



Assessment of Medication Adherence Among Diabetic Mellitus Patients in a Tertiary Care Hospital

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ABSTRACT

Diabetic Mellitus is a commonly known disease referred to as diabetics, needs to follow medication consistently without a break to keep the blood sugar level in control. Consistent medication deals with a measure of how patients adhere to their medications and is done by health care providers. This is very important because it ensures that the patient follows the doctors order correctly and also ensure that the treatment is not just based on a therapeutic contract between doctor and patient. This monitoring is very high, with patients having serious problems with diabetics and is reported low for chronic patients. The aim of this study is to assess medication adherence in type 2 diabetes patients. The study was carried out at Saveetha Medical College. Data was collected using a standardized questionnaire. Data entered in MS Excel and analyzed using Weka 3.8.3 and results interpreted. The best way health professionals can tackle the adherence problem is through quality patient counselling, as done in this study.

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INTRODUCTION

Diabetic Mellitus is a commonly known disease referred to as diabetics, needs to follow medication consistently without a break to keep the blood sugar level in control. Consistent medication deals with a measure of how patients adhere to their medications and is done by health care providers. This is very important because it ensures that the patient follows the doctors order correctly and also ensure that the treatment is not just based on therapeutic Commitment among doctor and patient (Steiner and

Earnest, 2000). This monitoring is very high, with patients having serious problems of diabetics and is reported low for chronic patients (Jackevicius, 2002; Cramer *et al.*, 2003). The ability of doctors to know about the medication adherence of patients is very difficult and complex. (Burnier, 2000; Haynes *et al.*, 2002), lack of such information lead to loss of lives and extensive fall of health (McDonnell and Jacobs, 2002; Schiff *et al.*, 2003). Diabetics once affected can never be recovered but can be kept under control only at the cost of proper and regular medication. Type -2 Diabetics is a very serious problem for the age group above 40 and is almost covers 80% of the current population in that age group (Misdrahi *et al.*, 2002; Rodgers and Ruffin, 1998). It is very hard to diagnose, as the symptoms are less prominent and unnoticeable. There are cases resulting in fetal death as a result of being unnoticed over many years. Some of the symptoms include frequent urination, unusual thirst, fatigue and tiredness.

Many methods can be adopted to improve the monitoring of medication adherence of patients. Some of them can be conducting frequent reviews, increasing the working time of the clinic, educating the patients and improving the dose schedules (Murphy,

2003; Stuart and Zacker, 1999). Current technologies can also be used to send reminders to patients regarding their dosage changes and schedules. This can also be used to remind the patients regarding their doctors' appointments. Also, effective communication between doctor and patient can also improve the patients to follow and adhere to prescribed medications (Patton *et al.*, 1997; Mathew and Rajiah, 2014). This study concentrates on assessing the amount of adherence to the medication of diabetic patients in a health care center which is considered to be most important for the well-being of patients.

MATERIALS AND METHODS

Study design

A cross sectional observational study

Study place

Department of General Medicine, Saveetha Medical College

Study period

October 2019 to March 2020.

Study participants

Inclusion criteria were patients diagnosed with type 2 diabetes mellitus, aged 30 years and above, patients taking one or more OHAs for the last six months, willing to provide informed consent.

Exclusion criteria were patients on OHAs for less than six months, diabetic patients on injectable hypoglycaemic agents alone or in combination with OHAs, diabetic patients with diagnosed psychiatric problems.

Sample Size

256

Data was collected using a standardized questionnaire. Data entered in MS Excel and analyzed using Weka 3.8.3 and results interpreted.

RESULTS AND DISCUSSION

256 patients were involved in the study. From the results gotten, there were 134 (52.7%) male and 122 (48.03 %) female patients and the majority of them were in the age group of 51 to 65 years (Table 1).

(Table 2) specifies the disease related parameters in the study participants of the current study.

Out of 256 study participant the duration of onset of Diabetes, 210(82%) participant are between 0-5 years, 33(12.9) are between 6-10 years, 3(1.1%)

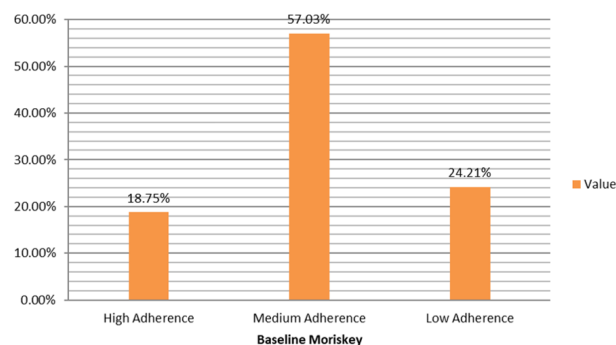


Figure 1: Bar chart of Treatment adherence for Diabetes mellitus of the study population at baseline (N=256)

are between 11-15 years, 5(2%) are between 16-20 years and 5(2%) are >20 years.

