

Initiation and evaluation of patient counseling centre services to out patients in a tertiary care hospital

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ABSTRACT

Submitted: 24/2/2011

Accepted: 9/5/2011

Patient counseling is a critical component of the dispensing process, in order to ensure that the patient receives and understands important information such as the name of the drug and the purpose of the medication. Clinical pharmacists are the most qualified health professional to provide counseling to the patients. Physicians due to their heavy patient load, lack of time are unable to spend enough time with the patients and so the pharmacists should take this as their primary responsibility and counsel the patients. The objectives of the study were to initiate a patient counseling centre and to assess the medication adherence and disease knowledge of the patients before and after educating by clinical pharmacist. The study was conducted for a period of 8 months after obtaining Ethics Committee approval. A survey was conducted for health care professionals and a patient counseling centre was initiated in a semi-private room for patient counseling. 104 patients were enrolled as per the inclusion and exclusion criteria. Medication adherence and disease knowledge questionnaires were administered before and after Clinical Pharmacist intervention. 94 patients completed the follow up of the study out of 104 enrolled patients. There was statistically significant improvement ($P < 0.001$) in knowledge level from baseline (7.298) to the follow up (13.691). Comparison of various demographic factors like age, gender, diagnosis and education status showed impact of patient counseling on improvement of overall medication and disease knowledge score. The non-compliance reasons to stop/miss medication as told by patients were 09(30.0%) patients forgetfulness, while 7(23.33%) patients mentioned their fear of side effects, 1(3.33%) patient had confusion in the schedule of taking drugs and 1(3.33%) patient mentioned high cost of drugs as reason for non-adherence. The findings showed of this study showed that a well-structured patient counseling by clinical pharmacist will result in better knowledge of disease and medications which in turn improves their medication adherence.

Keywords: Medication knowledge, Medication adherence, Patient counseling centre, Patient counseling.

INTRODUCTION

Patient counseling is a critical component of the dispensing process, in order to ensure that the patient receives and understands important information related to disease, drugs and other necessary details.¹

Patient counseling is therefore defined as "The process of providing information, advice and assistance to help patients to use their medications appropriately." The information is given by pharmacist to patient or representative.²

Patient counseling is an important task for achieving pharmaceutical care by providing medication related information orally or in written form on the topics like direction of use, advice on side effects, precautions, storage, diet and life style modifications.³

Patients often fail to adhere to their medications due to lack of proper information which often leads to failure of achieving therapeutic goals and decreased quality of life. Effective communication by pharmacists is essential to improve the use of medications by patients and ensure optimal therapeutic outcomes.³ It is important for pharmacists to provide appropriate, understandable and relevant information to patients about their medication. The pharmacist is in a highly visible and readily available position to answer patient concerns and enquiries about their medications and alternate treatments they may read about or hear from others.⁴ The pharmacist is in a highly visible and readily available position to answer patient concerns and enquiries about their medications and alternate treatments they may read about or hear from others.⁵

Effective communication by pharmacists is essential to improve the use of medications by patients and ensure optimal therapeutic outcomes. Pharmacists can improve patient adherence to drug therapy through appropriate strategies, including patient counseling and education. In

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addition to verbal communication, appropriately written recommendations to physicians to resolve drug therapy problems can be an effective strategy for drug therapy changes.⁶

National scenario:

In India the first masters in pharmacy practice was developed in 1996 but from then more emphasis was given on attending ward rounds, drug information, drug therapy review but importance given for patient counseling was not up to the mark. In India 95% of pharmacists do not offer counseling services to patients. This is because of provider based, patient based and system based barriers.⁷

International scenario:

In developed countries pharmacist take the responsibility of patient counseling. In America the pharmacist counseling patients on the correct use of their medication was started from 1964 and the use of private offices for patient pharmacist interactions, counseling the patients was started from 1965.⁸

Patient Counseling Environment:

Pharmacy counseling environment plays an important role in counseling. Patients were not comfortable receiving advice about their medications over a window.⁸ Education and counseling should take place in an environment conducive to patient involvement, learning, and acceptance one that supports pharmacists' efforts to establish caring relationships with patients. The counseling environment should be comfortable, confidential, and safe. Counseling is most effective when conducted in a private room that ensures privacy. Patient should be counseled in a semi-private, or private, area away from other people and distractions, depending on the medication(s). Distractions and interruptions should be few, so that patients and pharmacists can have each other's undivided attention and the patient will be able to ask questions that he/she may be hesitant to ask in public.⁵

For the above mentioned facts, it is assumed that there is need for patient counseling for better health care outcomes i.e; improved quality of life and achieving the therapeutic goals. Physicians due to their heavy patient load, lack of time are unable to spend enough time with the patients and so the pharmacists should take this as their primary responsibility and counsel the patients.³ The pharmacokinetic profile of a drug may vary with paediatric, geriatric patients, so special counseling to them is important. Drug use at the time of pregnancy and lactation should be taken care of as they may cause teratogenicity, so constant counseling to them is also

important.⁷ In multidisciplinary (multispeciality) hospitals where patient pool is more, initiation of a patient counseling centre with the support of physicians may be necessary. So the purpose of the study was to initiate a patient counseling centre at the hospital.

