Foot Self Care: Knowledge, Practice and Barriers among Diabetic Patients

Magda Moawad Mohsen [(1)] **& Amal Elsayed Shehata** [(2)]

[(1)] Professor- Department of community Health Nursing- Faculty of Nursing- Menofia University, [(2)]Assist. Prof. - Department of Medical Surgical Nursing- Faculty of Nursing- Menofia University

Abstract:

Background: Diabetic foot is one of the most frightened complications of diabetes and is the leading cause of hospitalization among diabetic patients. **Aim:** This study was carried out to evaluate foot self care Knowledge, Practice, and barriers among diabetic patients. **Subjects:** A convenient sample of 118 adult diabetic patients was chosen. **Setting:** The study was conducted at the medical outpatient department and in patient ward at Menofia University Hospital and Shebin El - Kom Teaching Hospital. **Tool:** A Structured interview questionnaire was developed and utilized by the researchers. It included six parts. **Results:** the mean age of subjects was 47.63± 9.66 years. About two thirds of patients (63.6%) had no diabetic foot care education experiences. More than three fourths of subjects who had poor foot care practice (77.6%) didn't have complete information about foot care (80%). The majority (81%) of subjects who had poor foot care practice didn't have diabetic foot care education practice. 55% and 73.3% of subjects who had fair knowledge about diabetes , foot problem and care respectively had good foot care practice. 63.2% and 73.5% of subjects who had fair knowledge about diabetes, foot problem and care respectively, had good foot wear practice. **Conclusions:** Low level of diabetic foot care education practice has significant association with current foot care practice. Incomplete information about foot care is the most important barrier associated with poor foot care practice. **Recommendations**: A diabetes self care hand book about diabetes information, foot problems, prevention and care should be available for all diabetic patients. Specialized team for diabetic foot care should be available in outpatient clinic to assess, prevent and manage any foot problems. Also this team should provide continuous education for diabetic patient about proper foot care.

Key words: Diabetic Patients, Foot Self Care, Knowledge, Practice and Barriers

Introduction:

Diabetes is a chronic debilitating condition that is associated with significant morbidity, mortality and increasing health care cost. [(1)] It currently affects about 200 million people worldwide and is expected to reach 333 million by 2025, with most of the massive burden falling in developing countries. [(2)] Egypt is in the world's top 10 in terms of the highest number of people with diabetes (3.9 million) in 2003 and this number is expected to increase to 7.8 million by 2025. [(3)] While by the year 2030, Egypt will have at least 8.6 million adults with diabetes. [(4)]

It is estimated that 12 % of the adult Egyptian population who aged 10–79 years have diabetes. However, because Egypt has a relatively young population, this is corrected to 15% when used to compare with other countries which give the alarming fact that Egypt has more diabetic individuals than any other country. [(5,6)]

Diabetic foot is one of the most frightened complications of diabetes and is the leading cause of hospitalization among diabetic patients. It is characterized by several pathological complications such as neuropathy, peripheral vascular disease, foot ulceration, and infection with or without osteomyelitis, leading to the development of gangrene and even necessitating limb amputation. [(7,8)]

Diabetic foot problems are responsible for nearly 50% of all diabetes related hospital admission, amputation and mortality in diabetic patients [9] .In addition to causing pain and morbidity, foot lesions in diabetic patients have substantial economic consequences, beside the direct costs of foot complications. Also, there are indirect costs relating to loss of productivity, individual patients' and family costs and loss of health related quality of life. [10]

Foot ulceration occurs in approximately 15-25% of people with diabetes while amputation prevalence ranges between 0.2- 4.8%, worldwide.[11] The lifetime risk of a person with diabetes developing a foot ulcer could be as high as 25%, and it is believed that every 30 seconds a lower limb is lost somewhere in the world as a consequence of diabetes. [10]

In Egypt, the incidence of foot problems and amputations remains very high, accounting for up to 20% of diabetes-related hospital admissions. This can be easily attributed to several practices prevalent such as barefoot walking, inadequate facilities for diabetes care, low socioeconomic status and illiteracy. [12]

Globally, diabetic foot lesion is a result of peripheral vascular disease and neuropathy which is the major contributing factor that is preventable in most cases in developing countries. The peripheral neuropathy is one of the most important factors for diabetic foot problems because it eventually causes loss of protective sensation, foot deformity, dry skin, crackling or fissure that easily results in foot ulceration. Moreover, some of the patients' daily activities, such as walking bare foot or trimming nails are potential causes of foot problems. [13]

