

Knowledge and Practice of Foot Care among Diabetic Patients at a Public Tertiary Care Hospital Lahore

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Abstract: Background: The diabetic foot complication is further complicated by some UN desired and wrong practices of such as Socio-cultural myths of walking barefoot and religious belief of walking on fire etc. Sometimes inappropriate use of footwear and lack of awareness regarding proper foot care during diabetes mellitus also make the foot complication severe [1].

Objective: The specific objectives of this research work are: To assess knowledge of Diabetic foot self-care among patients attending Diabetic clinic at LGH Hospital Lahore.

Methodology: A structured questionnaire with demographic variables and causes variables was applied. The data was analyzed on SPSS version 21.

Result: A high percentages of participants stated that mentioned factors causing medication errors among nurses.

Conclusion: It is concluded that some people do not know good practice for the disease, so it is important for an organization to provide enough knowledge about the disease for better health and good practice.

Keywords: Knowledge, Practice, Foot care, Diabetic foot, Diabetic patient, Chronic disease.

INTRODUCTION

Health care cost of chronic diseases is increasing globally. Diabetes Mellitus is one of such chronic disease which causing a large number of diseases and deaths worldwide and leads to a high cost to health care. Diabetes mellitus is considered as among the top leading causes of death all over the world which develop some life threatening complications such as blindness, renal damage and amputations of body parts [2]. It is thought to be the most common illness in all countries. The new cases of diabetes has increased to a very high number in the last 2 decades around the globe [3].

Diabetes mellitus as a chronic disease is rising worldwide but the developing countries are known to have the highest reported cases of diabetes mellitus. The estimates of the World Health Organization estimates that around 60% of diabetic patients by the year 2025 will belong to the under developed countries in Asia [4]. According to statistics taken from International Diabetes Federation, the prevalence of Diabetes was found to be more than 8%, affecting about 382 million adults in the year 2013. The future will be more dangerous and it is estimated that by the year 2035 the prevalence will be about 8.8% among adult and will affect around 592 million adults in the world [5].

In Asian countries, the type 2 Diabetes mellitus is appearing as a distressing situation among the young adults. Iranian

National Survey indicates that the incidence of Diabetes mellitus among adults (25-65 years) is 7.7%. An estimated prevalence by 2025 will be somewhere around 5.1 million. Environment changes and unhealthy life style are the factors causing such a high number of diabetes mellitus [6]. India, has the second highest cases of type 2 diabetes mellitus and leads to some devastating complications which are of high level for any country [7].

This high prevalence of Diabetes Mellitus tends to bring remarkable complications among the affected diabetic patients. Along with so many serious complications such as renal failure, neuropathy, blindness etc., one prominent complication is Diabetic Foot. Diabetic foot appears to be a leading reason for diabetic related hospitalization, extremity amputation, and increased mortality among the diabetic patients in the world. Thus it is becoming a leading public issue for the societies and countries. In some countries, the Diabetic foot is prevailing in very high percentage such as Netherland has 20.4% prevalence of diabetic foot among diabetic patients, while USE has 1-4% prevalence and there is 4.6% purulence of Diabetic Foot in Kenya [8].

The diabetic foot complication is further complicated by some undesired and wrong practices such as Socio-cultural myths of walking barefoot and religious belief of walking on fire etc. Sometimes, inappropriate use of footwear and lack of awareness regarding proper foot care during diabetes mellitus also make the foot complication severe [1]. It is known that effective and successful diabetic management of diabetic can

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be achieved through proper diet plan, desired regular physical exercise and use of recommended drugs. Physical activities such as light exercise is considered as an extremely important element in control and management of diabetes, because exercise helps the insulin to work better, make the weight in control, and help to keep the lungs and heart system healthy. Due to proper diet and effective exercises, the risk of coronary heart disease and metabolic syndrome in association to diabetes mellitus has been reduced up to 35%-55% [9].

American Diabetic Association and American Heart Association have recommended a moderate intensity exercise for about 30 minutes daily, for 5 days a week under the guidelines of their agreement. This moderate intensity exercise is useful for many diseases especially for the type 2 diabetes mellitus [10]. If the diabetes is not well managed, then the patients are at greater risk of developing some or the other serious complications of diabetes mellitus. Among the serious complications of diabetes mellitus, the diabetic peripheral neuropathy has high cases and prevalence especially Indian diabetics [5].

