

ASSESSMENT OF KNOWLEDGE LEVEL OF DIABETIC PATIENTS ABOUT DIABETIC NEUROPATHY AT TERTIARY CARE HOSPITAL

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KEYWORDS	ABSTRACT
Diabetes Mellitus, Neuropathy, Awareness, Patients	The objective of the current study is to assess the knowledge level regarding complication of diabetic neuropathy among the diabetic patients. A total 350 Diabetic patients were chosen for present study from tertiary care hospital hailing from Hyderabad Sindh and well developed Questionnaire was distributed among them. Only those subjects were included who showed their interest and returned back the filled questionnaire. Out of 300 study subjects 134 patients knew that which sort of the complication had appeared in their feet, 92 patients had answered No to question which was asked from them. Only 74 patients don't know the appearance and actual cause of the complication of neuropathy. The awareness was found more among literate patients while those who had less educational background were found to be less aware from the disease complications. Among the study subjects mostly patients do not know the actual cause of neuropathic complication and which was the complication appeared in their feet.

INTRODUCTION

Diabetes Mellitus is the defect in the body, in which body can not convert glucose in to energy (Boulton, Vinik, Arezzo, Feldman, Freeman, Malik, Maser, Sosenko & Ziegler, 2005; Dyck, Kratz, Karnes, Wilson, Brien & Melton, 2011). When we eat anything it is converted into sugar and Sugar is the fuel for activities of the body. This defect occurs due to lack of hormone, that present in pancreases and is called Insulin (Cioffi, Mehra, Tavakoli, Kallinikos, Augustine & Malik, 2007; Parkman, Hasler & Fisher, 2104). The diabetes is condition of hyperglycemia which occur either by less production of insulin in the systemic circulation or insulin resistance between glucose and receptors of Insulin and some time both condition may develop the diabetes condition (Liatis, Tentolouris, Marinou, Pagoni & Katsilambros, 2017). There are so many sign for diagnosis of diabetes that may include; polydipsia, polyphagia, polyurea, fatigue, blurred vision, weight loss, frequent and the slow healing infection including vaginal, skin and bladder infection, dry and itchy skin, loosing feeling in feet, feeling numbness and pins in feet (Stevens, Raffel, Allman, Dayanikli, Ficaro, Wieland, Pfeifer & Schwaiger, 2015; Milan, 2013).

The infection healing is very slow in the diabetic people because hyperglycemia makes hindrance in the healing process of infection (Airaksinen & Koistinen, 2014). Weight loss occurs suddenly because of Glycolysis and gluconeogenesis processes. In the Diabetes Mellitus there could be different sort of complexities which augment the percentage of the morbidity and mortality. Among different complications of the Diabetes Mellitus the diabetic neuropathy is also one of very dangerous complication which if left untreated can end in the amputation (Ewing, Boland, Neilson, Cho, Clarke, 2017; Langer, Freeman, Josse & Armstrong, 2010). It is one and most serious complication of diabetes because if it is not controlled on time it may lead to the very dangerous outcomes. Whenever the glucose level is increased in the nerves that may lead to the structural damage of the nerve fibers (Mathias, Costa, Fosbraey, Christensen & Bannister, 2104; Klein, Agardh, Cilio & Lethagen, 2014). The structural damage of the nerves can cause the abnormal

functions and due to the potential propagation, the pain is produced. If the motor fiber is damaged, then it causes the muscular weakness in the body of patients.

Whereas aching, tingling, pain and loss of function is caused due to damage of sensory fibers and all autonomic functions are disturbed due to damage of the autonomic fibers (Moss, Hallin, Arner, Lins, 2106). Hence there is the dire need worldwide to spread the awareness regarding the complications of diabetes Mellitus. For type-II diabetes there are many risk factors ranges from family history, weight gain, physical inactiveness, over age, insulin resistance, insulin sensitivity, heredity variables, race and ethnicity. Heredity variation is the major element responsible for the creating diabetes. Insulin sensitivity and insulin resistance responsible for this purpose of creating diabetes and complication of diabetes associated with diabetes. There are many ways to manage diabetes. First step to manage diabetes is non pharmacological type (Jack, Craft & Cryer, 2012). This may include food control, physical activity and life style modification. From pharmacological point of view oral hypoglycemic agents and insulin sorts are used to manage the elevated glucose level in the blood circulation.

LITERATURE REVIEW

The diabetes is a chronic and long term disorder, which is influencing the majority of the population in Hyderabad, Pakistan and all over the world. Studies have shown already that Diabetes can be controlled through rational therapy; Patient counseling and Proper management include diet control and exercise. As it is long term disease, needs therapy for long duration effectively. If it is not effectively controlled through proper measures, it can worsen and lead to death. So for its best control, patients' adherence with rational therapy is most important. Different classes of drugs are used for its treatment so proper selection of medications depending on severity of disease and patient's factors. Patients' adherence/compliance with therapy depends on different reasons like patient education, proper counseling, prescriber's attention to him. Unavailability of pharmacist in health care system is must be stressed (Feldman, Goldstein, Hatzichristou, Krane & McKinlay, 2013). The aim of this study is to assess knowledge level about complication of diabetic neuropathy among diabetic patients.

