DRUG COMPLIANCE AND QUALITY OF LIFE OF DIABETIC CLIENTS.

(Mrs. Gigi Thomas[1], Dr.R.Shankar Shanmugam[2], Dr E.Prabu[3])

ABSTRACT

Aim: The aim of the study was to assess the level of drug compliance and quality of life of Type 2 diabetic patients(T2DM) and their association between them. **Methods:** A descriptive study design was adopted. A total of 100 subjects were selected using convenient sampling. The structured interview schedule was used to collect data from samples by using modified diabetic drug compliance scale of 10 day recall method and Quality Of Life of Indian Diabetic patients (QOLID) questionnaire. **Results:** Among 100 samples, majorities (37%) of them were in the age group of 51-60 years and 4% of them were in the age group of 21-30 years. 88% of them were adherent to 75-100% medications and 12% of them were adherent to 50-75% of medications. With regard to QOL, the study showed that 44% of diabetic patients had poor QOL, 46% had moderate QOL and none of them had good QOL. The study revealed that there was a moderate positive correlation between drug compliance and QOL of diabetic patients. **Conclusion:** Drug compliance is very important in managing chronic diseases like diabetes for better glycemic control and prevention of complications which in turn results in improved QOL.

Key Words: Drug compliance, Quality of life, Type 2 mellitus (T2DM)

INTRODUCTION

Diabetes is the increasingly growing metabolic threat of our contemporary era. It is well known that the prevalence of diabetes has increased globally during the last four decades.That is a result of the abundance of food, the consequent change of dietary habits and the lack of physical activity.According to International diabetes Federation, (2017), one in every 11 adults has diabetes (415 million worldwide). By 2040, one adult in 10 (642 million worldwide) will suffer from diabetes. One in 7 births is affected from gestational diabetes and 542000 children worldwide have type 1 diabetes.

According to the Brazilian Society of Diabetes, there are more than 12 million living with diabetes.90% to 95% of cases are type 2 diabetes, and most of them being overweight or obese. T2DM is called as adult-onset diabetes, since it is diagnosed in patients aged over 40 years. It is important to highlight that diabetes is one of the main causes of death, renal failure, amputation of a lower limb, blindness and cardiovascular disease, including coronary diseases and cerebrovascular accident.

Progression of diabetes, and poor glycemic control, leads to many potentially serious complications. Almost half of the adults with chronic kidney disease are derived from diabetic population. Other complications include heart attack, coronary artery disease (CAD), stroke, eye damage and nerve damage. All these complications along with the metabolic deterioration demands a large amount of patient's every day energy, planning and thought.

Poor diabetic medication adherence is associated with inadequate glycemic control, increased use of health care resources, higher medical costs, and markedly higher mortality rates. It is important that addressing problematic medication adherence in the T2DM population reduce cost of treatment and improve care and outcomes for patients.Diabetes is a serious public health problem that threatens the quality of life. Peoplewith type 2 diabetes, have to facemany problems, which may pose an impact on their healthrelatedquality of life (HRQoL).Lee WJ et al (2012) demonstratedthat diabetes shows a strong negative impact on theHRQOL, especially with complications.

Background and Need for the study

The diabetes prevalence is highly increasing, especially in urban areas of India. The risk factors of Poor & junk eating practices, urbanization, and decreased physical activity synchronized with genetic attributes and body composition differences are enhances the increase in number of diabetes. As a result ,there is a rise in diabetic complications and contribute significant morbidity and mortality. The lack of education and poor awareness of the disease and its potential complications have serious impact on health of the population.

According to Hindustan Times, Nov.14, 2017, 69.2 million of India's adult population has diabetes, 10.3% people in India have pre-diabetes, and 47.3% people are undiagnosed with diabetes. India has the largest number of patients with T2DM in the world and this is expected to rise by 2030. In addition, the individuals with prediabetes, ultimately progressing to diabetes, which occurs more rapidly in most developed countries .These findings, along with the high rates of complications and mortality related to T2DM, reveals that prevention of diabetes should be a primary concern for the government and other organizations in India. Diabetes prevalence is higher in states like Chandigarh, Maharashtra and Tamil Nadu.

