



KNOWLEDGE AND PRACTICE REGARDING DIABETIC FOOT CARE AMONG DIABETIC PATIENTS ATTENDING OUTPATIENT DEPARTMENT IN MINISTRY OF NATIONAL GUARD HEALTH AFFAIRS AL-AHSA, KINGDOM OF SAUDI ARABIA

Nursing

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ABSTRACT

Background; Diabetic foot ulcer is a major cause of lower limb amputation. Diabetic foot problems and amputation can be prevented by proper foot care. Patient's awareness is important in reducing the incidence of foot ulcers and complication. Education of the Patient with diabetes will lower the rate of foot complications and subsequent amputations. Guidelines regarding proper foot care should be provided to the diabetic patients is vital important. The study aim was to determine the knowledge and practice regarding diabetic foot care among diabetic patients. **Methodology;** The present study is a cross-sectional descriptive study was carried out among 288 patients attending OPD in ministry of National Guard health Affairs Al-Ahsa, kingdom of Saudi Arabia. Samples were selected from December 2019 to March 2020. Systematic random sampling technique was done to collect the data. The data was collected after obtaining consent from all subjects. Information related to demographic variables and knowledge, practice questionnaire survey was collected using interview technique. There were 10 items inclusive of each knowledge and practice components regarding diabetes foot care was selected. SPSS version 20 was used for analysis. **Results;** The study report showed that 53.8% of patients had adequate level of knowledge regarding diabetes, 43.5% of patients had intermediate level of knowledge and 2.8% of patients had inadequate level of knowledge. 30.6% of patients had good practice and 51% of patients had very fair practice and also 18.4% of patients doing poor practice.

KEYWORDS

Diabetic foot care, Knowledge, Saudi Arabia

INTRODUCTION:

Diabetes mellitus (DM) is a disease that causes due to lack of insulin secretion in the pancreas. Insulin is an essential hormone and is very important for the cells to absorb sugar from the blood and also utilize the sugar as energy. Hyperglycemia is an effect of the uncontrolled diabetes in blood and it causes serious damage to the organs especially the nerves and blood vessels.

Diabetes is a non-communicable disease with multi-organ failure. In most developed countries diabetes is increased up to 200 million. Due to stress sedentary life style and changing dietary patterns the rate is predicted to reach 333 million in the year 2025. Diabetes is the global epidemic of the 21st century and is now the fourth leading cause of death. According to World Health Organization (2018) reports stated that there were 108 million people affected with diabetes in the year 1980. And also, people living with diabetes were 415 million. In the year 2040 the figure is expected to increase 642 million people will affect with diabetes.

Saudi Arabia is one of the highest prevalence levels of diabetes globally. Saudi Arabia stands in the second highest rate of diabetes mellitus among the Middle East population and also in the world level rate is in the seventh place. According to the statistics in the year 2013 estimated that 1.8 million people affected with diabetes. This ratio may be double in the year 2035. The specific causes of diabetes among the Saudi population are due to lack of activity, increased smoking, obesity and sedentary life style and food patterns also. The significance of the study is to reduce the rate of diabetes among Saudi population through educative programs. And also the improvement of knowledge and practice of diabetic foot care is essential for the patients with diabetes. Alanizi (2016).

Diabetes mellitus is a metabolic disease; there is a dramatic rise in prevalence and its associated complications across the world. Diabetes burden is estimated 135 million in the year 1995 and it will rise up to 300 million in 2025 King H (1998) Diabetes is associated with complications such as cardiovascular diseases, retinopathy and neuropathy, nephropathy which can lead to cause severe morbidity and mortality. One of the important complications associated with diabetes is affected the peripheral vascular disease, it damages the large blood vessels supplying the lower limbs. Another important complication is neuropathy, which can lead to loss of sensation in feet. People with diabetes are prone to foot problems that develop due to prolonged

periods of high blood sugar levels. Diabetic neuropathy and peripheral vascular disease are the two main foot problems that occur, and both can have serious complications. The foot problems have to be detected earlier there is no complications occur. Diabetes mellitus (DM) is a common problem found in Saudi Arabia among the adult over 30 years. The important complication of diabetes leads to diabetic foot problems causing a major morbidity worldwide. The major etiological factor of lower limb amputation leads to diabetes. It is very important to create the awareness of knowledge regarding diabetic foot care is important.

