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ASSESSMENT OF MEDICATION ADHERENCE IN CHRONIC ILLNESS PATIENTS IN THE DEPARTMENT OF GENERAL MEDICINE.

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ABSTRACT

Introduction: Medication adherence or taking medications correctly is defined as the extent to which patients take medication as prescribed by doctors, that is extent to patient's behaviour such as taking medications with respect to timing, dosage, and frequency. This involves factors of getting prescriptions filled, remembering to take medication on time, and understanding the directions. "It also includes the initiation of the treatment, implementation of the prescribed regime, and discontinuation of the pharmacotherapy

Methodology: This Prospective observational study was carried out for a period of 6 months, where subjects were enrolled based on the inclusion and exclusion criteria .patient demographics (present age, age at menopause, sex, weight, height),family history, surgical history, past medical history, past medication history, vitals (blood pressure), Blood sugar levels were documented. A Pretested questionnaire prepared following WHO guidelines was used to document subjects opinion, compliance and understanding regarding the therapy. Basic demographic details and other details regarding their diet and life style habits were enquired. The study procedure was explained to the subjects and a written consent will be obtained from them. Confidentiality of the data will be assured to the patient

Results: We have studies and analysed 120 chronic out patients aged between 18 years to 60years in that we have compared adherence levels in baseline and follow up stage.

Conclusion: Adherence is a key factor associated with the effectiveness of all pharmacological therapies but is particularly critical for medications used in chronic diseases. The reasons for poor medication adherence are often multifactorial. The present study found a relationship between gender, age, literacy, complexity of drug regimens and medication adherence. The final result concluded that medication adherence was improved, while comparing the baseline to followup Further studies with large sample size must be done to understand all the reasons for patient medicationnon-adherence.

Keywords: Adherence, medications, treatment, chronic.

INTRODUCTION

Medication Adherence is defined as the extent to which patients medication taking behaviour matches with the recommendations from prescriber[1], as well as whether they continue to takethem.[2] Medication adherence is important for controlling chronic conditions, treating temporary conditions, and overall long-term health and well-being.[3]

EPIDEMOLOGY

125,000 peopledie a year due to failure to take medication or taking medications improperly. More than 1 in 3 medicines related hospitals admissions occur due to people not properly adhering to their medications.[4]

WHAT IS MEDICATIONADHERENCE

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and frequency. This involves factors of getting prescriptions filled, remembering to take medication on time, and understanding the directions.

FACTORS EFFECTING MEDICATIONADHERENCE

SOCIAL/ECONOMIC

Social and economic factors which lead to medication adherence failure are low health literacy, buyschedule, limited asses to health care facility,pharmacy,high cost of medication ,lay and cultural benefits about illness and treatment, location of residence, alcohol and smoking status.[8] Physician should asses' financial condition of patient while prescribing. People who have social support from family, friends, or care givers to assist with medication regimens have better adherence to treatment.

I. PROVIDER-PATIENT/HEALTH CARESYSTEM

- The relationship between doctor-patient is an important factor which plays key role in providingadherence.
- Encouragement and reinforcement from the provider, has positive impact On adherence.
- Poor or lack of communication about benefits, instructions for use, and side effects of medications can lead to nonadherence, especially in older adults with memory problems.

II. CONDITION-RELATED

- over time there is a decline in adherence for Long term drugs administration for many chronicillnesses.
- This happens when patient have few or no symptoms and the absence of them is a barrier for people to take their medication. It is important for the patient to understand the illness and what will happen if it is nottreated.

III. THERAPY-RELATED

- side effects, complexity of the medication regimen, which includes many number of medications and number of daily doses required, duration of therapy, therapies that are inconvenient or interfere with a person's lifestyle are responsible for decrease in adherence.
- In order to achieve good adherence clinicians should keep this point in mind while prescribing.

IV. PATIENT-RELATEDFACTORS

- Visual impairment, cognitive impairment, mobility or swallowing impairment, poor understanding of disease, psychosocial stress, anxiety, and anger can lead to decline inadherence.
- Physical impairments and cognitive limitations may increase the risk for non adherence in olderadults.
- Lack of knowledge about the disease and reason to take medication is needed, lack of motivation, low self-efficacy, and substance abuse are associated with poor medication adherence.