OBJECTIVE

To initiate a patient counseling centre and evaluate the counseling services provided by a pharmacist.

METHODOLOGY

Study setting:

The study was conducted in Patient counseling centre which was initiated near out patient department in a tertiary care hospital of northern Karnataka.

Study Duration:

The study was conducted for a period of 8 months.

Ethics Committee Approval:

The study protocol was prepared and submitted to the Institutional ethics committee on human subject research for ethical clearance. The study was approved by Institutional ethics committee and issued ethical clearance certificate for the same.

Study design:

The study was a prospective, questionnaire based hospital study.

Study Materials:

The study materials include:

- a. Patient profile form
- b. Knowledge assessment questionnaire(Baseline)
- c. Knowledge assessment questionnaire(Follow up)
- d. Patient counselling documentation form

Study procedure:

A survey was conducted for the hospital physicians, surgeons and PG students regarding their opinion about the initiation of patient counseling centre and according to the results obtained Patient Counseling Centre (PCC) was initiated in hospital. Once the patient comes to the counseling centre if he/she is willing to participate in the study, consent is obtained. The initial patient information was collected like demographic details, past medical and medication history, current diagnosis and treatment regimen and then baseline knowledge assessment questionnaire for the patient will be

filled up. The counselling session was then initiated and the patient is counseled. During the patient's next hospital visit the follow up questionnaire is filled in. Medication adherence was assessed using Morisky scale of adherence score 0-4 having 4 questions each question counts for score 1 if patient's answer is no. The maximum the score, the better the adherence to prescribed medication therapies. Statistical analysis of the same is done Wilcoxon signed-ranks test was used for the analysis. All the attributes are significant between baseline and follow up.

RESULTS

104 patients were enrolled in this study and 94 patients completed the study. 10 patients did not come for follow up who were considered drop outs. Among the total patients, male patients 27(28.72%) were less compared to female patients 67(71.28%). The age distribution of enrolled patients is as follows 43(45.75%) patients were between the age group of 18-35 years of age and 11(11.70%) were between the age group of 36 to 49 years of age. The remaining 40(42.55%) patients were $\geq$ 50 years of age. Among the participants of the study, 5(5.32%) of the patients were having formal education and were graduates; 19(20.21%) had a formal education up to 12th std; 31(32.98%) were having education between first to 10th standard and 39(41.49%) patients were illiterate patients who have not received any formal education. Out of 94 patients assessed for the smoking habit 6(6.39) belonged to smoking category, 88(93.61%) patients belonged to non-smoking category. The time for counseling for 64 patients is 15-30 minutes. For 22 patients it took about 36-45 minutes. For the remaining 8 patients it took between 46-60 minutes. The total average time taken for counseling the patients irrespective of their disease is about 30.37 minutes. Out of 94 patients who completed the study, 64 patients were house wives, 14 were farmers, 9 were having their own business, 4 were employed and 3 were students. Out of 94 patients who completed the study, maximum included the pregnancy cases followed by diabetes and hypertension cases. The other are COPD and Anaemia cases followed by Gastro Enteritis and Osteo Arthritis, IHD, infectious diseases (2 cases of viral fever, 1 case of malaria and 1 case of UTI), 3 cases of Peptic Ulcer Disease, 2 cases of Rheumatoid Arthritis and 2 cases of Asthma. The time for counseling for 64 patients is 15-30 minutes. For 22 patients it took about 36-45 minutes. For the remaining 8 patients it took between 46-60 minutes. The total average time taken for counseling the patients irrespective of their disease is about 30.37 minutes.

All the 94 participants of the study were initially provided knowledge assessment questionnaires at the time of

enrollment and subsequent follow up. Mean knowledge score was assessed at baseline and follow up. It was observed that there was significant improvement in the mean knowledge score of patients. Out of 94 patients who completed the study, mean medication knowledge score at baseline was 7.298 and at follow up it was 13.691. Baseline to follow up showed a mean increase in knowledge 6.393 and ($P < 0.001$) which is statistically significant.