International Working Group on the Diabetic Foot define the Diabetic Foot as full-thickness wound which goes deep and penetrating through the dermis of the skin. It damages the deep vascular layer of skin, the dermis in the lower region, located below the ankle among the diabetes patient. An untreated and poorly healed may become infected [11]. It was found that the rate of Diabetic foot Ulcer among the Diabetic patients is 10-15%. Different factors increase the bad consequences which include chronicity of diabetes, mismanaged metabolic control of diabetes, ignoring foot deformities and poor knowledge of diabetics [12].

Diabetic foot is causing a huge financial burden to the health system. It is estimated that about 30% of the diabetic patients get hospitalized due to the complication of Diabetic Foot ulcer which use around the 20% of all health care costs allocated for the treatment of diabetes. The cost of diabetic foot in the Asian developing countries like India and Pakistan may approaches to about 40 percent of the total health resources [13]. The risk of foot ulceration and limb amputation increases with age and the duration of diabetes. The prevention of diabetic foot is crucial, considering the negative impact on a patient's quality of life and the associated economic burden on the healthcare system [14].

In the low income and middle income countries, the diabetic foot problems have become a serious concern. It has become a feared complication of diabetes attacking a huge number of diabetic patients. Among the Ethiopian diabetic patients also the complication of diabetic foot is an alarming health issue. Especially if the diabetic foot is associated with septic conditions then it can cause an estimated 12% of deaths among the diabetic patients [15].

Diabetic foot complication is one of the main causes of disability, disease severity and increased deaths among diabetic deaths. Around 15%, the diabetic patients have the risk of creating ulcers during their course of disease. If It is treated well then they can be recovered else the consequences will be severe. Diabetic mellitus is a non-communicable disease acknowledged as among the highest health care concerns. Still the accurate prevalence of diabetic foot, control progress, and knowledge of associated barriers is still missing and not updated regularly [16]. In our country, the situation of diabetic foot management is even worst therefore, this study aims to determine knowledge and practices Diabetic Foot Ulcer among Diabetic Patients at Mayo Hospital Lahore.

Aims of the Study

This study aims to determine knowledge and practices Diabetic Foot Ulcer among Diabetic Patients at Mayo Hospital Lahore.

Significance of the Study

This study will help to influence the policy makers to develop some educational and awareness program for the diabetic patients in the whole country. This study is significant to stress on some diabetic management and control training among nurses, because nurses are the ambassadors for self-care improvement among patients. This research will provide base line data, so the future researchers will also be benefited from this study. Health care providers such as nurses and doctors will also the information to fill the gap and knowledge and practices among the diabetic patients.

METHODS

Setting

The setting of this research study was the Diabetics clinics of the selected hospital.

Research Design

A cross-sectional descriptive study was used to conduct this study. The knowledge and practices of diabetic foot care will be assessed through descriptive survey at a single point of asking question from the participants.

Population

The population of this study research was the diabetic patients visiting at the Diabetic clinic and ward of the LGH hospital Lahore. Mostly the participants were with type II diabetes taking treatment from LGH hospital.

Sampling

For recruiting the study participants, a convenient non probability sampling methods was applied.

Research Instrument

A structured close ended questionnaire was adopted from a study “Assessment of Self-Reported Knowledge, Practice, And Barriers of Diabetic Foot Self-Care among Patients” [4]. The questionnaire here consists of three parts. First part is about the demographic information of the participants. Second part is about the knowledge assessment through Yes, No and don’t know options. The third part consists of 15 questions about the daily practices of diabetic foot self-care. The practices are measures from 1= never to 4 always.

Data Gathering Procedure

The questionnaire was distributed to the participants in printed form where they answered the entire question according to their own understanding. A time of about 30 minutes was given to fill the questionnaires. Then the filled questionnaires were collected.

Methods Used to Analyze Data

The data was analyzed through SPSS version 21. The descriptive statistics was include the demographic data, variables and was represent the mean, mode, median, frequencies, percentage, etc.

Study Timeline

This research was completed within 3-4 months, from March 2018 to May 2018.

Ethical Consideration

Questionnaire: The participants were explained about the purpose, significance and relevant knowledge the want to know regarding this study. Willing participation will be encouraged. No one was forced in this research study. Participant can quit the research anytime he/ she feel like. This research was non-maleficent to the participants and to the respected institute.

RESULTS

Profile of the Respondents

Table 1. Demographic Data Result.

