

A Study on Assessment of Need and Utility of Clinical Pharmacy Services in General Medicine Unit in Tertiary Care Hospital

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Abstract: **Background:** The role of pharmacists in the care of hospitalized patients has evolved over time. There is evidence that greater collaboration between general practitioners and pharmacists can improve patient care. Patient counseling is a critical component, in order to ensure that the patient receives and understand important information about the medication. Due to the lack of time, heavy patient load of physician clinical pharmacist should take responsibility to provide his services in hospital. The objective of the study was to assess the need and utility of clinical pharmacist services in general practice settings. **Method:** A prospective observational study was conducted over a period of 6 months. During this period patient's case notes were collected and reviewed. Inpatient counseling was given to the patient by providing PILs. Medication adherence and knowledge was assessed by developing questionnaire. Medication adherence score was given using MMAS scale. **Results:** Among 104 patients who were willing to participate in the study 81 completed their follow up. There was statistically significant improvement ($p < 0.05$) in knowledge level from base line (3.29) to the follow up (5.5). There was statistically significant improvement ($p < 0.05$) in medication adherence pre counseling (2.96) and the post counseling (3.5). **Conclusion:** Our study concludes that involving clinical pharmacist services in patient care can significantly helps to provide many services especially patient counseling to improve patients QOL.

Keywords: Clinical pharmacist, knowledge on medication, medication adherence, non compliance, physician, Patient counseling, quality of life (QOL)

1. Introduction

Improving quality of life (QOL) of patient, safety effectiveness and knowledge on medication use is very important in order to reduce morbidity and mortality rates. This morbidity and mortality rates of patients may be enhanced due to geographical isolation of pharmacist and physician and also no time for team work. For this pharmacist and physician collaboration is essential and needed to develop safety effectiveness, improve medication adherence and QOL of patients.

Pharmacy services in inpatient departments, which is the important role of clinical pharmacist. To counsel the patients the clinical pharmacist should be trained in pharmacy practice, pharmaceutical drug management and therapeutics.

The major responsibilities of the clinical pharmacist was to develop rational use of medicines and enhance therapeutic effect by provide information about drugs, dosage and also provide information on negative outcomes which are sometimes caused by the drugs, and also provide information on disease related knowledge and life style changes. Other responsibilities include minimize the risk, cost and also includes education and knowledge on medication.

Non compliance was one of the major causes for lack of medication adherence by the patient. Interaction between physician and patient is essential to avoid non compliance, but due to time insufficiency physicians are unable to interact with patients. Hence, pharmacist must establish various programs to counsel the patients in order to handle

non compliance. These include providing patient information leaf lets which contain brief information on disease, disease related drugs with dosages and mode of administration. They also include home remedies and life style changes.

2. Methods

A prospective observational study was done at a tertiary care teaching hospital for a period of 6months. We included only the patients aged >18years of either gender admitted in general medicine department. Study was initiated after taking the permission from ethics committee. Baseline details of the patients were documented. Discharge counseling to the patients was done. In counseling session patient was counseled or informed regarding the disease, medication, lifestyle modifications. PILS were given for better understanding of the patient. The patient was asked to clarify his/her doubts if any. The process was finally documented in patient counseling documentation form. Assessment of knowledge and medication adherence was done at the baseline. Then the patient was informed to come for follow up after 1 month. Telephone numbers of the patients were collected. Patients were directly contacted by the pharmacist but most of them were reviewed by telephonic contact. Then at the time of follow up assessment of knowledge which was given during the counseling time and medication adherence was done. Knowledge assessment was done by using knowledge assessment questionnaire and medication adherence was assessed using MMAS score. Statistical analysis was done using software SPSS version 2.0. Wilcoxon's sign rank test was applied to the data for

Volume 5 Issue 11, November 2016

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calculating parameters mean knowledge score and medication adherence score comparing at the time of baseline and follow-up.

3. Results

Among 150 patients who were approached for the study only 104 patients accepted to participate in counseling session. Out of those 104 patients consented at the baseline 23 patients did not turn for follow-up due to some unknown reasons, only 81 patients completed the study.

Among 81 patients 46.91% of patients were counseled for both hypertension and diabetes, 13.5% were counseled for diabetes, 11.11% were for hypertension, 2.46% were counseled for respiratory tract infections, 3.7% were counseled for asthma, 4.93% were counseled for anemia, 2.46% were counseled for viral fever, 6.17% were counseled for chronic kidney disease, 4.93% were counseled for heart diseases, 1.23% were counseled for gastric diseases and 2.46% were counseled for other diseases.

3.1 Knowledge Assessment

Mean knowledge score was assessed at the time of base line and follow up. Out of 81 patients who completed the study mean medication knowledge score at the base line was 3.29 and at follow up was 5.5.