218(85.2%) have a family history of Diabetes, 38(14.8%) have no family history of Diabetes. The comorbidity of study participant are 35 (13.6%) have hypertension, 5(2%) have hypercholesterolemia, 2(0.7%) have other Hypothyroidism, 214(83.6%) do not have any comorbidity.

Among the study participants, 82.03 % were on oral anti-hypoglycaemic agents and 17.96% of subjects were on both OHA and Insulin. The mean duration of Diabetes mellitus was 9.592 ± 7.521 years in the study population.

Table 3 shows the treatment adherence for diabetes mellitus of the study population at baseline. As per medication intake, 231(90.2%) were taking proper medication.

Among the study participants, 18.75% had high compliance, 57.03% had a medium level of compliance and 24.21% had low compliance with treatment at the baseline (Figure 1).

The findings of this observe revealed that medicine adherence changed into low. Worldwide research using various studies, assessment gadgets and systematic evaluations has addressed poor medicinal drug adherence amongst diabetic patients.

It changed into discovered that many patients forgot to take drug treatments with them while they're away from domestic. Others felt that it was very tough to stick to treatment plans and so stopped the medications. The findings are compared to several studies documented as terrible remedy adherence in diabetic sufferers.

A study performed with Shaimol *et al.* suggested that 21.8% of the patients showed excessive adherence, 43.3% slight adherence, and 35.3% low adherence to the remedy. Priyanka *et al.* documented that most of the people had high remedy adherence.

Table 1: Distribution study subjects based on age and sex

Age	Male	Female	Total
31-50	36	34	70 (27.34%)
51-65	60	64	124 (48.43%)
>65	38	24	62 (22.21%)
Total	134	122	256

Table 2: Disease related parameters in study participants

Parameter	Number of study participants	Percent(%)
I. Duration of Diabetes (in years)		
0-10	210	82.0%
11-15	33	12.9%
16-20	3	1.1%
21-25	5	2.0%
Above 25 years	5	2.0%
II. Family history of Diabetes		
Yes	38	14.8%
No	218	85.2%
IV. Comorbidity		
Hypertension	35	13.6%
Hypercholesterolemia	5	2%
Hypothyroidism	2	0.7%
None	214	83.6%
V. Type of the treatment		
Oral hypoglycemic agents (OHA)	210	82.03%
OHA and Insulin	46	17.96%

Table 3: Treatment adherence for Diabetes mellitus of the study population at baseline (N=256)

S.No	Baseline Treatment adherence*	Number (N)	Percentages (%)
1	High adherence	48	18.75
2	Medium adherence	146	57.03
3	Low adherence	62	24.21

*As per Morisky Treatment adherence scale

The majority of diabetics had fine ideas about the need for their medication and this can have resulted in high adherence. Arulmozhi and Mahalakshmi reported that 49.8% had been excessive, 24.7% have been mild, and 26% low adherent. This higher remedy adherence possibly may be explained by using a multiplied focus on diabetes mellitus and its complications among the populace. Sre Akshaya Kalyani reported that 76 (36.53%) sufferers had been located to be with medium adherence 68 (32.69%) patients with excessive adherence and 64 (25.09%) patients with low adherence. Adherence may be tormented by affected person-centric, physician-established, or fitness care establishment elements. Physicians can play a first-rate

position in enhancing remedy adherence with the aid of growing interplay with sufferers. The health practitioner-patient dating plays a primary function in retaining the affected person nicely knowledgeable approximately the medicines they consume. Patient adherence, while the remedy is simple, appears powerful. If they accept as true with the benefits exceed expenses and their surroundings helps regimen-related behaviors, their medicine adherence improves.

CONCLUSIONS

Improving medicinal drug adherence complements patient protection. It is critical for the health care

experts to assess the affected person and foresee the feasible causes of non-adherence to attain the best fitness final results. In addition to numerous other elements affecting medicine adherence, clinical pharmacist and different health care experts should be aware of providing understanding about Diabetes that the patients deliver towards medication adherence.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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