### Assessment of Basic Details of Pharmacists and Kap Questionnaire

**Table 1: Gender of the working Pharmacists.**

S.No.	Gender	Frequency	Percentage
1.	Male	489	36.8
2.	Female	840	63.2
		1329	100

**Table 2: Permanent or others.**

S.No.	Permanent or others	Frequency	Percentage
1.	Permanent	838	63.1
2.	Others	491	36.9
		1329	100

**Table 3: Zone categorization.**

S.No.	Zones	Frequency	Percentage
1.	I	329	24.7
2.	II	307	23.1
3.	III	194	14.6
4.	IV	499	37.5
		1329	100

**Table 4: Other qualifications.**

S.No.	Other qualifications	Frequency	Percentage
1.	Yes	1003	75.5
2.	No	326	24.5
		1329	100

**Table 5: Experience in Years.**

S.No.	Other qualifications	Frequency	Percentage
1.	0 -3	307	23.1
2.	>3 – 6	291	21.9
3.	>6 – 9	267	20.1
4.	>9 – 12	54	4.1
5.	>12 – 15	62	4.7
6.	>15 – 18	70	5.3
7.	>18 – 21	115	8.7
8.	>21 – 24	76	5.1
9.	>24	87	7.0
		1329	100

**Table 6: Designation.**

S.No.	Designation	Frequency	Percentage
1.	Store Superintendent	23	1.7
2.	Store Keeper	91	6.8
3.	Pharmacist Grade I	355	26.7
4.	Pharmacist Grade II	458	34.5
5.	Others	402	30.3
		1329	100

**Table 7: Pharmacy council registration.**

S.No	Pharmacy council registration	Frequency	Percentage
1.	Yes	1329	100
2.	No	Nil	00
		1329	100

## DISCUSSION

### Basic Details Of The Pharmacist

In the study, majority of the pharmacists were female (63.2%). Majority belong to the age group >25-35 years (36.5%). Majority was Permanent staff (63.1%). 329 pharmacists was studied from zone1 (24.8%), 307 from zone2 (23.1%), 194 from zone 3 (14.6%) and 499 from zone 4 (37.5%). Majority of the pharmacists was included from zone 4 (37.5%). Majority had D.Pharm (74.4%) as their educational qualification, B.Pharm (15.5%) and M.Pharm (10.1%). D.Pharm- 989, B.Pharm-206 and M.Pharm134 Pharmacists. 24.5% pharmacists had an additional qualification along with their pharmacy background. 75.5 % didn't had any extra additional qualification. Majority had 0-3 years of experience (23.1%), 21.9% with >3-6 years, 20.1% with >6-9 years of experience and so on. All the subjects were registered with Pharmacy Council.

### A) Knowledge of Pharmacists

The knowledge of the Pharmacists area, 71.6% had sufficient information about efficiency and effectiveness of medications. 73.2% had sufficient information about adverse effects of medications. 95.8% had sufficient information about dosage and administration of medications. 86.2% had sufficient information about indications of medications in specific groups such as pregnancy, breast feeding, Pediatrics and Geriatrics. 84.7% had sufficient information about drug-drug and drug-food interactions. 83.1% had sufficient information about contraindications of medications in special groups of patients for example with Hypertension or Kidney disease. 65.8% had knowledge about the various national policies and programs related to healthcare sector.

### B) Attitude Related Questions

Medications have a positive impact on public health - 93.5%. Pharmacists should be knowledgeable about medications and consulting in this field is part of pharmacists duties - 98.9%. Medications should dispense according to the physicians prescription - 96.3%. Medications should be sold in pharmacies under pharmacists supervision - 95.6%. Price is important factor for recommending medications to patients - 55.4%. Patients usually are influenced by pharmacists

comments about medications - 93.7%. 35.1% proactively participate in nationwide recall process for any substandard medicine. 86.2% checked for the appropriateness of an individual, therapeutic aspects, legality and completeness when they got a prescription. 89.4% bring the notice of the prescriber if they find any incompleteness, ambiguity, confusions, shortcomings or anomalies in the prescription. 89.3% give advice and assistance on some common topics like DM, HTN etc.

### C) Questions Related To Practice Of Pharmacists

Approximately 81.7% always allot enough time for giving advice to patients on medications. 80.5% maintain a well-documented service strategy. 88.6% give various levels of attention for elderly and regular patients. 95.4% are ready to work overtime in case of any urgency. 87.4% provide counseling after dispensing medications. 93.8% are able to work with full confidence in front of other health care providers. 74.9% maintain professional bonds with the patients. 99.2% maintain personal hygiene while dealing with storage and handling of drugs in hospital. 78.9% update their knowledge through scientific literature, textbooks, journals and other periodicals. 49.9% pharmacy have a procedure to receive complaints (complaint register). 87.2% properly record about the narcotics and psychotropics. 44.2% maintain patients medication records, counseling follow-ups. 84.7% maintain a product list. 88.7% maintain list of essential and other life saving medications. 93.7% know about the various storage requirements of drugs. 96.4% remove expired and near expiry drugs. 88.6% properly label all medications while dispensing. 43.1% report the ADR to the Pharmacovigilance centre in the prescribed format. 77.1% regularly ask the patient about the dose and frequency at which medicine haven been taken so far. 47.9% maintain the latest version of Essential Drug List and National Formulary.