PHARMACIST ROLE IN MEDICATIONADHERENCE

- Pharmacists must embrace and act onthem.
- Pharmacist should be friendly and approachable to patient and should take patients spiritual and psychological needs into consideration
- Pharmacist should encourage patient to discuss their main concern without interruption or prematureclosing ,should elicit patient perception and the associated feeling andexpectation.
- Should learn method of active listening andempathy.
- Should give clear information to patient about disease anddrugs.
- Pharmacist should speak same language as patients and check hisunderstanding.[10]
- Each patient is unique with different factors so pharmacist must approach each patient individually to determine the level of adherence and barriers that prevent patient from takingmedication.
- 6/3/2020 The Pharmacist's Role in MedicationAdherence

NEED FOR THE STUDY

Adherence to therapies is a primary determinant of treatmentsuccess. The pharmacist can intervene to help the patient achieve a better therapeutic outcome. Often, many strategies must be employed to improve adherence, including counselling, patient education, and memory enhancement. Improved patient- centeredness (involving the patient in decision-making) can lead to improved adherence. Simplifying the medication regimen through once daily dosing formulations can result in as much as twice as many adherent days versus more complex dosing. Improving the patient–physician relationship is a commonly proposed means of enhancing compliance. A patient's attitude may also affect adherence. This happens when patient have few or no symptoms and the absence of them is a barrier for people to take their medication. It is important for the patient to understand the illness and what will happen if it is nottreated.

METHODS

DATA ENTRY, ANALYSIS AND INTERPRETATION

Analysis was done by combination of manual calculators

STUDY POPULATION

A total population of 120 patients selected by simple randomization were given a pre-validated questionaries hence data of 120patients were considered for the study. Sampling was done by simple random method

INCLUSION CRITERIA

- Outpatients of chronic illness patients in department of general medicine of both genders,
- age greater than 18 years and
- Patients who are willing to participate.
- Consuming medicine under doctor's prescription

EXCULSION CRITERIA

- Patients who are physical challenge, Surgery self medicating
- Unable to communicate and
- above the age of 60 years.

STUDY STOOLS

Pre-tested questionnaire which was prepared in English.it

contained three sections. Section first included the questions regarding the general demographic information such as age, gender, location, educational qualification etc. Section two had questions about disease and medication. Section three asked questions aboutmedication adherence, as per eight point Mo risky medication adherence scale (MMAS-8).the objectives of the study were explained to the study participants prior to data collection, and their consents were sought and the questionaries were filled only by those who agreed.

DATA ENTRY, ANALYSIS AND INTERPRETATION

Analysis was done by combination of manual calculators etc

RESULT

120 random samples were collected based on inclusion and exclusion criteria. Data was collected by the use of well-structured questionnaires. Results were calculated using univariate linear regression, with each patient's adherence score as the dependent variable and each predictor as the independent variable.

Results are summarized and reported using simple descriptive statistics (Number andpercentage) in Table 1 to 3.

Table 1: Characteristics of study population.

Characteristics		
Gender	**No.**	**%**
Male	47	39.17%
Female	73	60.83%
Marital status		
Married	91	75.83%
Unmarried	29	24.17%
Age group: Age(Mean=42.85)		
20-25 yrs	16	13.33%
26-30 yrs	8	6.67%
31-35 yrs	10	8.33%
36-40 yrs	17	14.17%
41-45 yrs	14	11.67%
46-50 yrs	15	12.50%
51-55 yrs	12	10.00%
56-60 yrs	28	23.33%
Educational status (Literacy)		
Literate	49	40.83%
Illiterate	71	59.17%
Residence		
Urban	84	70.00%
Rural	36	30.00%

Table 1 shows patient characteristics. These include patient age, gender, residence area, marital status, and level of education. The study population consisted of 39.17% men and 60.83% women. The mean age was 42.85 years ranging from 20 to 60 years. 40.83% patients were literate and 59.17% were illiterate. 70.00% patients were from urban areas, 30.00% from rural areas and 75.83% patients were married.

Table 2 shows that diabetes mellitus medications were received by 13.33% patients, 9.17% for hypertension ,7.50%patients were on thyroid medications, 5.00% on TB medications . the duration of illness of 32.50% patients is less than one year ,30.83% duration of illness is 1- 5 years ,duration if illness of 20.00% patients is 6-10 years and 16.67% is having greater than 10 years of duration of illness, since less than a year 38.83% patients were receiving medications, 37.50% for 1 year to 5 years, 17.50% for 6 years to 10 years, and 17.00% for more than 10 years. 17.50% were on one drug treatment20.83% on two to four drugs and 61.67% were taking more than four drugs. 66.67% were satisfied with the treatment received but 33.33% were dissatisfied for various reasons.