The health care professionals have to identify the level of knowledge among diabetes patients in Saudi Arabia and it is very essential to take care of the patients immediately to prevent further complications. Diabetic foot problems and amputation can be prevented by proper foot care. Patients' awareness is important in reducing the incidence of foot ulcers and complication. Education of the Patient's will lower the rate of foot complications and subsequent amputations. Guidelines regarding proper foot care should be provided to the diabetic patients.

10. Objectives of the Study:

To determine the knowledge and practice regarding diabetic foot care among diabetic patients

Specific Objectives

To assess the knowledge and practice regarding diabetic foot care among diabetic patients To find out the association between knowledge and practice regarding diabetic foot care among diabetic patients with selected sociodemographic variables

Methodology;

Study design and settings;

The present study is cross sectional and descriptive in nature. It was conducted in Diabetic patients in Ministry of National Guard health affairs, King Abdul-Aziz hospital in Alahsa

Inclusion and exclusion criteria:

Patients with diabetes admitted in wards at MNGHA Alahsa, diabetes patients those who willing to participate in the study. Type I & type II diabetic patients both male and females patients were included in this study. In the exclusion criteria diabetes patients who are not able to give consent and pregnant mothers, patients those who were in confusion were excluded.

Sample size

The population size of diabetic patients attending OPD in ministry of National Guard health Affairs Al-Ahsa, kingdom of Saudi Arabia during the data collection period during December 2019 to March 2020.

The sample size was calculated according to the findings .The confidence level at 95%and the level of margin of error to5%. The sample size was estimated as 288.

Sampling Technique

The targeted population was the diabetic patients at attending OPD in ministry of National Guard health Affairs Al-Ahsa, kingdom of Saudi Arabia. Systematic random sampling technique was done to collect the data. This was done within working hours.

Data collection tool and scoring assessment

The tool consists of three parts.

Part 1: Demographic data;

Part-1 consists of demographic data. This includes age, gender, department, educational status, married status, associated illness, Family history of diabetes, Duration of diabetes, Sources of information.

Part 2: Structured questionnaire;

Part-2 consists of 10 knowledge survey questionnaires will be used to assess the knowledge of diabetes foot care. It consists of 2 questions related to basics of diabetes and 8 questions related to diabetic complications related to foot care. In the questionnaire survey has three options. Each right answer score is 2 and 1 for the wrong answer; don't know the score was 0. The scoring interpretation which was considered as those who have 0-7 was inadequate level of knowledge and those who have the range of 8-14 considered as intermediate level of knowledge and the score of 15-20 was considered as adequate level of knowledge

This part consists of 10 practice survey questionnaires was used to assess the practice of diabetes foot care. It consists of 2 questions foot wear and 6 questions related to basic foot care practices and 2 questions related to safety and prevention. In the practice questionnaire survey has three options according to the Likert scale. Always, Sometimes, Never with the score of 2, 1, 0. The scoring interpretation 0-7 consists of poor practice and 8-14 consists as fair practice and 15-20 scored as Good practice. This study questionnaire reviewed and modified from the originality of the research done by Bharati Amar Taksande etal (2017) and the validity of the questionnaire was assessed using content validity from experts in the nursing profession. The questionnaire survey was made according to their suggestions. The validity and reliability of the questionnaire was assessed by test retest method.

Data collection technique;

The researcher interviewed each patient based on the questionnaire and the results were documented. This work was done in the working period. After the data collection the data coded and entered into the personal computer.

Data entry and analysis

All the collected data were from the participants and analysed with the help of statistical package for the social sciences (SPSS) version- 20 software with "P"- values less than 0.05 taken as statistically. The data analysis was included descriptive and inferential statistics. Chi-square test was used to compare two independent quantitative variables. This was done with the help of statistical advisor.