It is possible to reduce amputation rates to 49% - 85% through a care strategy that combines: prevention; the multi-disciplinary treatment of foot ulcers; appropriate organization; close monitoring, and the educating diabetic people and healthcare professionals. [10]

Daily foot care and inspection can prevent the development of foot ulcers and the subsequent complications that may lead to amputation which is considered one of the biggest threats to adults with diabetes especially for patient with decrease extremity sensation. In order to control the foot ulcer complications, patient's knowledge and practice may contribute to prevent foot ulcer. Foot care is the most important factor for prevention of foot ulcer and preventive strategies will decrease the burden of foot problems in the patients suffering from diabetes. [14]

Self-care in diabetes has been defined as an evolutionary process of development of knowledge or awareness by learning to survive with the complex nature of the diabetes in a social context. The vast majority of day-to-day care in diabetes is handled by patients and/or families; there is an important need for reliable and valid measures for self-management of diabetes. [15, 16]

Foot self-care activities refer to behaviors such as daily foot examination by patients or caregivers including the use of mirrors to examine the sole of the feet where necessary,

daily washing and careful drying of feet, use of moisturizing lotion on the feet but not between the toes, avoiding corn removal with chemical agents, wearing well-fitting shoes and avoidance of walking barefooted. [17, 18]

Moreover Patient's foot care practices that may prevent foot ulcer focus on avoiding barefoot, performing and / or receiving proper foot care, and wearing properly fitting shoes, foot

hygiene, proper toenails care, skin care, daily inspection of feet and legs and proper footwear. [14, 19]

The role of healthcare providers in care of diabetic patients has been well recognized. Socio-demographic and cultural barriers such as poor access to drugs, high cost, patient satisfaction with their medical care, patient provider relationship, degree of symptoms, unequal distribution of health providers between urban and rural areas that have restricted self-care activities in developing countries. [20] So, the aim of this study was to evaluate foot self care knowledge, practice and barriers among diabetic patients.

Significance of the study:

Diabetic foot is a serious complication of diabetes and is the leading cause of hospitalization in diabetic patients with great morbidity and mortality and impact on the patient, family, and health care system. Daily foot care and inspection can prevent the development of foot problems and the subsequent complications that may lead to amputation. [7,8] Therefore we hoped that ulceration and its complications can be largely prevented and the rate of amputation greatly reduced by increasing the awareness and self care of the foot among diabetic patients especially in low income community

Aim of the Study:

The aim of this study was to evaluate foot self care knowledge, practice, and barriers among diabetic patients.

Research Questions:

- What is the level of knowledge of diabetic patient about foot self-care
- What is the level of actual self-care foot practices among diabetic patients?
- Are the foot self care practices among diabetic patients satisfactory?
- What are barriers preventing diabetic patient from practicing the correct foot self care?

Subjects and Method:

Design:

Analytical research design was utilized for this study.

Setting:

The study was conducted at the medical outpatient department and in patient ward at Menofia University Hospital and Shebin El-Kom Teaching Hospital, in Menofia Governorate, Egypt (as they are the two main hospitals which have the largest flow of patients).

Subjects:

A convenient sample of 118 adult diabetic patients was chosen for the purpose of this study. The sample was drawn from all patients admitted to the above mentioned Hospitals with a diagnosis of diabetes during the period of the study. Sample was selected according to the following criteria: Conscious, adult diabetic patients of both sexes and who were diagnosed for diabetes for at least 5 years ago.

Calculation of the sample:

The sample size was calculated using Epi Info program (2000) depending on the following: (CDC, 2000):

- The total number of DM cases who attended Menofia University Hospital and Shebin El - Kom Teaching Hospital during the last year were about 5600 cases (hospital which considered reference hospital for DM cases in this area).
- The considered power was 95%. The calculated sample size was 113 patients. So, the researcher increase sample size up to 118 patients in order to increase power of the study

Study tool:

One tool was developed and utilized by the researchers based on

review of related literature. **Structured interview questionnaire:** It included six parts:

- **Part (1): Personal characteristics:** It comprised of data related to patients' age, sex and level of education.

- **Part (2): Medical history and clinical data**: it comprised of data related to duration of diabetes, family history of diabetes, presence of other chronic disease, diabetic foot care education experiences, a history of foot ulcer, risk factors for foot ulcer, action taken with ulcer, foot examination for each foot and foot problem.

- **Part (3): Self reported patient knowledge about diabetes:** It was comprised of four questions related to: definition of diabetes, treatment, complication of diabetes and predisposing factors to foot ulcer among diabetic patients**.**
  ***Scoring system*:**
  Each question was given a score from one to three in which one indicated good knowledge score, 2 indicate fair knowledge score, while score 3 indicated poor knowledge as follow: A score from 4 to 6 indicated good total score, A score from 7 to 9 indicated fair total score and a score from 10 to 12 indicated poor total score.