Variables	Number (n)	Percent
Age of Participants		
Less than 20 years	9	4.5%
20-30 years	47	23.5%
31-40 years	83	41.5%
Above 40 years	61	30.5%

Variables	Number (n)	Percent
Gender of Participants		
Male	126	63%
Female	74	37%
Marital Status		
Married	180	90%
Unmarried	18	9%
Religion of Participants		
Muslims	168	84%
Christians	28	14%
Other	2	1%
Education Status		
Illiterate	51	25.5%
Primary	42	21%
Secondary	62	31%
College and above	43	21.5%
Occupation of the Participants		
Farmer	38	19%
Labor	50	25%
Merchant	19	9.5%
Government Employee	41	20.5%
Private Employee	52	26%
Residence		
Rural	79	39.5%
Urban	121	60.5%

Table 1 shows that less than 20 years participants were 4.5 %, 21-30 years participants were 23.5%, 31-40 years participants were 41.5% above 40 years participants were 30.5%. Male participants were 63% and the female participants were 37%. It also shows that married participants were 90% and unmarried participants were 9%. This table also shows that 84% participants were Muslim, 14% participants were Christian and 1% participants show other religion. 25.5% participants were illiterate, 21% participants were primary, 31% participants were secondary, 21.5% participants were college and above. The farmer participants were 19%, labor participants were 25% merchant participants were 9.5%, government employee participants were 20.5% and private employee participants were 26%. Also, 39.5% participants were rural and urban participants were 60.5%.

Table 2. Diabetic Foot Knowledge based Questions.

Variables	True		False		Don't Know	
	n	%	n	%	n	%
Have you ever received any information about Diabetic Foot Care before?	169	84.5%	28	14%	3	1.5%
Did you have any history of foot problems after diagnoses of DM?	46	23%	138	69%	15	8%
DM patients should take medication regularly because they are liable to get DM Complications	164	82%	2	1%	34	17%
DM patients should look after their feet because they may not feel a minor injury to their feet	106	53%	7	3.5%	87	43.5%
DM patients should look after their feet because wounds and infection may not heal quickly	122	61%	9	4.5%	69	34.5%
DM patients should look after their feet because they may get a foot ulcer	118	59%	10	5%	72	36%
DM patients should not smoke because smoking causes poor circulation to the feet	39	19.5%	10	5.5%	151	75%
Do you think you should inspect your feet daily?	165	82.5%	22	11%	13	6.5%
If you found redness/bleeding between your toes the first thing is to inform medical professionals	172	86%	10	5%	18	9%
Every day your feet should be washed?	194	97%	6	3	0	0%
You should wash your feet with warm water?	121	60.5%	64	32%	15	7.5%
Every day you should inspect the inside of your footwear for objects or torn lining	143	71.5%	22	11%	35	17.5%
All time you should wear shoes and socks?	21	10.5%	158	79%	21	10.5%

Table 2 discusses the results of variables and score of the participants which show that most of the people were positive response. The score of the respondent participants about 'Have you ever received any information about Diabetic foot care before?' shows that 84.5% participants' score were true, 14% participants' score were false and 1.5% participants score were don't know. The score of the participants about 'Did you have any history of foot problems after diagnoses of DM, shows that 23% participants score were true, 69% participants score were false and 8% participants score were don't know. Score of the participants about 'DM patients should take medication regularly because they are liable to get DM complications shows that 82% participants score were true, 1% participants score were false and 17% participants score were don't know. The score of the participants about 'DM patients should look after their feet because wounds and infection may not heal quickly shows that 61% participants score were true, 4.5% participants score were

false and 34.5% participants score were don't know. The score of the participants about 'DM patients should look after their feet because they may get a foot ulcer shows that 59% participants score were true, 5% participants score were false and 36% participants score were don't know. The score of the participants about 'Do you think you should inspect your feet daily shows that 82.5% participants score were true, 11% participants score were false and 6.5% participants score were don't know. The score of the participants about every day your feet should be washed shows that 97% participants score were true, 3% participants score were false. The score about 'You should wash your feet with warm water' shows 60.5% participants score were true, 32% score false and 7.5% participants were don't know. Another variable which are all time you should wear shoes and socks shows that 10.5% participants score were true, 79% score were false and 10.5% participants were don't know.

Table 3. Diabetic Foot Self Care Questions.