The non-compliance with anti-diabetic treatment is an important issue for patients with T2DM as it decreases the effect of the treatment and accelerates the risk of developing micro and macrovascular complications, thus increasing the human and economic costs of this disease. The T2DM is one of the challenging health conditions to be managed successfully. Frequent monitoring of blood glucose along with dietary modifications, exercise, and administration of medications are required. The medication adherence issues are common in patients with diabetes, thus making a challenge for obtaining the glycemic control.

Quality of life is an important aspect of diabetes because poor quality of life leads to exacerbation of diabetes, by diminished self-care, which in turn leads to worsened glycemic control and increased risks for complications. Diabetes significantly increases patient's risk of developing blindness, end-stage renal disease, lower limb amputations, as well as increases mortality due to coronary artery disease, cerebrovascular, or peripheral vascular disease.

Taking this above account, in the present study we focus on describing the level of drug compliance and QOL of T2DM patients and the correlation between drug compliance and QOL.

Statement of the Problem.

A descriptive study to assess the level of drug compliance and Quality of life (QOL) among Type 2 diabetic patients.

Objectives

1. To assess the demographic profile of T2DM patients

2. To assess the level of drug compliance among T2DM patients

3. To assess the level of QOL among T2DM patients.

4. To correlate the level of drug compliance with quality of life of T2DM patients.

Materials and Methods

Necessary permission was obtained to conduct this study. A convenient sampling technique was executed to select 100 samples from selected hospital in Chennai. Informed consent was obtained from the participants. A descriptive study was conducted by interviewing the patients visiting the diabetic clinic for follow-up using structured questionnaire. Medication adherence self-assessment instrument was used to assess the drug compliance level among T2DM patients and QOLID questionnaire was used to assess the level of QOL.QOLID questionnaire contains 34 items on 8 domains such as role limitation due to physical health, physical endurance, general health, treatment satisfaction, symptom botherness, financial worries, mental health and diet satisfaction. Medication assessment instrument has points showing 0-10. Patients were asked to mark between 0-10 based on a 10 day recall system. Scores shows

• Less than 50% means patient has taken drugs for less than 5 days,

• 50-75% means patient have taken drug for 5-7 days and

• 76-100% means patient have taken drugsfor 8-10 days.

CRITERIA FOR THE SELECTION OF SAMPLES

Inclusion criteria

Patients attending diabetic clinic, who are

1. Diagnosed with T2DM for more than 1 year
2. Age between 25-60 years
3. On oral hypoglycemic agents for at least6 months.

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4. Willing to give informedconsent.

Exclusion criteria.

Patients attending diabetic clinic, who are

1. Not able to understand Tamil or English
2. Type 1 and Gestational diabetes
3. Not willing to participate in the study

Results:

The collected data were analysed by using descriptive and inferential statistics and tabulated as follows.

SECTION 1: SOCIO-DEMOGRAPHIC VARIABLES:

Among 100 samples, the majority of patients (37.0%) were in the age group of 51-60 years and 4% in the age group of 21-30 years. In gender wise, 66% were females and 34% were males. Regarding marital status, most of the patients (96%) married and 2% were single and 2% were widower. The majority of the patients 81% belong to Hindu religion and 38% had middle school education. Majority of the subjects (58%) were employed and 40% of them were involved in sedentary type of work. Most of the patients (88%) were hailed from urbanarea and 83% were from nuclear family. In regard to body weight, 39% were overweight and majority of them (40%) were having HbA1c between 6.4-8.9 or FBS 150-200 mg/dl. Most of the patients (85%) did not attend any diabetic awareness programme. In regard to food habits, majority (92%) were non-vegetarian. None of the patients were using any alternative medicine.

Table 1: Level of drug compliance score among T2DM patients.