- **Part (4): Self reported patient knowledge about foot problems and care:** it was comprised of twelve questions related to: knowledge about smoking, nail cutting, Importance of taking medication regularly, signs of diabetic foot infection, does patients look after their feet, precautions made before exercise related to foot care, knowledge about diabetic shoes characteristics, frequency of inspecting feet, first thing to do with presence of redness or bleeding between toes, frequency of washing feet, degree of water temperature for washing and frequency of inspecting inside the foot wear.
  ***Scoring system*:**
  Each question was given a score from one to three in which one indicated good knowledge score, 2 indicate fair knowledge score, while score 3 indicated poor knowledge score. All scores were summed with lower score indicated good knowledge as follow: a score from 12 to 18 indicated good total score, A score from 19 to 27 indicated fair total score and A score from 28 to 36 indicated poor total score.

- **Part (5) : Self reported practices about foot care and foot wear:** it was comprised of two parts:

a.Current foot care practice: it was comprised of eighteen questions to be checked if it is done by patient or not such as inspecting feet daily, use a mirror to see the bottom of feet, washing feet daily and dry feet especially between the toes, putting moisturizing lotion, wear socks, change socks every day, cut toenails, wear shoes, not walking bare-footed at any time, use footwear in the shower, test water temperature, check shoes for objects, regular follow up, not using sharp instrument for cleaning nails, exercise and visiting to doctor.
Scoring system:
each statement was given a score of one if the action is done and 2 if it is not done. The total score were summed with a lower score indicated good practice and higher score indicate poor practice as follow: A score from 18 to 27 indicated good total score while a score from 28 to 36 indicated poor total score.

b. Current foot wear practice: it was comprised of seven questions to be checked if it is carried out by patient or not such as wear special shoes, wear protective inserts in shoes, wear shoes without socks, type of heel used, type of shoes, forepart of shoes and shoes material.

Scoring system:

each statement was given a score of one if the reported correct action and 2 if the patient reported incorrect action. The total score were summed with a lower score indicated good practice and higher score indicate poor practice as follow: A score
from 7 to 10 indicated good total score while a score from 11 to 14 indicated poor total score.

- **Part (6): Barriers to good foot care:** it was comprised of five questions such as not seeing well enough, not reaching the feet, thinking it is not important, not having complete information about foot care and didn't know how to care.

Content validity and reliability:

The tool was constructed by the researcher after extensive reviewing the relevant literatures and tested for content validity by 5 expertises in nursing and medical field. To ascertain relevance and completeness modification was done. The researcher used a test - retest methods to test the internal consistency of the tool, by the administration of the same tool to the same subjects under similar conditions on 2 occasions. It was reliable at 0.86.

Pilot study:

Prior to the actual study, a pilot study was conducted on 10 % of the study sample (11 diabetic patients) to test feasibility and applicability of the tool and the necessary modifications were carried out accordingly. Data obtained from those patients were not included in the current study.

Field work:

It was extended over a period of five months from the August 2013 to December 2013. Patients who agreed to participate in the study and fulfilling the inclusion criteria were included in the study. The researcher initiated data collection by assessing sociodemographic and medical data through interviewing each participant using the questionnaire part one and two. The patients' knowledge about diabetes and self reported knowledge about foot problems and foot care were assessed using the questionnaire part 3 and 4. Each participant was asked about his or her foot care and foot wear practices using the questionnaire part 5 (a, b). Then each participant was asked about his or her barriers to perform good foot care using the questionnaire part 6.

Administrative and ethical considerations:

An official letter from the Faculty of Nursing was delivered to the responsible authorities of hospitals (Menofia University Hospital and Shebin El - Kom Teaching Hospital,) and approval to conduct this study was obtained after explanation of the aim of the study. The researchers introduced themselves to every participant, explain the purpose of the study and assured them that confidentiality would be maintained throughout the study then a verbal consent was obtained from each participant.

***Statistical analysis*:**

The data collected were tabulated and analyzed by SPSS (statistical package for social science) version 17.0 on IBM compatible computer. Two types of statistics were done:Descriptive statistics: e.g. percentage (%), mean (X) and standard deviation (SD). Analytic statistics :e.g Chi-square test (χ^2): was used to study

association between two qualitative variables. Fischer exact test for 2 x 2 tables when expected cell count of more than 25% of cases was less than 5 and p-value < 0.05 was considered significant. A P-value of < 0.05 was considered statistically significant.