Table 1: Demographic details (n=81)

Demographics	No. of patients	Percentage
Gender		
Male	31	39.5
Female	50	60.49
Age		
18-35	12	14.81
36-55	39	48.14
56-75	27	33.33
>75	3	3.7
Education		
Nil	61	75.30
Up to X	13	16.04
Up to XII	6	7.40
Graduate	1	1.2
Occupation		
House wife	31	38.24
Farmers	21	25.92
Daily wage earner	25	30.86
Employee	1	1.23
Student	3	3.7
Time taken for counseling		
1-10 min	64	79.012
11-20 min	15	18.51
21-30 min	2	2.46
>30 min	0	0

The mean base line score \pm SD was 3.29 ± 0.707 and the mean follow up score was 5.5 ± 0.754 , and the difference in the mean scores was found to be 2.21. When Wilcoxon's sign rank test was applied it was found that the p value was <0.05 . This shows there was a significant change between the mean base line and follow-up knowledge scores.

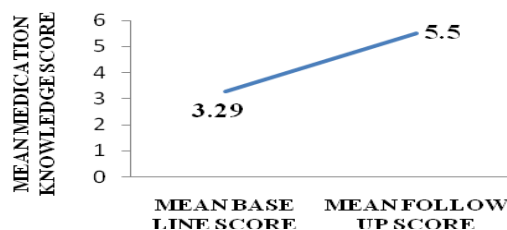


Figure 1: Medication Knowledge at the Time of Baseline and Follow Up

3.2 Medication adherence

Morisky medication adherence scale (MMAS) was used to assess the patient's adherence to the medication. Mean adherence score was assessed at base line and follow-up. It was observed that mean adherence score was 2.96 at base line and 3.5 at follow up.

The mean base line score \pm SD was 2.96 ± 0.509 and the mean follow up score \pm SD was 3.5 ± 0.5 and the difference in the mean scores was found to be 0.54. When Wilcoxon's sign rank test was applied it was found that the p value was <0.05 . This shows there was a significant change between the mean base line and follow-up adherence scores.

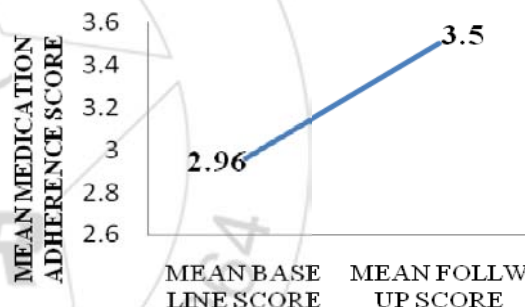


Figure 2: Medication Adherence Score at the Time of Base Line and Follow Up

3.3. Correlation between medication knowledge and medication adherence

In this study it was seen that as medication knowledge score increased there was an increase in medication adherence score of patients. This proves that with medication knowledge improvement, there was an improvement in medication adherence score.

4. Discussion

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

In the present study, out of 81 patients females (60.49%) are more when compared to males. In the similar study conducted by Chi Hua Chen¹⁵ on inpatient satisfaction with TCM medication counseling services provided by pharmacists, out of 60 patients females are more (68.3%) when compared to males (31.7%).

In our present study majority of patients (48.14%) are between age group 36-55. In the similar study conducted by Chi Hua Chen et.al.¹⁵, 61.7% of patients are between age group 41-60.

In the present study illiterates (75.30%) are more when compared to literates. In the similar study conducted by Ramanath KV et.al.⁵ on impact of clinical pharmacist's interventions on medication adherence and QOL in rural hypertensive patients, illiterates (61.5%) are more.

In our study considering patients occupation house wives are more in number (38.29%). In the similar study conducted by Ramanath KV et.al.⁵, farmers (57.57%) are more in number than house wives.

In our study more no. of patients were counseled for conditions DM and HTN (47%) in the similar study conducted by sivasankaranponnusankar et.al.¹³, on assessment of impact of medication counseling on patients medication knowledge and compliance in an outpatient clinic in south India, majority of patients were counseled for HTN(63.33%), DM(30%) and their co morbidities.

In this study the mean medication knowledge at baseline was 3.29 ± 0.707 and at the time of follow up it was improved to 5.5 ± 0.754 . In the similar study conducted by Siva sankaranponnusankar et.al.¹³, the medication knowledge score of counseled group was significantly increased.

In the present study mean medication adherence score at baseline was 2.96 ± 0.509 at the time of follow up it was improved to 3.5 ± 0.5 . In the similar study conducted by Ramanath KV et.al.⁵, the medication adherence scores was improved from 2.08 ± 0.93 to 3.92 ± 0.27 .

5. Conclusion

The major cause for providing patient counseling in our study was lack of patient's medication knowledge and medication adherence problems due to insufficient time for physicians to provide sufficient knowledge to patients. In our study the results showed that there is a significant improvement in patient's knowledge and medication adherence at the time of follow up when compared to baseline. This shows that there is a need of clinical pharmacist services in the hospital to improve patient's knowledge about disease, medications, and lifestyle modifications and which thus improves the therapeutic outcome of the patient.

Our study concludes that involving clinical pharmacist services in patient care can significantly helps to provide many services especially patient counseling to improve patient's Quality of Life (QOL).

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