



## AWARENESS ABOUT DIABETIC COMPLICATIONS AMONG TYPE 2 DIABETIC PATIENTS ATTENDING NCD CLINIC IN PRIMARY HEALTH CENTRES OF TIRUNELVELI DISTRICT

### Community Medicine

**Dr. Praveena Daya A** Assistant Professor, Department of Community Medicine, Tirunelveli Medical College, Tirunelveli.

**Dr Karthikeyan G\*** Assistant Civil Surgeon, Nanguneri government hospital, Tirunelveli district.  
\*Corresponding Author

### ABSTRACT

**Back ground:** Poorly controlled diabetes can lead to micro vascular and macro vascular complications. Knowledge and awareness about the complications of diabetes is the best way to prevent one from the complications of diabetes

**Materials and Methods:** A Cross-sectional study was conducted to determine the awareness about diabetic complications among 300 diabetic patients registered in NCD clinic of three primary health centres of Tirunelveli district using a predesigned pretested questionnaire during Nov-Dec 2016.

**Results:** Among the 300 study subjects, maximum (64%) were aware about foot complications (neuropathy), 46.3% were aware about renal complications, 41.7% knew about cardio vascular complications, 36% were aware about high blood pressure, 33.3% were aware that it can cause eye problems and 15.3% were aware about stroke.

**Conclusion:** Awareness about diabetic complications among the study population is less. Health care providers role in increasing awareness about diabetic complications need to be emphasized more.

### KEYWORDS

Complications, diabetes, awareness,

#### Introduction

Prevalence of diabetes has increased from 4.7% in 1980 to 8.5% in 2014 among adults over 18 years of age. Poorly controlled diabetes can lead to micro vascular and macro vascular complications like Coronary artery disease, Kidney failure, Stroke, blindness, non-healing foot ulcers etc. which can lead to serious morbidity and mortality. Knowledge and awareness about the complications of diabetes is the best way to prevent one from the complications of diabetes. Worldwide different studies have assessed the awareness among diabetic patients regarding the complications of diabetes. Due to paucity of studies in this geographic region, the current study is planned to assess the awareness about complications of diabetes among type 2 diabetic patients registered in the NCD clinic of three primary health centres of Tirunelveli district.

#### Objectives:

To determine the awareness about complications about diabetes among type 2 diabetic patients registered in the NCD clinic of three primary health centres of Tirunelveli district.

#### Study type: Cross-sectional study

Study population: 300 type 2 diabetic patients registered in the NCD clinic of three primary health centres of Tirunelveli district. In each primary health centre 100 patients were selected. Registered type 2 diabetic patients, currently on treatment in the age group between 20-80 years, consented for the study and not acutely sick were selected for the study from each Primary health centre.

#### Study duration: November 2016 to December 2016

**Procedure:** Study was conducted using a predesigned pretested questionnaire. First part of the questionnaire retrieved sociodemographic characteristics of the patients like age, gender, educational status, occupational status, socio-economic status of the patients. Second part of the questionnaire contains questions to assess the awareness about common diabetic complications like Heart Disease, High Blood Pressure (Hypertension), Foot complications (foot ulcer, calluses, neuropathy, skin changes), Kidney disease (Nephropathy), Eye complications like (retinopathy, cataract, glaucoma) and Stroke. Objectives of the study were explained, written informed consent was obtained and confidentiality was assured. Collected data were entered in Microsoft excel sheet 2010 and analysed using SPSS software version 21. Descriptive analysis was done and results were expressed in prevalence percentages.

#### Results

Age and gender distribution of the study population is as follows,

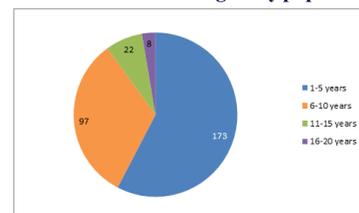
**Table.1. Age and gender distribution of study population (n=300)**

I	Age in years	Number	Percentage
1	31-40 years	10	3.3%
2	41-50 years	46	5.3%
3	51-60 years	105	35%
4	61-70 years	104	34.7%
5	71-80 years	35	11.7%
II	<b>Gender distribution</b>		
1	Males	132	44%
2	Females	168	56%

Among the 300 people studied, 105 (35%) were from 51-60 years age group and 104 were from 61-70 years age group (34.7%). Among the study population majority (56%) were males.

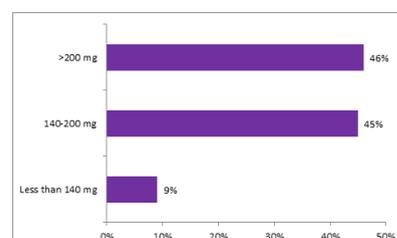
Among the study population, 36% were unskilled workers, 34% were homemakers and 18% were unemployed. Ninety percent among the study population were following mixed diet and remaining (10%) were following vegetarian diet.

**Figure.1. Duration of Diabetes among study population (n=300)**



Among the 300 study subjects, 173 were known diabetic for the past 1-5 years and 97 are known to have diabetes for the past 6-10 years.