The literature revealed that problem of complication of diabetes economically since the financial problem was main factor that creates problems and enhances the neuropathic complication sometime focal neuropathy and sometime proximal neuropathy (Cioffi et al., 2007). The studies revealed that diabetic retinopathy is the major complication of the diabetic micro vascular complication, whenever long term uncontrolled and un managed glucose circulate in the blood it gradually accumulates in the various organs and organ systems and slowly it diminishes the working capability of that organ (Moss et al., 2016). Further revealed that maturity onset of diabetes in youth is another type of diabetes and complication which occurs in the youth (Klein et al., 2014). It is considered as sub type of Type II diabetes as it can be managed orally hypoglycemic agents but its onset of time is 12-18 years, mostly doctors considered it as type I diabetes and start insulin directly but it can well manage orally by tablets as used in Type II. Its management depends on its diagnosis, person working style as if person consumes his mostly calories then will not have diagnosed prior to time period.

MATERIAL AND METHODS

Study Design

The descriptive cross sectional study was carried out for the period of six months. The diabetic type II patients were included in study and especially focused on the subjects, who were affecting from diabetic neuropathic complications like as Gangrene, charcoal joint, hammer toe and foot infections.

Sample Collection

A well formulated questionnaire was distributed among the study subjects. The sample was chosen using the sample random technique. A total 350 patients were recruited for the study out of total sample size the 300 patients returned back the filled questionnaire improper filled questionnaires were excluded from the study. So in the end total 300 patients were included in the study.

RESULTS AND DISCUSSION

Table 1 Age of Study Subjects

Age	Patients	Percentage	Males	Females
25-35	54	18%	42	12
36-45	150	50%	96	54
46-55	80	26.6%	34	46
56-65	16	5.33%	06	10

Among 300 patients as shown in the figure no 01 were of age between 25 to 65 years and this figure also describe the number of patients in different age groups, according to this 54 (18%) patients were in 25-35 years of age group, whereas 150 (50%) were from age of 36-45 years, 80 (26.6%) patients were 46-55 years and only 16 (5.3%) patients were included in the age group of 56-65 years.

Table 2 Gender Distribution of the Study Subjects

Gender	Percentage	Patients
Males	60%	178
Females	40%	122

According to the table No. 2, out of 300 patients 178 (60%) patients were males and 122 (40%) patients were females. There were total 300 respondents/patients those who have participated in the present study and those who share their views about the issue under consideration.

Table 3 Knowledge Regrading Complication of Neuropathy

Description	Variables	Code	No	Frequency	Proportion
Knowledge about complication of Neuropathy	Gangrene Wet/Dry	Yes	300	134	44.66%
	Charcoal Joint	No		92	30.66%
	Hammer toe	Don't Know		74	24.66%
	Calluses				

Among the study subjects mostly patients do not know the actual cause of neuropathic complication and which was the complication appeared in their feet. Table No. 3 shows that out of 300 study subjects 134 patients knew that which sort of the complication had appeared in their feet, 92 patients had answered No to question which was asked from them. Only 74 patients do not know the appearance and actual cause of complication of neuropathy. The diabetes is chronic disorder in which body cannot produce sufficient amount of energy due to lack of the insulin activity or insulin secretion within the body. The high level of glucose within systemic circulation may leads towards complication of diabetes which may be fatal. There are two types of diabetic complication one is macro complication which is associated with cardiac disorder such as myocardial infarction, heart attack and cardiac arrest but second is micro complication which cause diverse diseases of eyes (retinopathy), kidneys (nephropathy) and neurons (neuropathy).

Hyperglycemia always disturb the normal physiological function of the organs and this condition create different diseases within the body as renal failure, blurred or completely

loss of vision and neuropathic complication include dry and wet gangrene, foot infection, charcoal joint, hammer toe, numbness of feet and hands. There are major four classes of diabetic neuropathy includes peripheral neuropathy, autonomic neuropathy, proximal neuropathy and focal neuropathy. Peripheral neuropathy causes loss of sensation or pain in toes, feet, legs, hands and arms. Autonomic neuropathy is type of diabetic neuropathy and it affects on the autonomic nerves which are responsible for the controlling internal organs such as genitourinary, gastrointestinal and cardiovascular. Proximal neuropathy is not common type of neuropathy and the cases of this type are very rare. Due to proximal neuropathy, pain is produced in thighs, hips and buttocks. Focal neuropathy occurs once one nerve or couple of nerves got damaged and causing muscle weakness or pain.

A study was conducted on the quality life of the patients with LADA and its management by Deborah (2007) and it was concluded that only pharmacist can reduce complication of diabetes in LADA patients and was responsible for good glycemic control, reduction in HbA1c level and improved the quality life. The current study shows that more patients suffering from this problem are the male 60% which is similar with the study conducted by Feldman (2013) who also reported that this issue is more prevalent among males. The current study is inconsistent with the study conducted by Ewing (2017) according to the current study about 44.6% patients are aware from Gangrene Wet/Dry while in the study of Ewing only 20% patients were aware from complication. Thus, this study produced some valuable information for the diabetic patients for their health-care safety.

CONCLUSION

The objective of current study is to assess the knowledge level regarding complication of diabetic neuropathy among diabetic patients. At time of research, people with diabetes were unable to diagnose actual cause of neuropathic complication which was appeared on their body such as charcoal joint, hammer toe, foot infection, wet or dry gangrene and ulceration. Among the study subjects, mostly patients do not know the actual cause of the neuropathic complication and which was the complication appeared in their feet. The awareness was found more among the literate patients while those who had less educational background were found to be less aware from the disease complications.

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