Effectiveness of Patient Medication Counseling in a Tertiary Care Hospital: A Cross-Sectional Study

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Abstract

Background: Medicine is prescribed to help the patient. But it can cause unwanted effects in the patient if one take too much or multiple medicines that don't go together. Many patients have problems each year, some serious, because of taking the wrong medicine or not taking the right medicines correctly. This cross-sectional study was done to assess the effectiveness of patient medication counseling in a tertiary care hospital.

Methods: This cross-sectional questionnaire-guided study was carried out in the dispensary of a tertiary care hospital, from January to April 2024. convenient sampling technique was employed to select study participants.

Results: A total of 540 respondents were included in this study. Only 50.3% of the participants knew the correct frequency and dose of the prescribed medications. Majority of the patients did not knew the indications of the medication they were taking.

Conclusion: There is a need to strengthen the patient medication counselling process so that patients understand & remember what have been advised during counselling. As a healthcare provider, it is our responsibility to educate the patient about the prescribed medicines to obtain the positive healthcare and ensure safe use of medicines.

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Keywords: Patient Education; Adherence; Patient Medication Counselling

Introduction

Medicines are meant to be benefitting patient, but there are many instances where patient had problems on taking medicines. It may be because of various factors like ineligibility and poor understanding of the prescribed drugs. Most of the patients just listen to whatever the treating physician advise, and rarely seek clarification/ question them. It highlights the need of more robust and systematic patient medication counselling process. Patient medication counselling (PMC) may be described as "providing medication information orally or in written form to the patients or their representatives or providing proper directions of use, advice on side efects, storage, diet and lifestyle modifcations" (1). The provision of appropriate and adequate PMC by physicians/ pharmacists could help us to identify and resolve drug therapy problems , engage patients in self-management of diseases, and prevent treatment failure and limit resource wastage (2-7). Though pharmaceutical care is fast becoming the mode of practice in various countries, most healthcare institutions still provide inadequate patient-oriented services including PMC (8). In developing countries like India, the provision of such patient-oriented services in healthcare institution is still evolving compared to developed nations. Many professional organizations in the United States of America and Australia have published guidelines on counselling with varying content (9-12). Various studies have examined the use of counselling guidelines by pharmacists, rate of verbal counselling with author-defned counselling content, and the content of verbal counselling (13-20). There is no PMC policies, guidelines, incentives or standards in the country. However, to enhance the quality of PMC, the Pharmacy Council of India (PCI), and the National Medical Commission made provision for inclusion of communication skills and patient counselling in the undergraduate curriculum with experiential training at community pharmacies and hospitals during their training and internship programs, respectively.

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Patients are also encouraged to ask questions related to their medication. By asking questions now, one may prevent problems later. As much as it is pertinent to know the number of patients or consumers who received a predefned counselling content or medication information, it is equally important to know how comprehensive is the content of the PMC or the quality of the counselling received by the patients or offered by the pharmacists/physicians. This study was undertaken to evaluate the provision and appropriateness of PMC, in terms of content and quality, in a tertiary care hospital in western India using a predesigned questionnaire.

Methods

This cross-sectional questionnaire-guided study was carried out in the dispensary of a tertiary care hospital, from January to April 2024. The study was approved by the institutional ethics committee. Participants involved in the study included patients who visited the pharmacy during the period of the study. The participants were selected through convenience sampling. A day in a week was picked to conduct the study among the patients visiting the dispensary/pharmacy from 9 AM to 2 PM. The study was explained to them and informed written consent was taken. Those who gave consent to participate were given the questionnaire written in English language. Participants not familiar with the english were assisted by a trained research assistant (a fnal year pharmacy student) to fll the questionnaire. The questionnaire (Table 1) contained sections on respondent characteristics, and 15 items/questions about medication counselling with graded responses of: 0—not applicable, 1—not done, 2—poor, 3—unsatisfactory, 4—satisfactory, 5—excellent. The questionnaire took about 10 mins to fill. Descriptive statistics of sample characteristics and questionnaire items were used to summarize part of the data obtained using the Statistical Package for Social Sciences Windows version 21.0 (IBM corp. New York, USA).