**Figure.2. Random Blood Sugar values of Study population (n=300)**



Out of 300 study subjects, 46% were having a random blood sugar value more than 200mg and 45% were between 140 – 200 mg and remaining had RBS value less than 140 mg.

**Table.2. Prevalence of Diagnosed complications of diabetes mellitus among study population (n=300)**

	Diagnosed complications among study subjects	Prevalence Percentage
1	Foot ulcer	6.3%
2	Heart Disease	5.3%
3	Kidney disease (Nephropathy)	1.7%
4	Eye complications (Retinopathy)	2%

Among the 300 study subjects, 6.3% had developed foot complications like foot ulcer, 5.3% developed Heart disease, 2% had developed retinopathic changes and 1.7% had developed Kidney disease (Nephropathy).

**Table.3. Awareness about complications of diabetes mellitus among study population (n=300)**

I	Awareness about complications of diabetes mellitus	Percentage
1	Foot complications	64%
2	Kidney disease (Nephropathy)	46.3%
3	Heart Disease	41.7%
4	High Blood Pressure (Hypertension)	36%
5	Eye complications	33.3%
6	Stroke	15.3%
II	Awareness about yearly follow-up investigations (Annual check-up) <sup>3</sup>	
1	ECG	16%
2	Lipid profile	6%
3	Blood urea / Serum creatinine	3%
4	Fundus examination	3%
III	Awareness about role of physical activity in management of type 2 diabetes	52%
IV	Patients on regular physical activity	29%

Among the 300 study subjects, majority (64%) were aware about foot complications of diabetes, and only 15.3% were aware about stroke. Regarding the annual check-ups, only 16% were aware about yearly ECG screening and awareness about other regular investigations was found to be less.

Only 29% of the study subjects were on regular physical activity and the reasons mentioned for irregular physical activity among the remaining study participants were lack of awareness about the role of physical activity (61%) in the management of type 2 Diabetes, work burden (23%) and mentioned joint pain (17%).

### Discussion

The current study showed that among the 300 study subjects, maximum (64%) were aware about foot complications (neuropathy) followed by 46.3% were aware about renal complications, 41.7% knew about cardio vascular complications, 36% were aware about high blood pressure, 33.3% were aware that it can cause eye problems and 15.3% were aware about stroke.

Study by Vankudre et al in Kancheepuram district among 123 diabetic patients showed that 79 (64.2%) had an overall good knowledge about diabetic complications. Among them, 85 (69.1%) were aware about eye problems, 73 (59.3%) knew that it can affect kidneys, 62 (50.4%) were aware about cardiac complications and 67 (54.5%) were aware that it can lead to stroke.

Study by Menezes et al in Mangalore among 100 diabetic patients showed that 66% of their study population were aware about renal complications, 59% were aware that it can cause diabetic retinopathy and 49% of their subjects had mentioned heart disease as serious diabetic complication.

Study by Bodunde O.T et al in Nigeria among 148 diabetic patients revealed that 123 (83.1%) were aware about that diabetes could affect

other parts of the body, 77.7% were aware of eye complications, 54% were aware of renal complications and 41% were aware that it could affect Central Nervous System. The level of awareness observed for various diabetic complications revealed among these studies are high when compared with the present study.

### Conclusion

The present study showed that awareness about diabetic complications among the study population is less. Health care providers role in increasing awareness about diabetic complications need to be emphasized more. Health education sessions regarding the prevention of diabetic complications can be organized regularly in NCD clinics in Primary health centres to sensitize and create awareness among the general population. Mass media and other voluntary organizations can also be involved in creating awareness and screening for these diabetic complications can be held regularly at Primary health centres to detect these complications earlier and provide optimal management to stop their progress.

### REFERENCES

1. World health Organization. Factsheet on Diabetes. [Internet]. 2017 [updated 2007 Nov; cited 2018 Jan 20]. Available from, <http://www.who.int/mediacentre/factsheets/fs312/en/>.
2. American Diabetes Association. Complications. [Internet]. Available from <http://www.diabetes.org/living-with-diabetes/complications/>. Last accessed on 2018 Jan 15.
3. Monitoring and follow up of people with Diabetes. Guidelines for Management of Type 2 Diabetes: Indian Council of Medical Research; 2005. Available from [http://www.icmr.nic.in/guidelines\\_diabetes/section5.pdf](http://www.icmr.nic.in/guidelines_diabetes/section5.pdf). Last accessed on 2018 Jan 13.
4. Vankudre AJ., Padhyegurjar MS, Jennifer HG, Padhyegurjar SB. A study to assess awareness regarding Diabetes Mellitus and factors affecting it, in a tertiary care hospital in Kancheepuram District. Healthline, 2013 Dec; 4(2): 44-49.
5. Menezes SA, Bava MM, Roshan M.A study on awareness of diabetic complications among type 2 diabetes patients IOSR Journal of Dental and Medical Sciences, 2015 Nov; 14(11): 13-16.
6. Bodunde O.T, Odusan O, Ogunsemi O, Ajibode H. A, Raimi T.H. Awareness of Ocular Complications of Diabetes Among Diabetic Patients In A Tertiary Hospital In Western, Nigeria IOSR Journal of Dental and Medical Sciences, 2014 Jun; 13(6): 9-12.