Level of Drug compliance	No. of T2DM clients	%
< 50%	0	0.0%
50-75%	12	12.0%
76 -100%	88	88.0%
Total	100	100.0%

Table 1 showed that none of them are having < 50% level of drug compliance score, 12% of them are having 50 -75% level of drug compliance score and 88% of them are having 76-100% level of drug compliance score. It means 88% of the patients had good drug compliance whereas 12% had moderate drug compliance.

Drug compliance score interpretation

	%
Poor	0% -50%

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Moderate	51% -75%
Good	76% -100%

Table2: Level of QOL score among T2DM patients

Level of QOL	No .of diabetes patients	%
Poor	44	44.0%
Moderate	46	56.0%
Good	0	0.0%
Total	100	

The above table 2 shows that 44.0% of diabetic patients had poor QOL,56.0% had moderate QOL and none of them had good QOL.
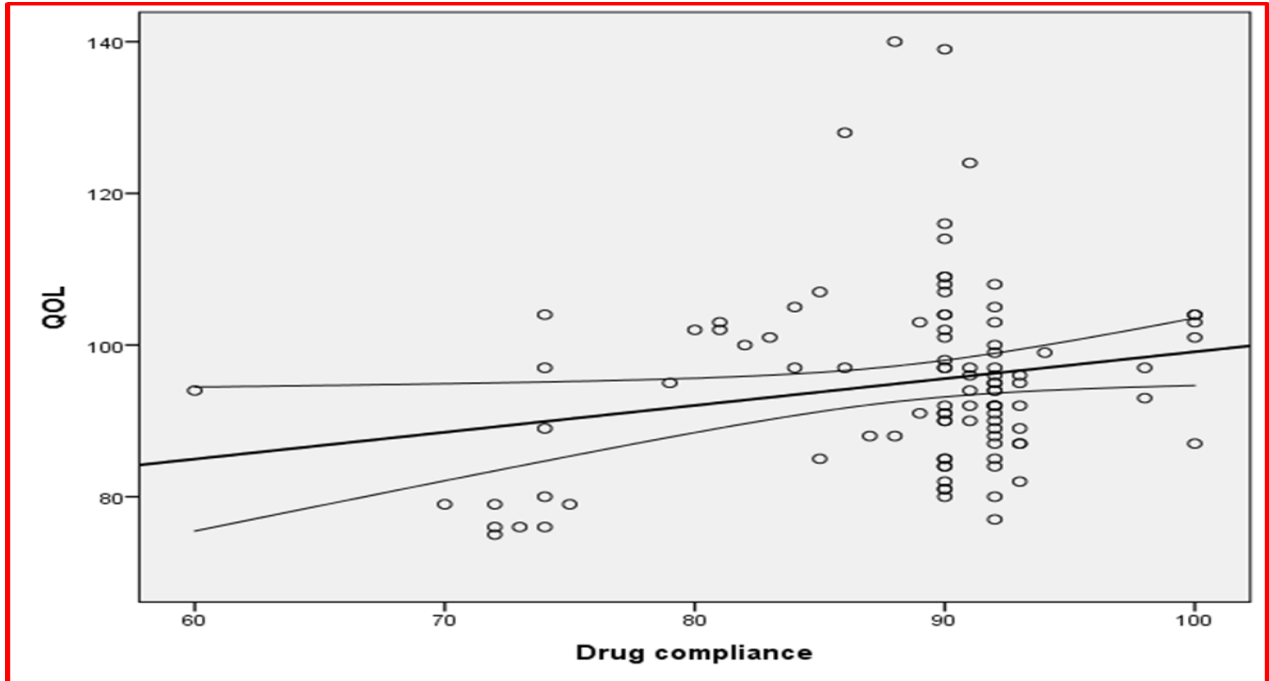
QUALITY OF LIFE score interpretation

Min=1 max=5 Total questions=34 Total score =170

	score	%
Poor	0 -85	0% -50%
Moderate	57 -144	51% -75%
Good	145-170	76% -100%

Table 3: Correlation between drug compliance with quality of life of T2DM patients

Correlation between	Mean ± SD	Karl pearson correlation coefficient	Interpretation
QOL Vs Drug Compliance	94.99 ± 12.07 Vs 88.00 ± 9.12	r=0.23 P=0.01	There is a significant positive fair correlation between QOL and Drug compliance. It means Drug compliance increases their QOL also increases.