Table 1. A questionnaire to evaluate the content and effectiveness of patient medication counseling process

S. No.	Item	0	1	2	3	4	5
1	Why are you taking medicines?						
2	Whether you are taking brand or generic version of the medicine?						
3	Can you take a generic version of this medicine?						
4	Does this new prescription mean you should stop taking other previous medicines?						
5	Are you aware of the medicine you should take and how often do you take it? If you need to take it three times a day, does that mean at breakfast, lunch, and dinner, or every 8 hours? Do you need to wake up in the middle of the night to take it?						
6	Do you need to take it all or should you stop medicines when you feel better?						
7	Are you aware how long you have to take your medicines? Is it for whole life?						
8	Are you aware how should you store my medication? Do you need to keep it in the refrigerator?						
9	Are of aware of any tests you need to do while you are on medicine?						
10	When should the medicine start working? How can you tell if it's working?						
11	Are you aware of the foods, drinks (including alcohol), other medicines, or activities to avoid while you taking your medicines?						
12	Are you aware of the side effects from the medicines you taking? When should you tell the doctor about a problem or side effect?						
13	What should you do if you have a side effect?						
14	What happens if you miss a dose?						
15	Are you satisfied with the printed information given to you about your medicines?						

Response: 0—not applicable, 1—not done, 2—poor, 3—unsatisfactory, 4—satisfactory, 5—excellent.

Results

A total of 540 patients were distributed the questionnaire during the study period and all were retrieved and analyzed. The mean age of the participants was 38.16±18.35 years (range 20–57 years). There was an almost equal distribution of gender with females slightly higher 291 (53.9%). The baseline characteristics of the participants are summarized in Table 2.

Table 2. Baseline characteristics of the participants (N=540).

S. No.	Characteristics	Results
1	Mean Age (in years)	38.16±18.35
2	Gender (n,%)	Females (291, 53.9) > Male (249, 46.1)
3	Education status: n(%)	Upto matriculation: 136 (25.2)
		Intermediate: 102 (18.9)
		Graduation: 176 (32.6)
		Post-graduate: 126 (23.3)
4	No. of comorbidities: n(%)	Two or less: 233 (43.1)
		Three or more:307 (56.9)
5	Average no. of drugs/prescription: n(%)	Two or less: 85 (15.7)
		Between three to five: 287 (53.2)
		More than 5: 168 (31.1)

Most of the participants, 440 (81.5%), does not knew exact indications of the medicines they were taking. 88.8% of the participants doesnot knew whether they are taking generic or brand medicines. Only 50.3% of the participants knew the correct frequency and dose of the prescribed medications. Only 27.1% knew how to store their medications properly. 37.2% were aware of the adverse effects of the prescribed drugs and what they need to do in case of any problem. Only 24.3% of participants were given with printed information about the medicines. The response to other items are shown in Table 3.

Table 3. Response of the participants to the items in questionnaire (N=540).

