



Level of medication adherence to anti diabetic therapy in patients with type ii diabetes mellitus at selected hospital in chennai

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Abstract

Introduction: Worldwide, the adherence rate for medication for diabetes vary between 36 and 93%. Adherence to prescribed medication is crucial to reach metabolic control as non-adherence with blood glucose lowering or lipid lowering drug is associated with higher HbA1c and cholesterol, levels respectively.

Aim: The main aim of the study was to assess the medication adherence to ant diabetic therapy in patients with type II diabetes mellitus.

Methodology: A Cross sectional study was chosen Non-adherence was assessed using Patient's self-reports of how they had been taking their medication in the week preceding the interview. The study was conducted in Saveetha Institute of Medical and Technical Science. The sample Size for the study is 100 diabetic clients and sampling technique is non-probability, purposive sampling technique. The sample who met the inclusion were selected for the study. The survey questionnaire comprised of two sections. The first section included questions on socio- demographic variable data and the tool of Adherence to treatment has been assessed during a personal interview with each patient using a questionnaire. Medication adherence to diabetes medicines was determined using a modified version of the four items, self-reported Morisky medication adherence scale. Collected data were analyzed descriptive and inferential statistics.

Result: The assessment of the client's answered for the 4-items of modified Morisky adherence predictor scale showed that 38 (38%) of the client's had good adherence with prescribed medications, whereas 45(45%) % had medium adherence and 17 % had low adherence.

Conclusion: Assessing the medication compliance among diabetes mellitus who all are taking with medications have effect of well reduced.

Keywords: medication, adherence, diabetes mellitus

Introduction

The prevalence of diabetes mellitus is growing rapidly worldwide and is reaching epidemic proportions. It is estimated that there are currently 285 million people with diabetes worldwide and this number is set to increase to 438 million by the year 2030 ^[1]. India leads the world with the largest number of diabetes subjects earning the dubious distinction of being termed the "Diabetes Capital of the world" ^[2].

The prevalence of diabetes in Indian adults was found to be 2.4% in rural and 4-11.6% in urban dwellers ^[3]. India is presently estimated to have 41 million individuals affected by this deadly disease, with every fifth diabetic in the world being an Indian ^[4]. WHO report, the average adherence to long-term therapy for chronic diseases in developed countries is approximately 50%, and in developing countries the adherence rate is even lower ^[6].

The WHO defines adherence for long-term treatment as "the extent to which a person's behaviour – taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider" ^[7]. According to the. The report illustrated that the range of adherence to medicines is 31%–71% and much lower for lifestyle instructions, even with the availability of up-to-date and effective methods of treatment. Adherence with medication usage is defined as

the proportion of prescribed doses of medication actually taken by a patient over a specified period of time ^[9]. Compliance, a synonymous term which was commonly used in the past, implies a passive role and simply following the demands of a prescriber and non-compliance has been regarded as associated with deviant or irrational behaviour ^[10].

Need for the Study

Non-adherence or non-compliance, poverty, lack of knowledge and poor follow ups are the main factors observed in poor glycaemic control ^[9]. Individuals with poor management of diabetes are at a greater risk of developing long-term micro and macro-vascular complications that lead to the damage of end organs such as kidneys, heart, brain and eyes, affects the direct and indirect health care costs and overall quality of life ^[11]. Optimal glucose control can be achieved through strict adherence to medications, diet and lifestyle. The characteristic symptoms are: Excessive urine production (polyuria), Increased hunger All these seven behaviours have been found to be positively correlated with good glycemic control, reduction of complications and improvement in quality of life Medication adherence usually refers to whether patients take their medications as prescribed (e.g., twice daily), as well as whether they continue to take a prescribed medication. Medication

adherence behaviour has thus been divided into 2 main concepts, namely, adherence and persistence. Medication adherence is a growing concern to clinicians, healthcare systems, and other stakeholders (e.g. Payers) because of mounting evidence that non-adherence is prevalent and associated with adverse outcomes and higher cost. Therefore, the purpose of this study is to identify Drug Utilization pattern, Medication Adherence and reasons associated with Non-adherence to anti-diabetic therapy, which will help the Physicians in making decisions to reduce the same, helps in achieving glycemic targets of type 2 diabetes mellitus patients. It will benefit the nurses to give awareness of the importance of taking medication which may help for a strict and successful management of this chronic illness in the future. Hence the researcher interested to conduct this study to assess the medication adherence to anti diabetic therapy in patients with type II diabetes mellitus at selected hospitals in Chennai.