Results:

Table (1): Showed that, the mean age of subjects was 47.63± 9.66 years. About half of the studied sample (50.8%) was male. In relation to duration of the disease, more than one third of them (37.3%) diagnosed from 5 to 10 years. More than two thirds of them (68.6%) had family history of DM. About two thirds of patients (63.6%) had no diabetic foot care education experiences.

Table (2): Showed that, more than two thirds of subjects (68.6%) didn't have foot ulcer before. About one third of them (33.1%) didn't have risk factors for foot ulcer. Majority of them had normal nails and normal sensation in the leg (70.3% and 84.8% respectively). More than half of them had dry foot skin and inflamed skin between toes (55.9% and 51.7% respectively). Regarding present foot problems, less than half of studied sample (42.4%) had foot swelling.

Figure (1): Revealed that more than half of subjects (55.9%) had fair knowledge score about diabetes. Also less than three fourth of them (71.2%) had fair knowledge about foot problems and care.

Figure (2): Presented that, more than half of subjects (50.8% and 57.6%) had good total practice scores about current foot care and wear respectively.

Table (3): There is no significant relation between the total current foot care practices with the barrier for not following these practices.

Table (4): Showed that, more than one third of subjects (39.7% and 43.5%) who had poor foot care practice were illiterate or can read and write respectively. While more than one third (35%) of studied sample that had good foot care practice had primary or secondary education.

Figure (3): Illustrated that, the majority of subjects (81%) who had poor foot care practice didn't have diabetic foot care education practice.

Table (5): Revealed that 55% and 73.3% of subjects who had fair knowledge about diabetes and foot problem and care respectively had good foot care practice.

Table (6): demonstrated that 63.2% and 73.5% of subjects who had fair knowledge about diabetes and foot problem and care respectively, had good foot wear practice.

Discussion:

Foot problems are one of the most important complications of DM. increasing public health problems and are a leading cause of admission, amputation and mortality among diabetic patients.[21]

The findings of the present study revealed that, the mean age of studied subjects was 47.63±9.66 years. This was near the result of Milenkovic et al., [22] who reported that the mean age of their subjects was 49.12 ± 10.32 years. Also, Ali [23] reported that the mean age of her sample was around fifty years (49.9 ± 14.39 years). Regarding sex, Fareed and Vernmans et al., [23, 24] found that more than half of their participants were male. This supports the findings of the current study.

Ali [25] reported that more than two thirds of studied subjects had a family history of diabetes. This is the exact result of the present study. With respect to other patients' chronic diseases, results of this study reported that less than half of the studied subjects had hypertension. This is supported by the findings of Grant et

al.,[26] who stated that patients with diabetes often have hypertension, hyperlipidemia and other co-morbidities.

In relation to risk factors for foot ulcer, it was observed that, more than two thirds of studied subjects had one or more of certain risk factors. This was near the result of Desalu et al., [21] who stated that more than half of their subjects had some risk factors of diabetic foot. Regarding foot examination, the present study revealed that, less than 15.3% of studied subjects had decreased foot sensation and more than half of them had inflamed skin between toes. These results wear near the result of Fareed [23] study who reported that 18% of her subjects had decreased foot sensation and less than half of them had inflamed skin between toes.

With respect to subjects' knowledge about diabetes, the current study demonstrated that about one third of the study subjects had poor knowledge score about diabetes. This is lower than the result of Fareed [23] who illustrated that more than three fourth of studied sample had poor knowledge score for diabetes. This may be attributed to the differences between Fareeds' score of knowledge and the present study knowledge score. On classifying the knowledge score of study participants, about diabetes foot care, Desalu et al., [21] found that about one third had good knowledge, less than three fourth had satisfactory knowledge and less than half had poor knowledge scores. These results are completely different from the current result that stated that less than on tenth had good knowledge, about three fourth had fair knowledge and less than one fourth had poor knowledge scores. This may be due to change of research setting of both researches that may affect the results.

Concerning practice score of subjects about foot care and wear practices, the present study reported that less than half of the studied subjects had poor foot care and wear practice. These results were in line with Desalu et al., [21] who found that less than half of the sample had poor foot care practice. Also the results were near the result of Hasnain and Sheikh [27] who revealed that about one third of their subjects had poor practice**.** This poor practice of foot care in this study may be attributed to the lack of knowledge among the respondent as more than three fourth of studied sample who had poor foot care practice didn't have complete information about foot care.