## SUMMARY

Based on this study, it is appropriate that all hospital pharmacists should try to advance the profession, often with the same goal of increasing involvement in direct patient care. The pharmaceutical services should be directed by a professionally competent and legally qualified pharmacist. A sufficient number of competent

personnel shall be provided in keeping with size and scope of services of the hospital.

From the study we Found that all the persons working in pharmacies possessed D.Pharm, B.Pharm and M.Pharm qualifications. All were registered with Pharmacy council. In all cases, final review of prescription and the correctness of dispensed medicines must be personally made by the pharmacist. As a final step, the pharmacist should personally dispense the medicines, at which stage appropriate counselling should be given for the patient. Facility for Drug Information Centre (DIC) have to be provided in suitable location of the hospital pharmacy. Drug information is the most important services provided by the contemporary hospital pharmacy services. From this centre, drug information details are provided to hospital staff like nurses and physicians and also to patients as and when needed. Salary increment must be given for pharmacists in a regular basis. Number of prescriptions dispensed by a pharmacist must be below 100 per day. The hospital pharmacy should be accommodated in convenient area, which is readily accessible to the staff and patients. The façade should be clearly marked with the word "HOSPITAL PHARMACY" written in English as well as in the local language of the area.

Pharmacy must be shifted to a prime position of the hospital for the easy convenience for the patients. Proper resting area for pharmacists and waiting area for patients must be attached with every pharmacy. Regular updation of knowledge is very important for pharmacy profession. So regular trainings and seminars must be given for pharmacists both in-house and by pharmacy council or Government.

Separate counselling area must be opened in every pharmacy. All drugs should be stored at stipulated temperature areas, protected from excessive light, dust, and humidity. Temperature at various areas should be recorded at predetermined periodicity and daily records should be preserved for a period of 2 years. Enough storage area must be given for pharmacies with proper facilities. All operational documents, for e.g., purchase invoices, sales invoices, and other statutory documents should be maintained and archived as prescribed by the law. There should also be adequate control and maintenance of documents that form a part of the pharmacist' quality system. Proper documentation and medical audit must be done.

The pharmacy should proactively participate in any state wide or nationwide recall process for any substandard drug. All such records should be initiated upon receiving authentic information and alarms to do so. Pharmacovigilance centres must be opened and ADR must be reported in standard reporting forms. Drug and dosage form that special care while dispensing (e.g. drugs specified under the schedule X, Narcotic drug and Psychotropic Substances Act and some other CNS drug

etc.) should be kept under lock and key. The key for this should be available only with the Pharmacist in-charge at the time. Records of purchase and sales of such medicines should be kept as per legal requirement. White coat must be implemented in every pharmacy containing pharmacist name and word "Pharmacist" or emblem.

Round the clock service must be implemented in every hospital pharmacy. The pharmacy should have a complaints policy which should be reviewed from time to time. All complaints-oral or written- must be immediately addressed by the pharmacist, and suitable action be taken to amend the situation. Appropriate steps should be taken to amend the operating procedures or other guidelines so as to prevent the recurrence of the reported complaints or similar events.

### CONCLUSION

Hospital Pharmacy services are designed to meet the primary needs of all those who need pharmaceutical care. Pharmacy services include dispensing of pharmaceuticals in accordance with country regulations, state health policies, hospital regulations, appropriate inventory maintenance, distribution and storage, drug monitoring, patient drug assessment, review and control, quality assessment and assurance, proper record keeping, drug information, patient education services and performance improvement functions.

Hospital services is an essential department of the Hospital wherein procurement, distribution, storage, compounding, manufacturing, packaging, controlling, reviewing, assaying, dispensing, distribution & monitoring of medication are performed by legally qualified and professionally competent pharmacists as per the drugs and cosmetics act 1940. In addition to this, practice of pharmacy in hospital also includes rational selection, monitoring, dosing and control of patients overall drug therapy program.

Primary and secondary care hospitals need much more implementation of quality indicators to improve the pharmaceutical care. The knowledge of the pharmacists were also not up to the mark. So there must be continuous education programmes for all working pharmacists in the hospitals so as to improve the profession of pharmacy in the minds of the common people and other health care professionals.

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