



CODEN [USA]: IAJPBB

ISSN : 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

<https://doi.org/10.5281/zenodo.7496710>Available online at: <http://www.iajps.com>

Research Article

AWARENESS OF DIABETICS ABOUT THE NEED TO ADHERE TO AND CONTROL TREATMENT

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Article Received: October 2022 **Accepted:** November 2022 **Published:** December 2022

Abstract:

Background: Diabetes management depends on education, awareness, and practice. The primary aim of the current study is to investigate awareness and medication non-adherence by Type 2 diabetes mellitus patients.

Methods: The cross sectional study was carried out for a period of 12 months, this is because cross-sectional studies have a specific beginning and ending time. A specific population sample of about 125 patients would be used. Thus, the independent variables include aspects like age, gender, type or nature of diabetics, complexity of drug regimens among other variables. The dependent variable was adherence to medication. The cross-sectional approach allowed the researcher to analyze the different variables that lead to lack of adherence to medication among diabetic patients. The main of undertaking this cross-sectional study would be to describe and assess the characteristics of diabetic patients who do not adhere to medication.

Results: The study included 453 type 2 diabetic patients after exclusion of non-diabetic participants. Most of study participants were informed with diabetes since more than one year (n= 364, 80.4%). However, participants started using medications after a while of diagnosis. Most of them started since one year (n= 288, 63.6%). About two thirds of participants use 1-2 medications (n= 298, 65.8%). The vast majority of study participants have good adherence to diabetic medications. Participants with longer duration with the disease had better adherence (P< 0.001). Furthermore, participants with low number of medication had better adherence (P= 0.035).

Conclusion: On average, patients lacked diabetes management knowledge. Insulin-treated or long-term diabetic patients are at a greater risk for problems, although they have self-help techniques. Improved treatment of diabetes and its complications may arise from interventions that increase people's awareness of the condition, how often they check their blood sugar, how consistently they take their prescriptions, and how much they value physical exercise. Our results also show that people with diabetes, especially insulin-dependent or long-term sufferers, should attend diabetes education/awareness programs and participate in healthy lifestyle and self-help regimens immediately following diagnosis.

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Please cite this article in press Lubna Abdulrahman Hafiz et al, *Awareness Of Diabetics About The Need To Adhere To And Control Treatment.., Indo Am. J. P. Sci, 2022; 09(12).*

INTRODUCTION:

A major public health issue, diabetes mellitus is on the rise worldwide. In 2017, 425 million persons aged 20-79 had diabetes worldwide, the vast majority of them had type 2 diabetes [1]. Type 2 diabetes is one of the leading killers worldwide. With fewer than a million fatalities attributable to it in 2000, the World Health Organization reports that this figure has increased by 60% to 1.6 million in 2015 [2]. Patients with either type 1 or type 2 diabetes exhibit subpar adherence to their treatment plans, according to worldwide audits [3]. The majority of these patients are therefore placed at risk for life-threatening health issues, which place a significant financial burden on both the patients and the healthcare system.

Self-management is a useful tool for helping people with diabetes stay on treatment and in charge of their lives. Self-management of diabetes entails a number of behaviors, including the adoption of a healthy lifestyle (including healthy food, regular exercise, medication adherence, risk reduction, monitoring, and the development of positive coping mechanisms and problem-solving skills). These are necessary steps for keeping diabetes under control. Patients' degrees of commitment to diabetic self-management vary. This implies that a number of variables, some of which might be obstacles and others facilitators, have a role in the decision-making process related to diabetes self-management.

Unfortunately, non-adherence to medicine is common among diabetes patients [4], and this leads to decreased treatment efficacy and safety, as well as an increase in mortality and morbidity. Gonzalez and colleagues to better health outcomes including fewer diabetes-related complications, better blood glucose control, reduced risk of mortality from diabetes, and enhanced quality of life [5], have linked consistent self-management of diabetes. To be successful, however, patients must take their medications as prescribed.