Demographic details of all patients were analysed to assess the knowledge scores in each group at visit. Knowledge scores were compared to gender, age and educational wise to check the impact of demographic factors on knowledge scores. Mean adherence score was assessed pre and post counseling. It was observed that at baseline it was 3.2 and post counseling it improved to 3.9. Various barriers for medication adherence were identified by pharmacist. The maximum number of patients i.e., 9 complained of forgetfulness in daily schedules, while 7 patients mentioned their fear of side effects, 1 patient had confusion in schedule for taking drugs and 1 patient mentioned high cost of drugs as reason for non-adherence.

DISCUSSION

Physicians due to their heavy patient load, lack of time are unable to spend enough time with the patients and so the pharmacists should take this as their primary responsibility and counsel the patients. Pharmacists can improve patient adherence to drug therapy through appropriate strategies, including patient counseling and education. In addition to verbal communication, appropriately written recommendations to physicians to resolve drug therapy problems can be an effective strategy for drug therapy changes.

Medication regimens for patients particularly for chronic illnesses like diabetes, cardiovascular complications and pregnant females are vulnerable to adherence problems because of their duration, the use of multiple medications. A survey was conducted for the health care professionals out of which many of the professionals felt a necessity for counseling the patient in a private room for counseling. Thus patient counseling centre was initiated. The centre was a semi-private room made for counselling the patients from the free pharmacy of the hospital. The aim was to counsel the patients who visit the counseling centre.

The purpose of the study was to assess and improve their knowledge and thereby medication adherence. Also to identify various contributing factors for non adherence and employing strategies of counseling regarding medication,

disease, and interviewing the patient to enhance medication adherence. The patients were assessed for medication and disease knowledge at the baseline by structured interviews and at subsequent follow up visits. A total of 94 patients were assessed for medication adherence and their knowledge regarding disease and medication, during the study out of which, 27(28.72%) were males and 67(71.28%) were females. More number of female patients were enrolled may be because the results show that more pregnant females visited the counseling centre.

Out of 94 patients who completed the study 43(45.75%) patients were in the age group of 18-35 years, 11(11.70%) were in the age group of 36-49 years and 40(42.55%) patients who were equal to and above 50 years. Maximum numbers of patients enrolled in the study were from the age group of 18-35 years who constitute to about 45.75% of the total population which mainly included pregnant females. The remaining were from the age group of years ≥ 50 which constitute 42.55% which mainly included diabetic, hypertensive and cardiovascular risk patients. Limited patients were there in age group 36-49 years of age. A total of 94 patients were assessed during the study. Educational background of the individuals was found to be maximum for illiterate 39(41.49%). Secondly 31(32.98%) number of patients were having educational levels $\leq 10^{\text{th}}$ std. while 19(20.21%) patients were educated till 12th std where as only 5(5.32%) patients were graduates/diploma holders. Adepu R et al. in their study said that low educated patients had 40% excess cause of mortality compared with educated subjects.

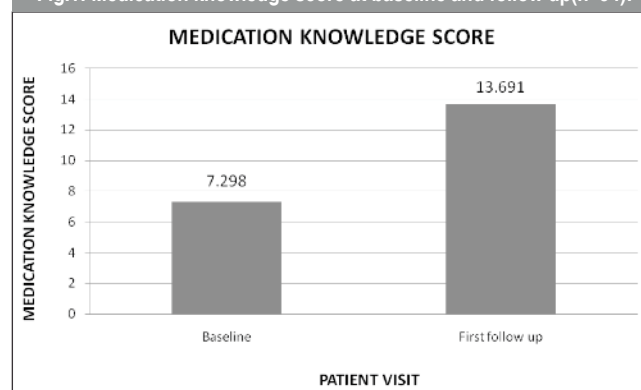
Out of 94 patients assessed for the smoking habit 6(6.39%) belonged to smoking category, 88(93.61%) patients belonged to non-smoking category. All women patients were non smokers. A total of 94 patients were assessed during the study out of which 89 (94.68%) patients were married and 05(5.32%) were unmarried. In India people get married early at the age of 18 years. The counseling aid patient information leaflet was provided to 61 patients out of 94 who completed the study. So, the PIL was provided to 64.89% of patients which help them in reading and reminding the information whenever they want. Out of 94, in 71 cases counseling was provided to patient and patient's representative. So, in 75.53% of cases counseling was also provided to patient's representatives which mainly included geriatric patients and pregnant females.