Pilot study;

A pilot study was conducted to test the validity of the questionnaire with 25 patients. And the questionnaires were modified according to the pilot study results.

Table-1 data analyzed reveals that majority 62.5% of the patients with the age group of 51-60 years. In regard to gender 149 of patients were females. 47.6% of the patients were admitted in the medical ward; among them 21.2% of them were done their school education. There were 72.6% of patients were married. With regard to associate illness, there were 77.8% of patients have hypertension. There were 68.8% of patients have the family history of diabetes and hypertension. There

were 47.6% of patients revealed that they are having the disease below 5 years. With regard to the information 59.3% of patients received the information through Television & radio. The study report shows that 53.8% of patients had adequate level of knowledge regarding diabetes, 43.5% of patients had intermediate level of knowledge and 2.8% of patients had inadequate level of knowledge. Only 30.6% of patients had good practice and 51% of patients had very fair practice and also 18.4% of patients doing poor practice

Table-1 Frequency and percentage distribution of Socio-demographic variables

S.N	Demographic Variables	Frequency	Percentage (%)
1	Age		
	31-40	40	13.9
	41 – 50	60	20.83
	51 -60	180	62.5
	61 and above	8	2.8
	Total:	288	100
2	Gender		
	Male	139	48.3
	Female	149	51.7
	Total	288	100
3	Department		
	Medical ward	137	47.6
	Surgical ward	103	35.8
	Other wards	48	16.7
	Total	288	100
4	Educational status		
	Non formal education	173	60.1
	School Education	61	21.2
	Graduate	54	18.8
	Total	288	100
5	Marital		
	married	209	72.6
	unmarried	60	20.8
	Widow/widower	6.6	6.6
	Total	288	100
6	Associate		
	hypertension	244	77.8
	Tuberculosis	11	3.8
	Heart Disease	22	7.6
	others	31	10.8
7	Family		
	Mother/Father	198	68.8
	Grandmother/grand father	14	4.9
	Brother/Sister	30	10.4
	Other relatives	46	16
	Total	288	100
8	Duration		
	Below 5 year	137	47.6
	5-10 year	45	15.6
	10-15 year	59	20.5
	Above 15 year	47	16.3
	Total	288	100
9	Information		
	Yes	171	59.4
	No	117	40.6
	Total	288	100
10	Sources		
	Tv/Radio	131	45.5
	Relatives/friends	78	27.1
	Physician	5	1.7
	Media	31	10.8
	Nurse	43	14.9
	Total	288	100

Table-2 Frequency and percentage distribution Knowledge scores related to diabetic foot care

S. No	Questions related to knowledge	yes	No	Don't know
1	Is diabetes is a chronic disease.	223	51	14
2	Is it true type-I diabetic is hereditary and occurs in child hood	223	24	41

3	Is it true the chronic diabetes cause complications	226	17	45
4	Anti- diabetic medications should be taken regularly to prevent complications	258	13	17
5	Is it true that all patients with diabetes develop reduced blood flow and lack of sensation in their feet	253	20	15
6	Do you know that diabetic persons have loss of sensation on their foot and more prone to have foot ulcers	243	23	22
7	Do you know that the diabetic persons have foot infection and will develop foot ulcer.	237	17	34
8	Do you think that appropriate way of trimming the nail of diabetic person	244	15	29
9	Are you aware that smoking can reduce blood flow in the feet	211	28	49
10	Is it true the diabetic patients should consult a doctor if they have redness and blisters	185	26	77

Table-2 data revealed that the statement, Is it true in type-I diabetic is hereditary and occurs in child hood there were 223 patients accepted yes and also the chronic diabetes cause complications 226 patients answered yes and only 45 patients told they don't know. There were 258 patients revealed that anti-diabetic medications should be taken to prevent complications. Among 288 patients ,253 persons said all patients with diabetes develop reduced blood flow and lack of sensation in their feet nly 23 patients not accepted for the diabetic persons have loss of sensation on their foot and more prone to have foot ulcers. Majority of them accepted that the diabetic persons have foot infection and will develop foot ulcer .There were 244 patients thought that appropriate way of trimming the nail of diabetic person and also 244 persons aware about smoking can reduce blood flow in the feet. And also with regard to the diabetic patients should consult a doctor if they have redness and blisters, only 185 patients accepted the statement