S. No.	Item	0	1	2	3	4	5
1	Why are you taking medicines?	0	183 (33.9)	134 (24.8)	123 (22.8)	52 (9.6)	48 (8.9)
2	Whether you are taking brand or generic version of the medicine?	5 (0.9)	157 (29.1)	185 (34.3)	137 (25.4)	38 (7.0)	18 (3.3)
3	Can you take a generic version of this medicine?	7 (1.3)	176 (32.6)	103 (19.1)	98 (18.1)	63 (11.7)	93 (17.2)
4	Does this new prescription mean you should stop taking other previous medicines?	30 (5.6)	130 (24.1)	142 (26.3)	104 (19.3)	72 (13.3)	62 (11.4)
5	Are you aware of the medicine you should take and how often do you take it? If you need to take it three times a day, does that mean at breakfast, lunch, and dinner, or every 8 hours? Do you need to wake up in the middle of the night to take it?	0	121 (22.4)	102 (18.9)	45 (8.4)	167 (30.9)	105 (19.4)
6	Do you need to take it all or should you stop medicines when you feel better?	0	57 (10.6)	192 (35.5)	112 (20.7)	87 (16.1)	92 (17.1)
7	Are you aware how long you have to take your medicines? Is it for whole life?	5 (0.9)	124 (23.0)	163 (30.2)	134 (24.9)	107 (19.8)	7 (1.2)
8	Are you aware how should you store my medication? Do you need to keep it in the refrigerator?	18 (3.3)	121 (22.4)	154 (28.5)	101 (18.7)	97 (18.0)	49 (9.1)
9	Are of aware of any tests you need to do while you are on medicine?	0	156 (28.9)	121 (22.4)	132 (24.4)	64 (11.9)	67 (12.4)
10	When should the medicine start working? How can you tell if it's working?	0	234 (43.3)	86 (15.9)	64 (11.9)	42 (7.8)	114 (21.1)
11	Are you aware of the foods, drinks (including alcohol), other medicines, or activities to avoid while you taking your medicines?	0	189 (35.0)	121 (22.4)	123 (22.8)	74 (13.7)	33 (6.1)
12	Are you aware of the side effects from the medicines you taking? When should you tell the doctor about a problem or side effect?	0	98 (18.1)	107 (19.9)	134 (24.8)	121 (22.4)	80 (14.8)
13	What should you do if you have a side effect?	0	46 (8.5)	151 (28.0)	134 (24.8)	133 (24.6)	76 (14.1)
14	What happens if you miss a dose?	0	123 (22.8)	104 (19.3)	132 (24.4)	96 (17.8)	85 (15.7)
15	Are you satisfied with the printed information given to you about your medicines?	0	154 (28.5)	123 (22.8)	132 (24.4)	78 (14.5)	53 (9.8)

Response: 0—not applicable, 1—not done, 2—poor, 3—unsatisfactory, 4—satisfactory, 5—excellent.

Discussion

Assessing the content and quality of PMC using the questionnaie emphasises the comprehensiveness of the medication information which should be given to patients. Our study evaluated the effectiveness of the PMC on the content of medication counselling and subsequently determined the quality of the medication information retained by the patients. To the best of our knowledge, this is the first study in western India focusing on this perspective of PMC. The fndings in this study showed that most of the patients were not conversant with the information about their prescribed medicines. This reflect poorly about the way PMC is carried out or the patients are not able to retain/ understand the information being conveyed to them by the pharmacist/physician. This may hamper the quality of patient care, cause medication errors and afect patient safety. There are diferent reports on the provision of information on medication side efects to patients by physicians/pharmacists. Some patients prefer to receive the information on side efects (21-23), some pharmacists prefer not to give it at all (24) while some others seldom provide the information on side efects to patients (6, 25). These diferent reports may be due to the type of population studied, the content of the medication counselling, the use of medication counselling guidelines, the practice setting and whether the medication counselling was for prescription or over-the-counter drugs. Notwithstanding, counselling patients on the side efects of medication is pertinent. Patient knowledge of expected side efects (s) may help them to promptly identify and report such side efects to the pharmacists or other healthcare professionals. This may impel the pharmacist to identify and report adverse drug reactions and identify and resolve drug therapy-related problems. Thus, pharmacists should be able to pass appropriate and balanced information on the benefcial efects and side efects of medications to patients (26). The patient medication counseling should emphasized on how to take the medication and when the efect of the drug will be seen. In most studies on PMC, information on the direction for use, dose, name of medicine, and indications, were frequently given (6, 27). This is probably what is considered the minimum PMC information required by the patient. This is essential for the rational use of medicines. Patients have always been viewed to play a passive role of help seeker in patient medication counselling (28-30) and are seldom encouraged to ask questions during counselling (31,32). This tallies with the results of the study where probably pharmacist/physician did not give patients enough opportunity to express their concerns or ask questions. Nevertheless, motivating patients' participation in the counselling process assists in identifying drug therapy-related problems, improving patients' knowledge of disease and medication, and enhancing patient understanding (2). As reported by Yang et al., the major reason why patients may not be satisfied with the PMC was insuffcient time for counselling (4). Several other reasons have been adduced in the literature and these include patients forgetting the information provided by the physician/pharmacist, lack of interest or refusing counselling (33,34), type of patient (new or old) as new patients are likely to receive more PMC than old patients (35), and prescription (new or refill) since pharmacy customers with new prescription are likely to be counselled more than those with refill prescription because the pharmacist may assume that the patients on chronic medication(s) has detailed information about the medication(s) (33, 35, 36). Studies indicates that patient intention to initiate consultation or ask questions during counselling is suboptimal and there is a need for providing personalized information to the patients on the use of their medication (37-39). Summarily the quality of counselling received by the patient was unsatisfactory and the quality of counselling provided by the pharmacists/physician can not be commented upon in the study. Lack of sufficient knowledge about their health problems and medicines is a leading cause of patients' non-adherence to treatment plans. Allocating appropriate time for each patient is crucial to effective counselling. Each and every patient should understand why they are taking a medicine and exactly how it should be taken (40). Leuck (41) endorses the DRUG acronym to assist physicians/ pharmacists in remembering the vital components of patient counselling (Table 4). They may need to adapt medicine counselling to suit patients' language skills and primary languages. This can be achieved through the use of teaching aids, interpreters or cultural guides if necessary. They also need to observe and interpret the nonverbal messages (e.g. eye contact, facial expressions, body language, vocal characteristics) that patients give during counselling (42). By providing high-quality patient counseling, healthcare professionals can empower patients to take an active role in their care and improve their overall health and well-being (43-50).