Treatment of diabetes is expensive since patients do not take their medicine as prescribed, as reported by Krass [6]. Given the prevalence and diversity of non-consequences, adherence's contend that lowering non-adherence would have greater global health benefits than the creation of new drugs [4]. Effective treatment of diabetes decreases mortality, morbidity, and healthcare consumption [7]. This results in decreased healthcare costs for governments [7].

Those who do not take their diabetic medication as prescribed have poorer clinical outcomes, according to research by Nandini [8]. Despite repeated reminders about the need of taking medications as prescribed, many patients, especially those with chronic illnesses, fail to do so [8]. In other words, folks like these are unable to improve their health. Multiple variables, including those at the level of the patient, the healthcare provider, or the healthcare system, have been associated to non-adherence [7]. Xu and colleagues included demographic parameters (age, gender, educational level, and so on) and psychological aspects as examples of patient centric factors (attitudes, beliefs, patient knowledge, awareness of health issues) [9]. Duration of therapy, medicine, side effects, and treatment complexity are all characteristics related to treatment [9]. Similar aspects have been discovered to be associated with the healthcare system, such as the ease with which a patient may get in touch with a doctor or other medical professional when they need it.

The number of persons with diabetes mellitus is staggering. According to World Health Organization statistics, 3.9% of adults worldwide have diabetes. According to research published in 2016 by Roglic [10], patients with chronic diseases like diabetes are notoriously bad at taking their medication. Thus, improving adherences has a higher influence on the intended population than does enhancement of medical therapy. The primary aim of the current study is to investigate awareness and medication non-adherence by Type 2 diabetes mellitus patients.

METHODS:

The present study applied a cross-sectional approach using observations to compare diabetes patients who adhere to treatment and those who do not adhere to treatment. As mentioned by Zangirolami-Raimundo [11], researchers apply cross sectional studies to observe different variables at a specific time with another group with individuals that correctly represent a certain population.

Research philosophy:

This study employed a cross-sectional design to assist educate patients on the importance of a healthy lifestyle and the dangers of obesity. Due to the quantitative character of the data analyzed, positivism would be a suitable philosophical framework within which to conduct this study.

Research design:

The cross sectional study was carried out for a period of 12 months, this is because cross-sectional studies have a specific beginning and ending time. A specific population sample of about 125 patients would be used. Thus, the independent variables include aspects like age, gender, type or nature of diabetics, complexity of drug regiments among other variables. The dependent variable was adherence to medication. The cross-sectional approach allowed the researcher to analyze the different variables that lead to lack of adherence to medication among diabetic patients. The main of undertaking this cross-sectional study would be to describe and assess the characteristics of diabetic patients who do not adhere to medication.

Sample:

The technique of sampling that was used for this research work was non-probability convenient sampling. The sample size included patients suffering from type 2 diabetes.

Validity and Reliability:

All of the data used in the analysis was obtained legally and was not tampered with for any reason. For this reason, this demonstrates that both validity and reliability are preserved throughout the study process.

Data analysis:

Data was analyzed using descriptive approach to explain the observational findings of the study. Thus, the researcher would be in a position to examine what happens to those diabetic patients that do not adhere to medication.

Ethical Consideration:

In order to maintain the ethical aspect, the research work was executed upholding the privacy of all the sources comprising both data and the person who is associated with the research work.

RESULTS:

The study included 453 type 2 diabetic patients after exclusion of non-diabetic participants. Most of study participants were informed with diabetes since more than one year (n= 364, 80.4%). However, participants started using medications after a while of diagnosis. Most of them started since one year (n= 288, 63.6%). Figure 1 demonstrates the duration of diagnosis and duration of starting medication among study participants. About two thirds of participants use 1-2 medications (n= 298, 65.8%). Figure 2 shows the number of medications participants use.