In relation to self reported barriers for foot care practice, the current study revealed that the most important barrier for bad practice was the lack of information. This in line with Desalu et al., [21] who reported that lack of knowledge about foot care was reported as the first barrier for practice. Moreover Ali [25] concluded that lack of training such skills contributes to inadequate self care skill. This is in agreement with the result of the present study which presented that less than half of subjects who had poor practice didn't know how to do the care. From the researcher point of view this is due to there is a relation between good information and good practice due to the fact that the patients with good information about foot care were able to good practice.

As regard the relation between current foot care practice with diabetic foot care education, it was found that the majority of subjects who had poor foot care practice didn't have diabetic foot care education experience. The relationship between education experience and foot care among diabetic patients has been observed in similar studies in India, Iran and Pakistan where illiterate patients were

the least knowledgeable Hasnain and Sheikh. [27] It might be due to the association between education and knowledge may be due to the fact that, educated patient were able to read and understand some of educational supportive materials and also use information technology to obtain more information about the disease.

Diabetic patient behavior toward foot care was improved after educational intervention. [24] This is in agreement with the result of our study which found that more than half and about three fourth of studied subject who had fair knowledge about diabetes and foot care and problem respectively had good foot care practice. But Hasnaian and sheikh [27] showed in their study that there was a gap in the knowledge and practice of diabetic patient regarding foot care in diabetic clinics. Also, Milenkovic et al.,[22] emphasized that diabetes related knowledge not necessary mean appropriate behavior practice .

Conclusion:

Based on the results of this study, it can be concluded that:

The knowledge of diabetes and diabetes foot problems and care among studied subjects were fair among more than half of them, while their practice about foot care and wear were good among half of them. Low level of diabetic foot care education practice has significant association with current foot care practice. Incomplete information about foot care is the most important barrier associated with poor foot care practice.

Recommendations:

Based on the findings of the current study, the following recommendations can be suggested:

- A diabetes self care hand book about diabetes information, foot problems, prevention and care should be available for all diabetic patients.
- Specialized team for diabetic foot care should be available in outpatient clinic to assess, prevent and manage any foot problems. Also this team should provide continuous education for diabetic patient about proper foot care.
- Long term study would be desirable to ensure long term self management behavior and improve knowledge about diabetes care with careful consideration about presence of control group.
- A replication of the study using a large probability sample from different geographical areas to attain more generalization of the results was recommended.

Table (1): Distribution of the studied sample by biosociodemographic characteristics

Biosociodemographic data	The studied sample (N = 118)	
Age		
Mean ± SD	47.63± 9.66	
	No	**%**
Sex		
▪ Male	60	50.8
▪ Female	58	49.2
Educational level		
▪ Illiterate	35	29.7
▪ Read and write	36	30.5
▪ Primary & secondary	29	24.6
▪ University	18	15.3
Duration of DM		
▪ < 5 years	37	31.4
▪ 5 – 10	44	37.3
▪ 10 years	37	31.4
Family history DM		
▪ Yes	81	68.6
▪ No	37	31.4
Diabetic foot care education experiences	43	36.4
▪ Yes	75	63.6
▪ No		
Other chronic diseases*		
▪ Heart disease	7	5.9
▪ Osteoarthritis	12	10.2
▪ Bronchial asthma	36	30.5
▪ Hypertension	52	44.1
▪ Cancer	2	1.7
▪ No	9	7.6

** Some subjects chose more than one answer*

Table (2): Distribution of studied sample by the results of foot assessment

Foot assessment	The studied sample (N = 118)	
	No	%
Past history of foot ulcer		
▪ Yes	37	31.4
▪ No	81	68.6
Risk factors for foot ulcer *		
▪ Foot deformity	9	6.7
▪ Poor vision	20	16.9
▪ Previous ulcer	24	20.3
▪ Defective circulation	35	29.7
▪ Neuropathy	2	1.7
▪ None	39	33.1
Action taken with ulcer *(N = 37)		
▪ Nothing	2	5.4
▪ Dressing	20	54.1
▪ Consulting doctor	22	59.4
▪ Taking medication	7	18.9
Foot examination for each foot		
➢ **Nails**		
▪ Normal	83	70.3
▪ Ingrown	35	29.7
➢ **Sensation**		
▪ Present	100	84.8
▪ Absent	18	15.3
➢ **Skin of foot ***		
▪ Dry	66	55.9
▪ Fissure	37	31.4
▪ Normal	27	22.9
➢ **Skin between toes**		
▪ Normal	57	48.3
▪ Inflamed	61	51.7
Present foot problems		
▪ Wound	8	6.8
▪ Swelling	50	42.4
▪ Redness	25	21.2
▪ No	35	29.7