Table 4. Leuck's DRUG acronym for vital components of patient medication counselling.

D - Dosage	• The dose of the medicine and how often it should be taken • Potential timing issues associated with dosage • What to do if a dose is missed.
R - Results	• What the person can expect while taking the medicine • How the drug works in the body • How the person can tell if the medicine is working • The potential consequences of non-adherence.
U - Underlying issues	• Does the medicine have a Boxed Warning? • Is the person allergic to this medicine? • Is the person taking other medicines that could interact with this medicine? • Does this medicine react to alcohol, particular foods or sunlight? • Are there specific precautions for older, young, pregnant or breastfeeding persons? • Any other medicine-specific cautions or precautions.
G - General information	• Assess the person's understanding of the above • Discuss how to properly store this medicine • Discuss information regarding refills • How to dispose of unused medicines • Who they can call if they have any questions.

The current study has some limitations that must be considered. To begin with, the cross-sectional study design makes it impossible to confirm statements about actual practice after data collection, and there is no directionality of the causal relationship. Another limitation was that the study was conducted in only one hospital, and making it difficult to generalize the results to other settings. Moreover, the self-reported nature of the study findings depended on the trustworthiness of the respondents, so there might be an over- or underestimation of the results.

The study results indicates that patient counselling should comprise both written and oral provision of medication information and it should be a one-on-one interaction between the physician and patients. The medication counselling should provide information on the appropriate use of medication, it should entail being involved in the patient's social, dietary, psychological and emotional needs. The good communication is a vital tool to achieve optimal patient medication counselling. It is always a good idea to reconfirm from the patient whether they have understood whatever information is being provided during the PMC. Effective Patient counseling improves medication adherence by addressing patients' concerns, clarifying doubts, and explaining the importance of taking medications, as prescribed. Patient counselling at the pharmacy counter is a practised skill and should be promoted. As a physician/pharmacist, we should remember that assuring the patient understands the treatment is as critical to the role as filling prescriptions accurately. The findings of the study indicate that PMC services need to improve through identifying potential gaps and tackling barriers. Future research should focus on exploring barriers and potential factors associated with the medication counseling practices of pharmacists and hospital dispensary/ pharmacy services so that patient understands and remembers whatever has been told during PMC.

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Conflict of interest

The author(s) declared no potential conflicts of interest

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