Statement of the problem

A study to assess the medication adherence to anti diabetic therapy in patients with type II diabetes mellitus at selected hospital in Chennai.

Objectives of the study

- To assess medication adherence to anti diabetic therapy in patients with type ii diabetes mellitus at selected hospital in Chennai.
- To find out the associate between the level of medication adherence to anti diabetic therapy in patients with type II diabetes with their demographic variable.

Ethical Consideration

The study was conducted after getting approval from the Institutional Ethical Committee of Saveetha Medical College and Hospital. Permission was obtained to conduct the study from the institutional authority. Informed consent forms were translated into Tamil. Written informed consent was obtained by the participants for their willingness to participate in the study. Ethical principles were followed and adhered to protect the rights of the participants. Confidentiality of the data was ensured throughout the study. Non-adherence was assessed using patient's self-reports of how they had been taking their medication in the week preceding the interview. Patients were asked to recall if they missed any doses of medication on a day by day basis over a period of one week. The number of tablets missed was calculated basing on the prescribed dose. Patients who reported taking less than 80% of their prescribed diabetes medicines were considered not to be adhering to treatment. After a brief introduction about the self and study consent was obtained. Privacy of the information was assured. The Investigator was able to complete data collection within the stipulated period of 10 days.

Methodology

A Cross sectional study was chosen Non-adherence was assessed using patients self-reports of how they had been taking their medication in the week preceding the interview. The study was conducted in Saveetha Institute of Medical and Technical Science. The sample Size for the study is 100 diabetic clients and sampling technique is non-probability,

purposive sampling technique. The sample who met the inclusion were selected for the study. The data collection instruments were developed through an extensive review of literature of tool in consultation with the opinion of the nursing expertise and the medical officer of SIMATS. The study period was about 08.07.18 to 18.07.18. We administered a self-reported questionnaire. The survey questionnaire comprised of two sections. The first section included questions on socio demographic variable data such as Age, Sex, educational status, employment, date of admission and date of discharge), presenting complaints, provisional/confirmed diagnosis, social history, past medical/medication history, current medications, discharge medications, laboratory test reports. The second section was Adherence to treatment has been assessed during a personal interview with each patient using a questionnaire. Medication adherence to diabetes medicines was determined using a modified version of the four items, self-reported Morisky medication adherence scale ^[14]. Each item is in a yes/no format with a maximum possible score of four equating very poor adherence and 0 considered as good adherence. Participants were required to fill in the survey form and return it to the researcher once completed. Before distribution of questionnaire, a brief explanation was given by the researchers to inform the participants about the study objectives and instructions to complete the survey form.

Results

The demographic variables show that out of 100 samples, among 24 samples (24%) were in the age group of 30 to 40 years, 36 samples (36%) were in the age group of 40 to 50 years, 31 samples (31%) were in the age group of 50 to 60 years among the sample, 09 samples (09 %) were in the age group of above 60 years. Regarding gender 46 samples (46%) were male and 54 (54%) samples were female. Samples 68 (68%) were joint family, 32 samples (32%) were nuclear family. Regarding Educational status 10 samples (10%) were illiterate, 33 samples (33%) were primary school, and 57 samples (57%) were in secondary school. Regarding occupational status employed 34(34%), unemployed were 25(25%), retired were 09(09%) house wife were 32(32%), about place of residence, urban were 28(28%), rural clients were 72(72%), the social habits of the study samples smoker were 18(18%), alcoholic were 22(22%), betel using 16(16%), none were 44(44%). Regarding the duration of chronic disease <5 years were 35(35%), 6-10 years were 41(41%), >10 years were 24(24%), Majority of the clients were having the family history of diabetes in this study. (Table-1). The assessment of the client's answered for the 4-items of modified Morisky adherence predictor scale showed that 38 (38%) of the client's had good adherence with prescribed medications, whereas 45(45%) % had medium adherence and 17 % had low adherence. (Table-2). Table 3 shows that Factors affecting medication adherence in Type 2 diabetic patients, Regarding social, economic, the costs of medication too expensive were told 58 (58%), lack of financial support were 42(42%). Regarding therapy related factors – majority of them told that very long duration of treatment period is the most important factor of Non-adherence to taking anti-diabetic medications. Regarding Patient-related factors Lack of knowledge about the disease were 27(27%), Inadequate knowledge regarding therapy were 39(39%), Forgetfulness 15(15%), Being busy schedule of Work 19(19%). 34(34.%)

of patients had an information about the side effects of drugs of the patient asked about measures they had taken to avoid the side effects, 40(40%) respond that they did nothing, 10 (10%) were omit dose sometimes and only 4 (4%) of them inform to health professional, others including side effects of drugs, disappearance of the symptoms and perceived inefficacy of the prescribed anti diabetic drugs and others 12 (12%).