Baseline results of our study too indicated the necessity of counseling to patients as their knowledge assessment score was low 7.298. After counseling there is significant improvement in the knowledge score i.e, 13.691. There is

Table 1: Demographic characteristics of enrolled patients

Characteristics		Number (n=94)
Gender	Male	27(28.72%)
	Female	67(71.28%)
Age Group (years)	18-35 yrs	43(45.75%)
	36-49 yrs	11(11.70%)
	≥ 50 yrs	40(42.55%)
Education Background	Graduates	5(5.32%)
	PUC	19(20.21%)
	Up to 10th std	31(32.98%)
	Illiterate	39(41.49%)
Occupation	Employed	4(4.25%)
	Agriculture	14(14.89%)
	Businessman	09(9.57%)
	Housewife	64(68.08%)
	Student	3(3.19%)
Life Style Habits (Alcohol and Smoking)	Smokers	6(6.39%)
	Non- Smokers	88(93.61%)
Marital status	Married	89(94.68%)
	Unmarried	5(5.32%)

Fig.1: Medication knowledge score at baseline and follow up(n=94):



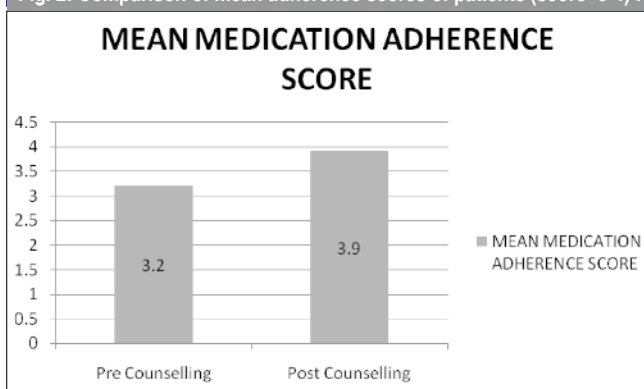
direct correlation of medication knowledge with medication adherence in the patients. This shows that pharmacist is an important part of health care system and play a vital role in patient counseling. Ponnusankar S et al. had shown that pharmaceutical care improves medication knowledge and in turn medication adherence.⁹

In this study, comparison for medication knowledge improvement was done by using various demographic factors like age, gender and education. The study showed significant difference in medication knowledge at first follow up scores between literate and illiterates, and male and female patients ($P < 0.001$), this may be due to significant difference in baseline scores in literate and illiterate patients and in male and female patients.

Table 2: Comparison of the mean knowledge assessment score of patients at baseline and follow up:

Mean baseline score $\pm$ SD	Mean Follow up score $\pm$ SD	Difference of Mean	P-Value
7.298	13.691	6.393	P<0.001

Fig. 2: Comparison of mean adherence scores of patients (score=0-4) :

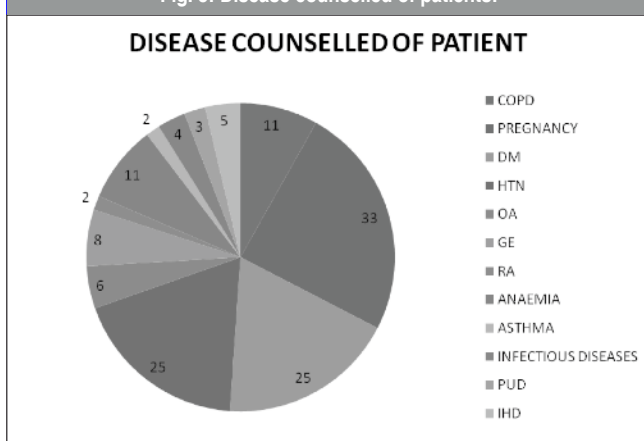
**Barriers to medication adherence (n=30) :**

Various barriers for medication adherence were identified by pharmacist. The maximum number of patients ie, 9 complained of forgetfulness in daily schedules, while 7 patients mentioned their fear of side effects, 1 patient had confusion in schedule for taking drugs and 1 patient mentioned high cost of drugs as reason for non-adherence.

Table 3: Barriers for medication adherence:

Barriers for Medication Adherence	Reported by No. of Patients	Percentage
Forgetfulness	9	30
Fear of side effects	7	23.33
Confusion in schedule	1	3.33
Cost of drugs	1	3.33

Fig. 3: Disease counselled of patients:

**CONCLUSION**

The study highlights on the important and vital role that a pharmacist has to play as they are the most accessible healthcare professionals, important liason between referral and the patient and they have got opportunity to remind, reinforce and extend the education of the patient, evaluate the patient's knowledge and facilitate the patient. The results of this study reveal the importance of patient counseling centre and also demonstrate the need for a pharmacist in providing patient counselling services to the patients. The finding of this study suggests that a well-structured patient counseling by clinical pharmacist regarding their disease and medications will be effective to change their attitude and behaviour. This can further lead to a better understanding about their disease and medications being used.

ACKNOWLEDGEMENTS

We would like to thank the Principal, Vice-Principal, Staff and Postgraduate students of Department of Pharmacy Practice, KLEU's College of Pharmacy, Belgaum for their support and encouragement.

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