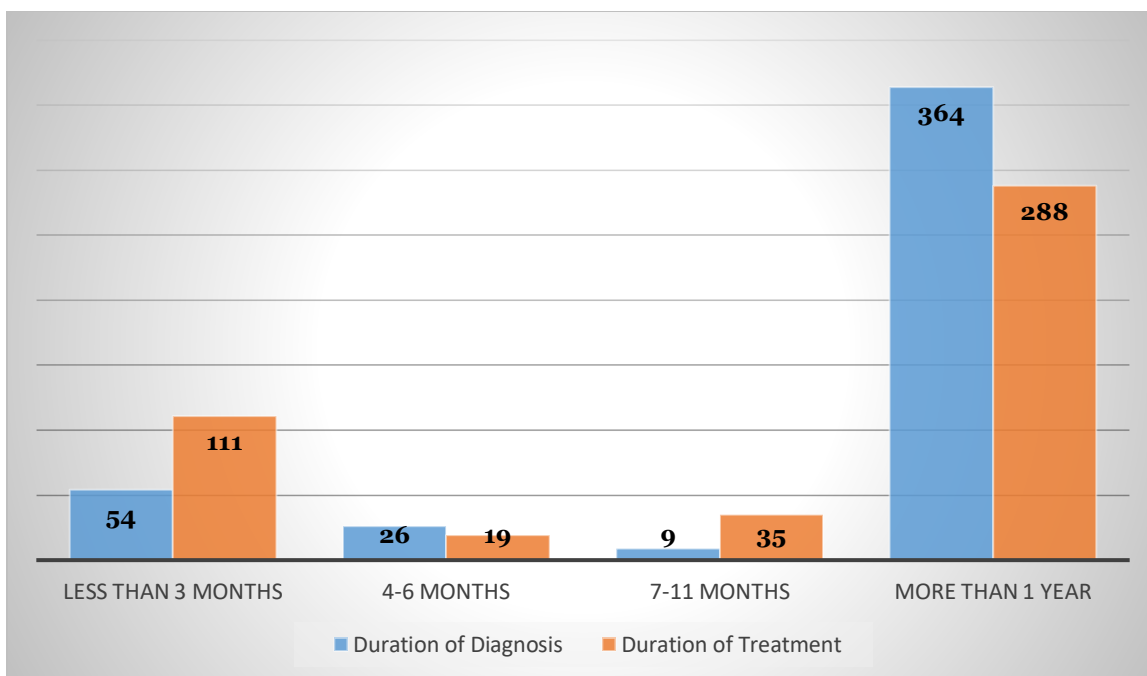


Figure 1: Duration of diagnosis and treatment among study participants

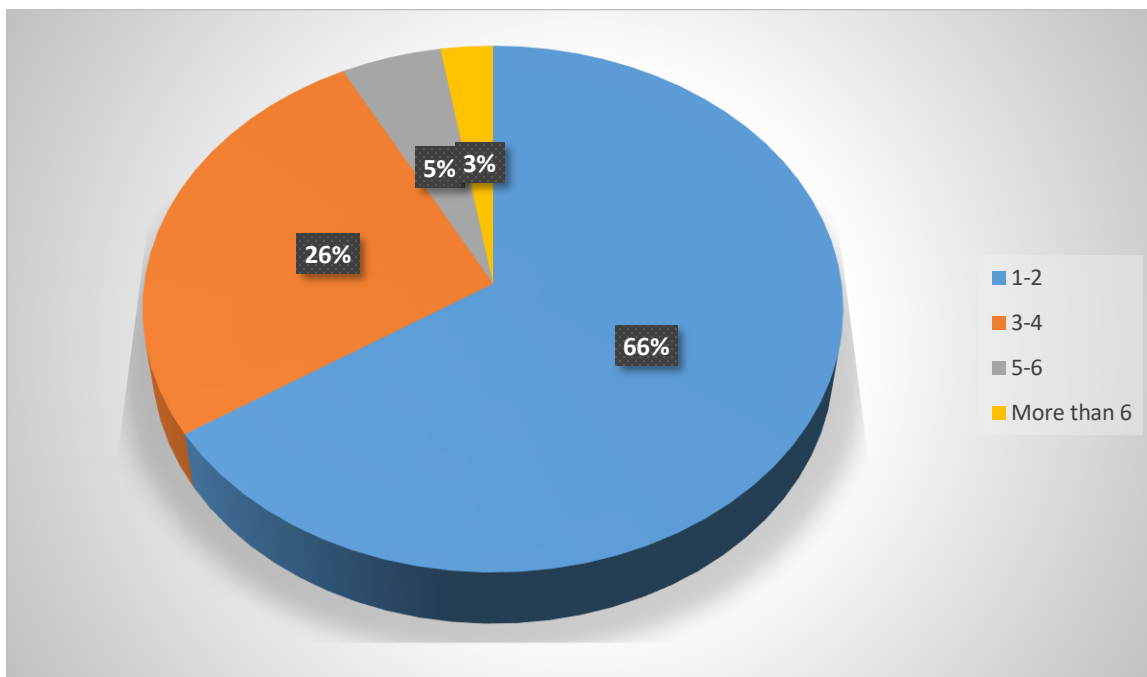


Figure 2: Number of medications used by study participants

The type of medication varied among study participants. The most frequent medication taken was insulin among 142 participants (31.1%). Figure 3 shows the frequency of medications used among study participants.