The above table 3 demonstrates the correlation between drug compliance and QOL among T2DM patients. It shows, there is a significant, moderate positive correlation between drug compliance score and Quality of life score since r=0.23 significant at p=0.01.

The above Scatter plot figure 1 with regression estimate shows the moderate positive correlation between quality of life score and drug compliance score among T2DM patients (r= 0.23 p=0.01).

Discussion:

A total of 100 patients were recruited for this study and found that most (37%) of them were in the age group of 51-60 years and majority of the participants were females (66%). This finding was supported by **Esther Mufunda et al**(2012). They found that majority of patients were females. The study also found that 39% were overweight. This finding was supported by **Abhijit Mandal** (2014) who revealed patients suffering from T2DM and Hypertension are Overweight and Obese

The data findings presented in table 1 showed the level of drug compliance among T2DM patients. The data briefed that 88% of them were adherent to 75-100% medications and 12% of them were adherent to 50-75% of medications. None of the patients were having medication adherence score less than 50%.

Table 2 showed the level of QOL score among T2DM patients. The data demonstrated that 44.0% of diabetic patients had poor QOL, 56.0% had moderate QOL and none of them had good QOL. From the study finding, it was interpreted that poor and moderate QOL of diabetic patients may be related to non-adherence to drug therapy.**Prazeres F and Figueiredo D** conducted a cross sectional study on QOL among T2DM clients and found that good drug adherence has an impact on QOL which directly reflects on the finding of our study.

The data finding presented in the table 3 revealed the correlation between the drug compliance and QOL of diabetic patients. The report showed that there was moderate positive

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correlation between quality of life score and drug compliance score among T2DM patients (r= 0.23 p=0.01).It means if drug compliance score increases their quality of life score also increases moderately This finding was supported by another study by D A **Perwitasari and S Urbayatun**. They found that there was a positive correlation between drug adherence and QOL (p<0.05).

Conclusion:

　　　　The present study provides the information about the level of drug compliance and QOL among T2DM patients. It also provided the information on the correlation between the drug compliance score and QOL score among diabetic patients. Diabetes continues to be a major health concern, it is necessary to initiate policies and strategies to improve drug compliance, which in turn leads to good QOL. Therefore health care professionals need to focus more on education of diabetic patients to improve their drug compliance and QOL.

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AUTHORS DETAILS:-

1.   Mrs.Gigi Thomas, MSc(N),RN
     Research Scholar,
     Meenakshi Academy of Higher Education and Research(MAHER)
                                      (Deemed University)
     Chennai-78.

2. Dr R Shankar Shanmugam, MSc(N),PhD,MBA.,
    Academic Coordinator-Nursing Education & PME/Research Coordinator
    Tamilnadu Govt Multi Super Specialty Hospital,
    Omandurar Govt Estate, Chennai-600002.

3. Dr E.Prabu, M..D.(Internal Medicine), D.R.M., F.R.C.P.(Glasgow), F.I.C.P., F.I.M.S.A,
    Head, Institute of Nuclear Imaging & Molecular Medicine;
    Chief Coordinator, Institute of Advanced Research in Health Sciences,
    The Tamil Nadu Government Multi Super Speciality Hospital, Chennai 600 002,
    91 9382730296
    E. Mail: dreprabhu@gmail.com, dreprabhusnmi@gmail.com

CORRESPONDING AUTHOR:

    Dr R Shankar Shanmugam, MSc (N), PhD, MBA,
    Coordinator-Nursing Education & PME/Research Coordinator
    TamilNadu Govt Multi Super Speciality Hospital,
    Omandurar Govt Estate, Chennai-600002.
     shankarshaki@yahoo.com
     9884020914