**Pharmaceutical care- Current status and Barriers in India**

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**Abstract**

 Pharmaceutical care (PC) is a systematic approach to improve the patient wellbeing. It is used to identify, resolve and prevent drug associated problems. This qualitative study was undertaken among Pharmacy practice professionals to identify knowledge and skill in the area of patient assessment, clinical information, communication, learning principles and psychological aspects. The study aims to identify and prevent barriers towards PC.

Keywords- Pharmaceutical care, patient assessment, qualitative, learning.

Pharmaceutical care was first introduced in 1975 in United States as a concept that concentrates on care of patients rather than Pharmaceutical product. It has broadened and evolved Pharmacist skill from dispensing a drug to direct patient care.

Pharmaceutical care (PC) starts with evaluating patient requirements and identifying the drug related problems. It requires ability, education and skill in the area of patient assessment, clinical information, communication and learning psychological aspects of care.1 This responsibility also includes monitoring adverse drug reaction (ADR) and reporting, patient counselling, medication history interviews and addressing drug related problems.

The objective of this study was to identify, assess and improve the learning, knowledge, attitude and practice of Pharmacist towards PC. It also works to identify perceived barriers in practicing the same. PC is a process which needs collaborating with other health care professionals in identifying, resolving and preventing drug related problems.2

**Role of Pharmacist in Pharmaceutical Care**

1. Data collection from medication history interview, demographic details, allergies, pregnancy and lactation status, social history and lifestyle patterns of a patient. This helps in preparing optimized therapeutic plan.3
2. Adverse Drug Reaction (ADR) monitoring and reporting by Pharmacist. A serious ADR is an event that is fatal, life threatening, permanently or significantly disabling, requires prolonged hospitalization, causes congenital anomaly or requires medical intervention to prevent damage.
3. Medication errors are avoidable errors that can lead to failure in the treatment process and can be classified as prescription errors, dispensing errors, preparation errors and administration errors.
4. Drug interactions can be prevented by pharmacist by avoiding combination, adjusting dose, spacing dosing times and continuous monitoring. Drug interaction is the modification in effect of one drug by concomitant administration of another drug or food. It can be when one drug alters systemic concentration of other (Pharmacokinetics), combining two drugs shows additive or antagonistic effect (Pharmacodynamics) or formulation of one drug is affected by another drug if combined.
5. Patient counselling plays an important role in PC as it deals with patient’s awareness towards continuing therapy, directions of use, advice on side effects, precautions, storage, diet changes and lifestyle modifications.4
6. Knowledge of storage and dispensing of medication to maintain product integrity. Pharmacist is responsible to ensure safe and efficient storage.5 The drugs can lose its effectiveness in extreme cold or hot conditions due to physical, chemical and microbial changes on storage.

**Barriers to Pharmaceutical Care**

 Barriers to PC in India are lack of drug information sources, language barriers, time constraints, lack of therapeutic knowledge required to develop problem solving skills needed to practice PC and poor communication skills among Pharmacist. In India there is drastic difference in the status and quality of PC services provided within the country as well as compared to other countries across the world. Most of the pharmacy professionals are either Diploma in Pharmacy (D. Pharm.) or Bachelor of Pharmacy (B. Pharm.). These professionals are trained and educated by Pharmacy educators in compounding, dispensing and formulation of medicines.6

A newer discipline Doctor of Pharmacy (Pharm. D.) developed with the aim of educating future pharmacist equipped with required knowledge, skill set and attitudes to practice PC was initiated by PCI (Pharmacy Council of India) in 2008.7 The students taking up this course must be able to identify and implement needed changes in the profession.

The pharmacist attitudes towards PC such as impassivity, non-conformance to standards in their daily practice as well as misconceptions like patients reluctance to pay, fear of changing roles and need of personal motivation contribute towards hindrance in providing optimal PC to patients. The other constraints are lack of space or appropriate setting to consult patients.

In India the role of physician is well defined but the role of pharmacist as PC provider needs to be fully explored and established. Little financial incentives and low expectation of the pharmacy profession as such is a stumbling block that needs to be overcome in delivering PC.

**Methodology**

 A survey was conducted among 150 pharmacists and pharmacy executives to assess the knowledge, attitude and practice (KAP) towards PC. The participants were the mix of Diploma, Bachelor and Master of Pharmacy along with Doctor of Pharmacy degree graduates. The survey consisted of pre and post questionnaire and responses were recorded for further analysis.