Variables	Never		Sometime		Always	
	n	%	n	%	n	%
Do you examine (inspect) your feet?	140	70%	60	30%	0	0%
Do you check your shoes before you put them on?	171	85.5%	29	14.5%	0	0%
Do you check your shoes when you take them off?	33	16.5%	161	80.5%	6	3%
Do you wash your feet Daily?	195	98%	5	2%	0	0%
Do you check your feet are dry after washing?	145	72.5%	53	26.5%	2	1%
Do you dry between your toes?	95	47.5%	103	51.5%	2	1%
Do you use moisturizing cream on your feet?	91	45.5%	107	53.5%	2	1%
Do you put moisturizing cream between your toes?	55	27.5	143	71.5%	2	1%
Do you cut toenails regularly?	173	86.5%	22	11%	5	2.5%
Do you change your socks/stockings/tights daily?	110	55%	84	42%	6	3%
Do you walk around the house in bare feet?	57	28.5%	138	69%	5	2.5%

Table 3 reveals the practices of Diabetic patients regarding their foot self-care. They were asked if they examine (inspect) their feet? where in response, 70% of the participants replied they never do and 30% respondents said they sometime do it. Another question was asked whether the respondents check their shoes before they put them on?, where 85.5% study participants replied never, while 14.5% said they perform some times. It was also asked if the participants check their shoes when they take them off? where 16.5% replied as never, 80.5% replied as sometimes and 3% replied always. They were asked if they wash feet daily? and responses were as 98% said never and 2% said sometimes. They were asked if they check their feet are dry after washing? where in response 72.5% of the participants replied they never do, 26.5% respondents said they sometime do it and only 1% said they always do. Another question was asked whether the respondents dry between their toes? where 47.5% study participants replied never while 51.5% said they perform some times and 1% said always. It was also asked if the participants use moisturizing cream on their feet? where 45.5% replied as never, 53.5% replied as sometimes and 1% replied always. They were asked if they cut toenails regularly? and responses were as 86.5% said never, 11% said sometimes and 2.5% said always.

They were also asked if they change your socks/stockings/tights daily? where in response 55% of the participants replied they never do, 42% respondents said they sometime do it and only 3% said they always do. Another question was asked whether the respondents Do you walk around the house in bare feet? where 28.5% study participants replied never while 56% said they walk some times and 2.5% said always.

DISCUSSION

This analytical this was conducted and analyzed for the purpose knowledge and practice of foot care among diabetic patients at a public tertiary care hospital Lahore among 200 participants in which more of the people were knowledge and practice about knowledge and rare were no knowledge some response of the respondent were DM patients should look after their feet because they may get a foot ulcer. Show that 59% participant's score were true, 5% participant's score were false and 36% participants score were don't know. The score of the participants about 'DM patients should take medication regularly because they are liable to get DM Complications show that 82% participants score were true, 1% participants score were false and 17% participants score were don't know. The score of the participants about 'DM patients should look after their feet because wounds and infection may not heal quickly. Show that 61% participants score were true, 4.5% participants score were false and 34.5% participants score were don't know. According to another study conducted at an Asian country, the score rate of diabetic

peripheral neuropathy was 48.1% in among all diabetic patients. The rate was found high among the already diagnosed patients 59.1% as compare to the newly diagnosed 28.8%. Diabetic peripheral neuropathy is known as the leading cause of diabetic foot ulcer and leg imputations. If you found redness/bleeding between your toes the first thing is to inform medical professionals show that 86% participants score were true, 5% participant's score were false and 9% participants score were don't know. A study was conducted to assess knowledge and practice of diabetic patients about diabetic foot care in three public hospitals. The result show 9.8 out of 23. It was classified that 56% participants know about diabetic and 44% participants were no knowledge.

The score of the participants about 'If you found redness/bleeding between your toes the first thing is to inform medical professionals Show that 86% participants score were true, 5% participants score were false and 9% participants score were don't know.

Another study conducted which shows that 39% people have good practice about self-care during diabetes. 31% people ignore the disease and the reaming 30% do not know about care and complication of the diabetes. The score of the participants about every day your feet should be washed shows that 97% participants score were true, 3% participants score were false. Another variable which are all times you should wear shoes and socks 10.5% participants score were true 79% score false and 10.5% participants were don't know. The overall result of the study shows that most of the participant had knowledge about diabetes and fewer participants had no knowledge and more respondents were in good practice of their self during diabetes and fewer participants were in poor practice and not know about the good practice during diabetes. Overall responses were positive.

LIMITATIONS

- Less sample size due to which, the findings cannot be generalized.
- Time was too short, to see any prospective events or detailed associations of awareness and practices.
- Convenient sampling technique was used which may have some biasness.

CONCLUSION

It is concluded that some people do not know good practice for the disease so it is important for an organization to provide enough knowledge about the disease for better health and good practice, through this practice the patients revisit to an organization for further treatment and satisfied from their treatment and positive practice will be increase about diabetes and the patients will be focus on their self and the

complication ratio will be decrease.

CONFLICT OF INTEREST

Declared none.

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