** Some subjects chose more than one answer*

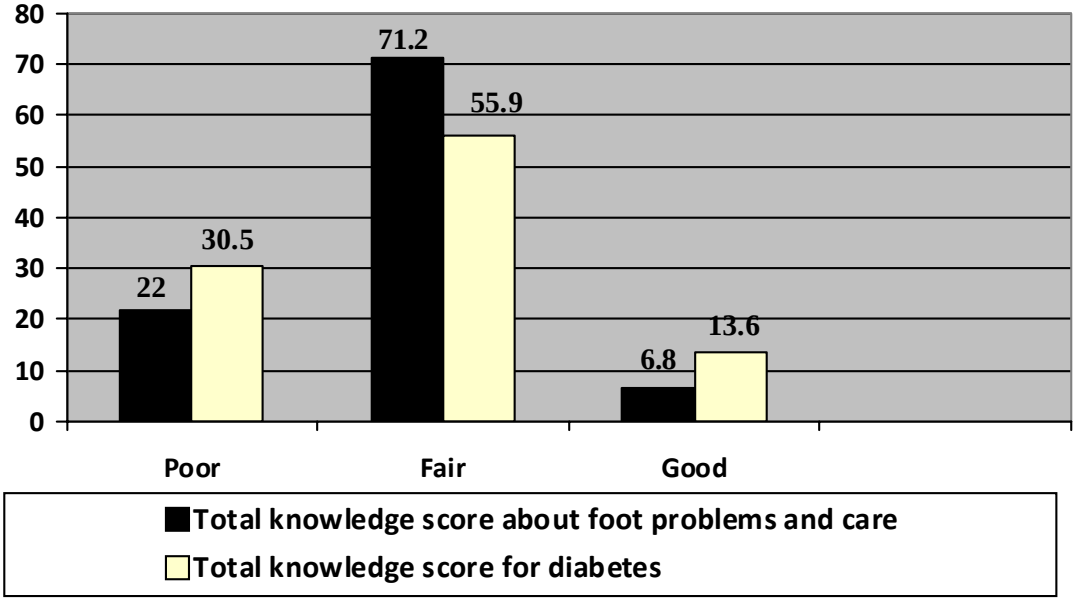


Figure (1): Distribution of total knowledge score about diabetes and foot problems and care of the studied sample

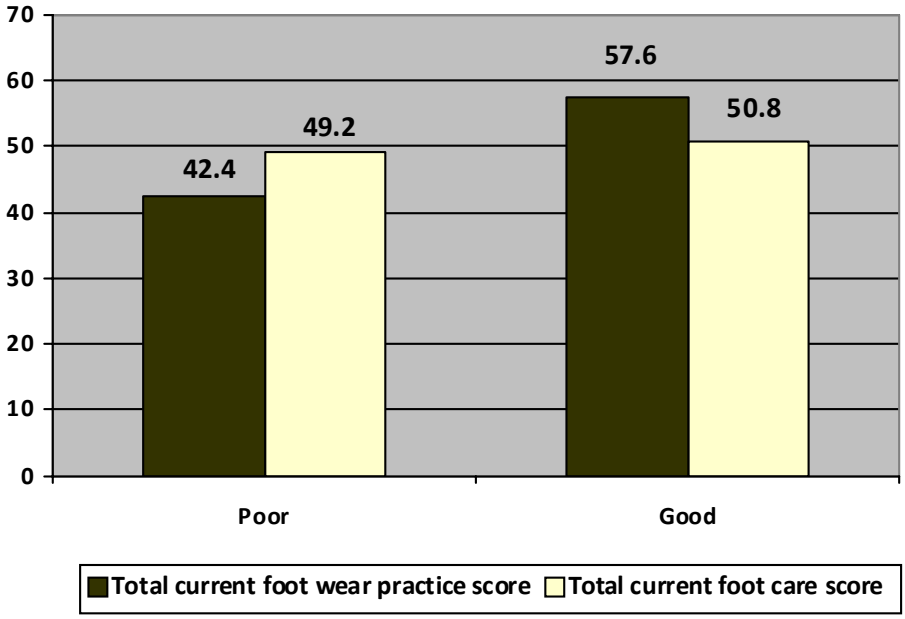


Figure (2): Distribution of total scores of current foot care practice and current foot wear practice of the studied sample.