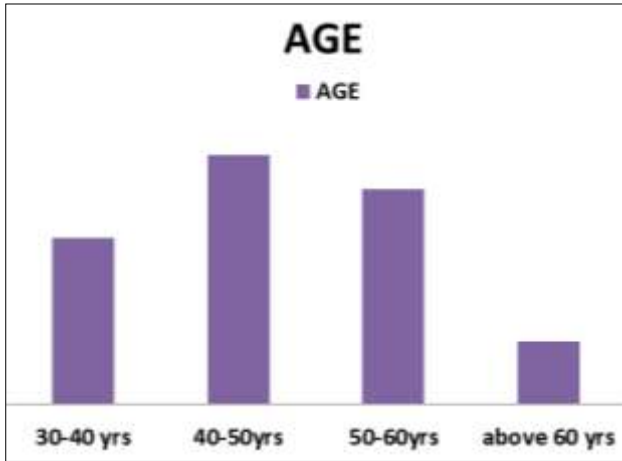


Fig 1: Frequency and percentage of age among diabetic mellitus patients

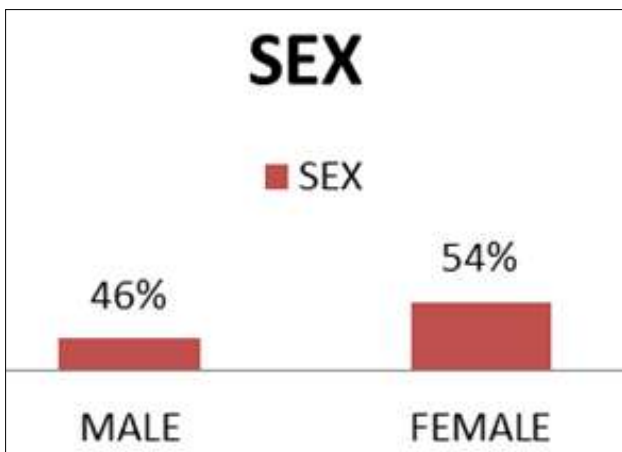


Fig 2: Frequency and distribution of sex among diabetic mellitus patients

Table 3: Frequency distribution of medication adherence based on modified morisky adherence predictor scale among diabetic mellitus patients.

Good adherence	Moderate adherence	Low adherence
No.	No.	No.
38	45	17

Discussion

Diabetes mellitus is one of the major non-communicable diseases which are growing very fast in this modern era. Diabetes and associated complications is a major healthcare burden worldwide and present major challenge to patients, health care systems and national economies. Males predominated in the study population, which is in agreement with the results of various other studies in India [13], and United States [14]. The reason for this might be that smoking, alcoholic habits and other lifestyle changes are seen more commonly in males and these factors have a hallucinating effect on health including glycemic control. Our study

finding also shows that regarding gender 46 samples (46%) were male and 54 (54%) samples were female. These findings are similar to results from other reviews in Jazan (2018), where no statistically significant relationship was found between male gender and adherence to DM treatments. The other main factor is age it was found in our study samples were out of 100 samples the age group of above 60 years 36% adherence rate. Our study was supported Sander D. (2011) [18]. with the effect of the age factor was found in our patient population with higher rates of drug compliance in elderly patients with 46.81%, whereas in another study elderly age group was found with a 68% adherence rate. In another study, Mohamed E. (2010) [17]. conducted the study, the more adherence was found in younger age groups with 51.8% and lesser adherence was found in elderly and middle age group. In our study, the causes of non- adherent to taking anti diabetic medications as prescribed were found to Forgetfulness 15(15%), Being busy schedule of Work 19(19%). The similar study results were shows adherence to taking anti-diabetic medications as prescribed were busy schedule of work, when forgetfulness was found to be 11.42%, 33.33%, respectively in our study which are lower than the study Manjusha Sajith (2013).

Conclusion

The present study was concluded that the study participants were moderately adherent to their anti-diabetic medications. The Various numbers of factors contributing the medication non-adherence were finding out. Therefore, we recommend interventions that will address these factors of non-adherence in order to improve adherence the more. The nurses take the responsibility to give awareness to knowledge on disease condition and the importance of the taking anti-diabetic medications and to prevent the future complications.

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Conflict of interest

The authors declare no conflict of interest.

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