Frequency and percentage distribution of Practice related to diabetic foot care

S. No	Questions related to Practice	Never	Sometimes	Always
11	Do you check your feet daily for any injury	55	72	69
12	Do you wash feet regularly with warm water	40	165	83
13	Do you add antiseptic solution with water before feet cleaning	59	164	65
14	Do you dry your feet after cleaning	87	136	86
15	Do you apply moistening cream to prevent dryness of the skin	72	132	84
16	Do you regularly walk with shoes or chapels	57	146	85
17	Did you ever inspect inside of footwear	53	147	88
18	Do you wear comfortable socks	58	157	73
19	Do you trim toe nails straight across	22	159	107
20	Do you moisturize dry areas of your feet daily	20	170	98
11	Do you check your feet daily for any injury	157	97	34

Table-3 depicts that 69 patients were reveals that always the diabetic patients have to check your feet daily for any injury and 170 patients sometimes have to moisturize dry areas of your feet daily and also 165 patients accepted to wash feet regularly with warm water .There were 164 patients accepted only sometimes to wash feet regularly with warm water. Most of them explained sometimes dry the feet after cleaning and apply moistening cream to prevent dryness of the skin. There were 107 patients told always trim toe nails straight across.

DISCUSSION;

The study report shows that 53.8% of patients had adequate level of knowledge regarding diabetes, 43.5% of patients had intermediate level of knowledge and 2.8% of patients had inadequate level of knowledge. Only 30.6% of patients had good practice and 51% of

patients had very fair practice and also 18.4% of patients doing poor practice. The similar study cross sectional study was conducted by desalu (2016) regarding knowledge and practice among patients at Nigeria in tertiary hospital. The purpose of the study was to assess the knowledge and practice of foot care of diabetes patients. There were 352 patients were selected for the study, the structured questionnaire was used for the study, it was administered by medical officers to the patients. The study results showed that majority of patients had poor knowledge regarding diabetic foot care and also they are not practicing foot care. This study has highlighted the gaps in the knowledge and practice of foot care in diabetes patients was rectified by an educational program by the health care professionals to reduce of diabetic foot complication. There was no association between the between knowledge and practice regarding diabetic foot care among diabetic patients with selected sociodemographic variables. The present study showed that a little of the diabetic patients had poor diabetic foot care practices, which is similar to the research study conducted by saber (2018) in Nigeria, Iran, and Iraq. Data analysed reveals that the majority of patients 62.5% were with the age group of 51-60 years. In regard to gender, there were 107 patients were females and 47.6% of patients were admitted to the medical ward; among them 81.3% of them were done their school education. There were 72.2% of patients were married. With regard to associate illness, there were 77.8% of patients having hypertension and also 68.8% of patients have the family history of diabetes and hypertension. There were 47.6% of patients revealed that they are having the disease below 5 years. With regard to the information 59.3% of patients received the information through television & radio.

RESULTS;

The study report showed that 53.8% of patients had adequate level of knowledge regarding diabetes, 43.5% of patients had intermediate level of knowledge and 2.8% of patients had inadequate level of knowledge. ly 30.6% of patients had good practice and 51% of patients had very fair practice and also 18.4% of patients doing poor practice.

Limitations and recommendations of the study;

Present study was limited in Alahsa. Needs to be done with larger group of population.

CONCLUSION:

The current result shows that most of the patients have adequate knowledge about the diabetes foot care that indicates the patients were awareness about diabetes foot care but in practice aspects they have to improve more. Plans and efforts should be taken by the health care professionals to improve the health related complications of diabetes and also the complications of diabetes. These research findings exhibit the felt need of the society and also the need for up to date education for the diabetes foot care to the diabetic patients is important to improve their quality of life.

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(Instructions: mention recent articles relevant to the study subject and enumerated according to their order of appearance in the text)

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