Table 2: Disease and medication pattern of study population

Characteristics	**NO.**	**%**
Disease type		
Diabetes mellitus	**16**	**13.33%**
Hypertension	**11**	**9.17%**
Thyroidism	**9**	**7.50%**
Tuberculosis	**6**	**5.00%**
Others	**78**	**65.00%**
Duration on illness		

<1year	**39**	**32.50%**
1-5 years	**37**	**30.83%**
6-10 years	**24**	**20.00%**
>10 years	**20**	**16.67%**
Duration of treatment		
<1year	**37**	**38.83%**
1-5 years	**45**	**37.50%**
6-10 years	**21**	**17.50%**
>10 years	**17**	**17.00%**
Number of drugs prescribed		
One drug	**21**	**17.50%**
2-4 drugs	**25**	**20.83%**
>4 drugs	**74**	**61.67%**
Treatment satisfaction		
Yes	**80**	**66.67%**
No	**40**	**33.33%**

Table 3 shows medication adherence levels 43.33% had low medication adherence as per 8 points Morisky Medication Adherence Scale, 40.83% medium and only 15.83% had high adherence. Compared to 51% men, 34.02% women were moderately adherent to medications. 33.80% uneducated patients had medium adherence as compared to 44.90% educated patients. 46.88% young patients had low adherence and 7.69% had medium adherence. In older patients, 53.25% had low adherence, 44.68% medium and 20.31% high adherence. 38.10% patients receiving a single drug had medium adherence and 41.41% patients receiving multiple drugs had medium adherence

DISCUSSION

Medication adherence remains a major public health concern and is expected to continue as the population ages and becomes increasingly reliant on self-administered medications. It is a critical element for chronic disease management. Medication non-adherence is a significant barrier for positive health outcomes for patients with chronic diseases. There is a wide variation in reported non adherence, depending upon: definitions of adherence, the population studied, methodology used, length of observation and data analysis tools used, Measurement of medication adherence is challenging because adherence is an individual patient behaviour. Various approaches have been used to measure medication adherence. We used Eight point Morisky edication Adherence Scale (MMAS-8) in the study. The Moriskscale is a commonly used, validated self reporting adherence measure that has been shown to be predictive of adherence to medication. This study determined the level of medication adherence in some common chronic ailments. The comparison of adherence with similar studies conducted in various countries is difficult because of differences in patient characteristics and data collection tools. We have studied and analysed 120 chronic out patients aged between 18 years to 60 years in that we have observed 43.33% has low adherence, 40.83% medium adherence and 15.83% has high medication adherence. It was also observed that male patients had better reported medication adherence (70.10% medium and high) as compared to female patients (47.62%). In the taken study sample we have found that elderly people were more adherent to medication (62.1% medium and high) as compared to young patients (53.1%). The results are consistent with other studies in which the prevalence of adherence was significantly lower in younger patients. In this study, educated patients were found more adherent (69.2%) than uneducated patients (47.8%) .In another study uneducated patients were 41.02%% adherent to medication and educated patients had lower adherence rates (19.04%). Patients receiving a single drug had better adherence (61.59% medium and high combined) than those receiving multiple drugs (55.5% medium and high combined). Similar results were found in another study. The differences in reported medication adherence found in this study, though statistically insignificant, may be clinically important. One limitation of this study is recall bias. We tried to minimize it by a using a well structured pre-validated questionnaire based on Morisky Medication Adherence Scale which is one of the simplest self reporting scales. Another limitation of this study is the limited sample size, which we tried to overcome by use of a random sampling method so as to generalize findings.

Table 3: Observed adherence in study population by Morisky Medication Adherence Scale (MMAS-8).

Level	**No**	**%**
Overall adherence level		
Low	52	43%
Medium	49	41%
High	19	16%
Gender-wise adherence level		
Males(47)		

Low	14	29.78%
Medium	24	51%
High	9	19.10%
Females(73)		
Low	38	52.05%
Medium	25	34.02%
High	10	13.60%
Level of education and adherence level		
Uneducated(71)		
Low	37	52.11%
Medium	24	33.80%
High	10	14.08%
Educated(49)		
Low	15	30.61%
Medium	22	44.90%
High	12	24.49%
Age-wise adherence level		
Young adults(64)		
Low	30	46.88%
Medium	21	32.81%
High	13	20.31%
Old adults(56)		
Low	21	37.50%
Medium	29	51.79%
High	6	10.71%
Adherence level with monotherapy vs polypharmacy		
Monotherapy(21)		
Low	8	38.10%
Medium	8	38.10%
High	5	23.81%
Polypharmacy(99)		
Low	44	44.44%
Medium	41	41.41%
High	14	14.14%

CONCLUSION

Adhadherence is a key factor associated with the effectiveness of all pharmacological therapies but is particularly critical for medications used in chronic diseases. The reasons for poor medication adherence are often multifactorial. The present study found a relationship between gender, age, literacy, complexity of drug regimens and medication adherence. The final result concluded that medication adherence was improved ,while comparing the baseline to followup Further studies with large sample size must be done to understand all the reasons for patient medication non-adherence.

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