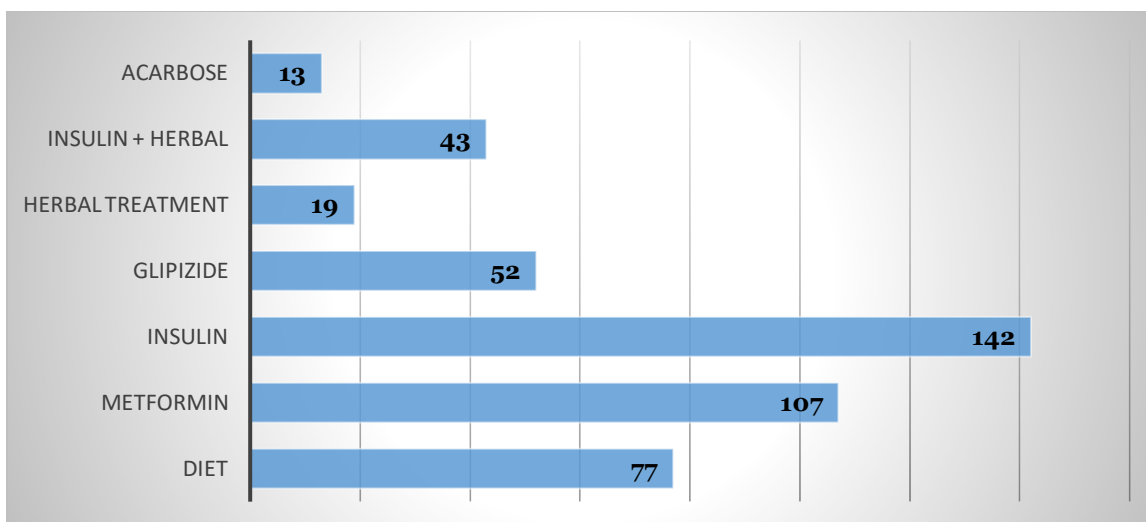


Figure 3: Frequency of used medication among study participants

Participants' adherence to diabetic medications was assessed using a yes or no questions scale. Their responses is presented in table 1. It is noticed from the table that the vast majority of study participants have good adherence to diabetic medications.