Table No.1: Pre questionnaire and post questionnaire on Analysis for attitude

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Pre | Post |
| S. No. | Query | Affirmative  | Negative | Unanswered | Affirmative  | Negative | Unanswered |
| 1. | Need for participation in Educational programs to remain competent | 130 | 19 | 1 | 148 | 2 | 0 |
| 2. | Safety and evaluation of prescription is pharmacist responsibility | 130 | 10 | 4 | 148 | 0 | 2 |
| 3. | Pharmacist a trusted consultant on medicines | 127 | 14 | 9 | 139 | 8 | 3 |
| 4. | Current status of PC inadequate in India | 94 | 38 | 18 | 98 | 48 | 4 |
| 5. | PC an extra burden on pharmacist | 30 | 110 | 10 | 25 | 123 | 2 |
| 6.  | Educating patients on medicines they are consuming | 138 | 7 | 5 | 148 | 2 | 0 |
| 7.  | Different medicines stored at different optimum temperatures | 142 | 6 | 2 | 146 | 4 | 0 |
| 8.  | Pharmacist necessary part of healthcare system | 137 | 8 | 5 | 143 | 2 | 5 |

Table No.2: Pre questionnaire and post questionnaire on Analysis for practice of Clinical Pharmacist

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Pre | Post |
| S. No. | Query | Rarely | Sometimes | Always | Rarely | Sometimes | Always |
| 1. | Double check prescription before dispensing  | 0 | 7 | 24 | 0 | 4 | 28 |
| 2. | Identification of discrepancy in prescription | 0 | 7 | 24 | 0 | 3 | 28 |
| 3. | Counselling patient on how to take medicine  | 0 | 3 | 28 | 0 | 1 | 30 |
| 4. | Checking Expiry date  | 0 | 6 | 25 | 0 | 3 | 28 |
| 5. | Consult physician for illegible writing | 1 | 11 | 19 | 0 | 8 | 23 |
| 6.  | Consult physician on errors in prescription | 1 | 7 | 23 | 0 | 4 | 27 |
| 7.  | React in front of patient | 31 | 0 | 0 | 31 | 0 | 0 |
| 8.  | Counselling patient about Adverse effects of drug | 0 | 5 | 26 | 0 | 2 | 29 |

Table No.3: Pre questionnaire and post questionnaire on Analysis for practice of Hospital Pharmacist

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Pre | Post |
| S. No. | Query | Rarely | Sometimes | Always | Rarely | Sometimes | Always |
| 1. | Double check prescription before dispensing  | 1 | 12 | 53 | 1 | 12 | 53 |
| 2. | Protocol for storage of narcotics followed | 0 | 11 | 55 | 0 | 11 | 55 |
| 3. | Counselling patient on how to take medicine  | 3 | 13 | 50 | 3 | 11 | 52 |
| 4. | Expiry date check | 3 | 17 | 46 | 3 | 15 | 48 |
| 5. | Inquire female patient about pregnancy or lactation | 14 | 16 | 36 | 5 | 20 | 41 |
| 6.  | Dispense medicine to child with prescription | 41 | 21 | 4 | 43 | 22 | 1 |
| 7.  | Consult physician for illegible writing | 9 | 14 | 43 | 2 | 20 | 44 |
| 8.  | React in front of patient | 55 | 9 | 2 | 55 | 9 | 2 |

Table No.4: Pre questionnaire and post questionnaire on Analysis for practice of Pharmacy Executive

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Pre | Post |
| S. No. | Query | Rarely | Sometimes | Always | Rarely | Sometimes | Always |
| 1. | Order drugs before it is out of stock  | 4 | 5 | 44 | 2 | 5 | 46 |
| 2. | Expiry date check regularly | 2 | 4 | 47 | 2 | 4 | 47 |
| 3. | Evaluate safety stock on regular basis | 1 | 5 | 47 | 1 | 5 | 47 |
| 4. | Label containers used for dispensing HAM | 3 | 5 | 45 | 0 | 6 | 46 |
| 5. | Use abbreviations for HAM | 18 | 7 | 28 | 39 | 10 | 4 |
| 6.  | Protocol for storage of narcotics followed | 10 | 0 | 43 | 0 | 5 | 48 |

Table No.5: Barriers to Pharmaceutical care in India

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S. No. | Query | Affirmative  | Negative | Unanswered |
| 1. | Inadequate drug information resources  | 98 | 31 | 21 |
| 2. | Insufficient therapeutic knowledge and lack of proper training | 104 | 27 | 19 |
| 3. | Time constraints | 107 | 23 | 20 |
| 4. | Poor communication | 94 | 37 | 19 |
| 5. | Workload pressure | 106 | 28 | 16 |
| 6.  | Poor image of Pharmacist | 100 | 35 | 15 |

**Results and Discussion**

The findings of survey are listed below which consisted of pre and post questionnaire. The pharmacist exuded positive outlook towards PC which was evaluated using questionnaire that focused on pharmacist’s opinion about different facets and current state of PC in India.

1. The Clinical pharmacist being familiar with PC due to academic exposure and training scored better in both pre and post questionnaire.
2. Hospital pharmacist had good knowledge where 65% scored well and 21% scored excellent in pre questionnaire. An increase to 95% was observed after educational intervention.
3. Pharmacy executives had poor knowledge about PC before educational intervention which improved to 92.2% afterwards in post questionnaire.

**Conclusion**

 This leads to conclusion that if suitable training program is introduced, a significant improvement can be seen in Hospital pharmacist and Pharmacy executives towards Pharmaceutical care.

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