	Question	Yes	NO
1	Do you at times forget to take your diabetes pills?	160 35.3%	293 64.7%
2	Over the past ten days, were there any days when you did not take your diabetes medicine	108 23.8%	345 76.2%
3	Have you ever stopped taking your medication without telling your physician, because you felt worse when you took it?	84 18.5%	369 81.5%
4	When you leave home or travel, do you at times forget carry along your diabetes pills?	124 27.4%	329 72.6%
5	Did you take your diabetes medicine yesterday?	425 93.8%	28 6.2%
6	When you feel like your diabetes is under control, do you at times stop taking your pills?	127 28%	326 72%
7	Do you at times purposely skip medication without any reason?	51 11.3%	402 88.7%
8	Do you believe that family support is important in adherence to your medication?	364 80.4%	89 19.6%
9	Do you feel that taking medication is an inconvenience that you have to maintain?	192 42.4%	261 57.6%
10	Are there any side effects that you feel after taking your medication?	88 19.4%	365 80.6%

Participants with longer duration with the disease had better adherence ($P < 0.001$). Furthermore, participants with low number of medication had better adherence ($P = 0.035$).

DISCUSSION:

Individuals of South Asian descent have a far greater risk of developing diabetes and its related problems

than do Caucasians and Hispanics [12-14]. Authors compared patients on insulin treatment to those on non-insulin treatment and (ii) patients with longer diabetic duration to those with shorter diabetic duration on several self-help (attending appointments, taking medicine), lifestyle (exercising, smoking), and awareness about diabetic control parameters [15]. Uncontrolled diabetes is associated with an increased

risk of complications, especially for patients on insulin therapy or with longer durations of diabetes [16].

Statistics in [15] showed an interesting and relevant trend: over half of all patients surveyed did not know whether their diabetes was under control. Fewer than 12% of patients had a HbA1c level below the recommended 6.5 range. While 27% of the 200 patients polled reported routinely engaging in physical activity as a means of managing their diabetes, that percentage was much lower among those who were asked. Due to uncontrolled blood sugar levels, 42% of patients sought medical attention at least once in the previous year [15].

Patients receiving insulin therapy were more likely than those receiving pills or dietary control to report forgetting to take their medication more than five times per year [15]. This is indicative of insulin patients' reduced adherence to their treatment plans. In addition, compared to the 31.3% of patients who were on pills or diet management, the 91.9% of patients who were on insulin reported having at least one instance of uncontrolled blood sugar in the previous year. Patients using insulin were much less likely to engage in physical activity and more likely to indicate that their diabetes was not under control [15].

Patients who have had diabetes for longer periods of time (>5 years) were found to be significantly less likely to be aware of whether their diabetes was well-controlled, to engage in regular physical activity, to have more frequent episodes of uncontrolled blood sugar, and to forget to take their medication [15].

According to a new research by the World Health Organization, the number of individuals affected by diabetes has almost quadrupled since 1980, rising to an estimated >422 million worldwide [17]. Eighty percent of these adults are based in countries with low or intermediate incomes. Diabetes is more common among people of South Asian descent who have settled in the United Kingdom, the United States, or other industrialized nations. Several research [18-20] have reported on the causes for why South Asians have a higher risk of getting diabetes than other ethnic groups like Caucasians and Hispanics [21].

Inadequate self-help (such as missing appointments or not complying with a treatment regimen) and poor lifestyle choices (such as not engaging in regular physical activity or smoking) have been identified as important non-clinical risk factors for the control of diabetes, in addition to genetic predispositions. There is a lack of evidence linking the non-clinical

parameters (eg, self-help, exercise, improved awareness) to diabetic complications, especially in ethnic minority group, as pointed out by a recent Cochrane review on data from 33 randomized clinical trials. This is because pharmacotherapy is important to control blood sugar, blood pressure (BP), cholesterol, etc [22].

CONCLUSION:

Patients, on average, were found to have insufficient information on how to manage their diabetes. Patients on insulin or those who have had diabetes for a longer period of time are at a higher risk for developing diabetic complications, but they are also have sufficient self-help strategies. Improved management of diabetes and its complications may result from interventions that raise people's understanding of the disease, the regularity with which they check their blood sugar, the persistence with which they take their medications, and the value they place on physical activity. Our findings also indicate that individuals with diabetes, particularly those who are insulin-dependent or have had the disease for a longer period of time, should attend diabetes education/awareness programs and engage in healthy lifestyle and self-help regimens immediately upon diagnosis.

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