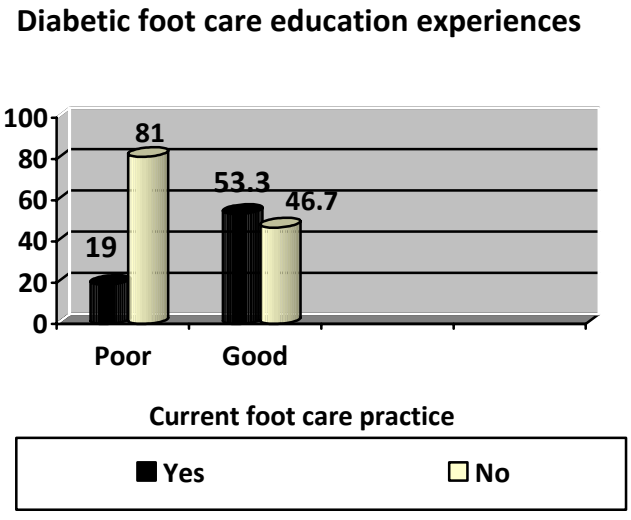
Table (3): Relation between total current foot care practices and the barriers for not following these practices among studied sample

Barriers	Total Current foot care practice (N = 118)				X^2	P-value
	Good N = 60		Poor N = 58			
	No	%	No	%		
▪ Not seeing well	33	55.0	26	44.8	1.22	0.27
▪ Not reach the feet	28	46.7	32	55.2	0.85	0.35
▪ Thinking it is not important	43	71.7	25	43.1	9.85	0.002
▪ Not have complete information about foot care	48	80.0	45	77.6	0.10	0.75
▪ Didn't know how to do the care	20	33.3	28	48.3	2.73	0.10

Table (4): Relation between current foot care practices and educational level of the studied sample

Educational level	Current foot care practice (N = 118)				Test of significance	P- value
	Good		Poor			
	No	%	No	%		
					10.59	0.01**
▪ Illiterate	12	20.0	23	39.7		
▪ Read and write	16	26.7	20	34.5		
▪ Primary & secondary	21	35.0	8	13.8		
▪ University	11	18.3	7	12.1		

*** Significant result*



Test of significance =15.04 P -value < 0.001

Figure (3): Distribution of studied sample as regard current foot care practices and diabetic foot care education

Table (5): Relation between current foot care practices with knowledge score of the studied sample

Patients' knowledge score	Current foot care practice (N = 118)				X^2	P-value
	Good N = 60		Poor N = 58			
	No	%	No	%		
Patients' Knowledge about diabetes						
▪ Good	15	25.0	1	1.7	16.22	*0.001
▪ Fair	33	55.0	33	56.9		
▪ Poor	12	20.0	24	41.4		
Patients' Knowledge about foot problems and care:						
▪ Good	5	8.3	3	5.2	1.27	0.53
▪ Fair	44	73.3	40	69.0		
▪ Poor	11	18.3	15	25.9		

Table (6): Relation between current foot wear practice with knowledge scores of the studied sample

Patients' knowledge score	Current foot wear practice (N = 118)				X^2	P- value
	Good (N = 68)		Poor (N = 50)			
	No	%	No	%		
Patient Knowledge about diabetes						
▪ Good	12	17.6	4	8.0		
▪ Fair	43	63.2	23	46.0	10.33	0.006*
▪ Poor	13	19.1	23	46.0		
Patient Knowledge about foot problems and care:	6	8.8	2	4		
▪ Good	50	73.5	34	68.0	1.27	0.53
▪ Fair	12	17.6	14	28.0		
▪ Poor						

References:

1. Bethesda MD.: National diabetes statistics fact sheet: General information and national estimates on diabetes in the United States. US dept. Health and human services, *National institute of health* 2003.
2. International Diabetes Federation Press release Karachi, Pakistan-26 February Diabetes kills without distinction. (Online) 2009 (Cited 2007 June 15). Available at: http://www.idf.org/home/index.cfm?unode=DE93DC2D-468B-4C75-91DA-69314504BD0E.Retrieved on 18- 6-2013
3. Heissam KH.: Prevalence of distal symmetric neuropathy among type 2 diabetic patients in Ismailia 2003. Available at: http://www.lifesciencesite.com Retrieved on 20 -1 -2014
4. Shawky NA. & El Din Amin GE.: Epidemiology of Diabetes Mellitus in Egypt. The *Life Science Journal*; 2013; (10) 2:1082-1091
5. Wild S., Roglic G., Green A., Sicree R. & King H.: Global Prevalence of Diabetes: Estimates for the year 2000 and projections for 2030. *Diabetes Care.* 2004; 27 (1):1047– 53
6. International Diabetes Federation, Diabetes atlas. 2012. Available at: http://www.idf.org/diabetesatlas/5e/middle-east-and-north-africa. Retrieved on: 4-3-2013
7. Anandi C., Alaguraja D., Natarajan V., Ramanathan M., Subramaniam CS., Thulasiram M., & Sumithra S.: Bacteriology of diabetic foot lesions. *Indian J Med Microbial* .2004; 22 (1) : 175- 78.
8. Khanolkar MP., Bain SC. & Stephens JW.: The diabetic foot. *QJM.* 2008; (1):685- 95.
9. Kumar P &Clark M.: *Diabetes Mellitus and other disorders of metabolism*. Spain: Elsevier Saunders 2005; 1101-30.
10. International Diabetes Federation. Time to Act: diabetes and foot care. Brussels: *International Diabetes Federation*, 2005; Volume 366, Issue 9498, 12–18 November, 1719 - 24
11. Boulton AJ., Vileikyte L., Ragnarson Tennvall G. & Apelqvist J.: The global burden of diabetic foot disease. *Lancet*. 2005; 366 (1): 1719-24.
12. Shankar E., Mohan V., Premalatha G., Srinivasan R.& Usha A.: Bacterial etiology of diabetic foot infections in South India. *Eur J Intern Med*; 2005; 16:567-70.
13. Calle- Pascual A., Duran A., Beneda A., Calvo M., Charro A., & Diaz J.: Reduction in Foot Ulcer Incidence. *Diabetes Care*; 2001; 24: 405- 7.
14. Pollock R. D., Unwin N. C & Connolly V.: Knowledge and practice of foot care in people with diabetes. *Diabetes Research and clinical practice*, 2003; 64: 117- 22.
15. Cooper H., Booth K. & Gill G: Patients' perspectives on diabetes health care education. *Health Educ Res;* 2003:18(2)**:**191-206.
16. Glasgow E. & Strycker A.: Preventive care practices for diabetes management in two primary care samples. *Am J Prev Med;* 2000; 19(1)**:**9-14
17. Apelqvist J., Bakker K., van Houtum WH. & Schaper NC.: Practical guidelines on the management and prevention of the diabetic foot: based upon the International Consensus on the Diabetic Foot (2007) prepared by the International Working Group on the Diabetic Foot. *Diabetes Metab Res Rev* .2008 ;24 Suppl (1):S181-7
18. American Diabetes Association. Standards of medical care in diabetes. *Diabetes Care.* 2012; 35 (1):511-63.
19. Sayeed M. A., Banu A., Khan A. & Hussain M.: Prevalence of diabetes and hypertension in a rural population of Bangladesh. Inside Bangladesh. *Square pharmaceutical LTD Bangladesh.* 2005; 3(4): 1-7.
20. Norris SL., Lau J., Smith SJ., Schmid CH. & Engelgau M.: Self-management education for adults with type-2 diabetes: a meta-analysis of the effect on glycemic control**.** *Diabetes Care.* 2002; 25(7)**:**1159-71.
21. Desalu O., Salawu F., Jimoh A., Adekoya O., Bausari O. & Olokoba

A.: Diabetic foot care: Self reported knowledge and practice among patients attending three tertiary hospital in Nigeria. *Chana medical journal*. 2011; 45(2):60-5.

22. Milenkovic T., Gavrilovic S., Percant V. & Petrovski G.: Influence of diabetic education on patient well being and metabolic control. *Diabetologia Croatica.* 2004; 33(3): 91- 6.
23. Fareed M.: Effect of education on Knowledge, self management behaviors and self efficacy of patient with type 11 diabetes Mellitus. The 4th International Scientific Nursing Conference, Faculty of nursing, Helwan University in Collaboration with Kennesaw University (KSU), USA Innovations in Nursing Researches, *Education and Practice*; 23- 24 April 2012: P56.
24. Venmans M., Gorter K., Hak E. & Rutten G.: Short term effects of an educational program on health seeking behavior for infections in patients with type 2 diabetes. *Diabetes care.* 2008; 31(3): 402- 7.
25. Ali Z.: Health and knowledge progress among diabetic patients after implementation of a nursing care program based on their profile. *Journal of diabetes and metabolism.* 2011; 2(121).
26. Grant R., Cagliero E., Murphy-Sheehy P., Singer D., Nathan D. & Meigs J.: Comparison of hyperglycemia, hypertension and hypercholesterolemia management in patients with type 2 diabetes. *Am J Med 2002*; 112(1): 603- 9.
27. Hasnain S. & Sheikh N.: Knowledge and practices regarding foot care in diabetic patients visiting diabetic clinic in Jinnah hospital, Lahore. *Journal of Pakistan medical association.* 2009;191(1):1-4

العناية الذاتية للقدم: المعلومات،الممارسات والمعوقات بين مرضى السكري

ماجدة معوض محسن[١]، آمال السيد شحاتة[٢]
[١] أستاذ تمريض صحة المجتمع- كلية التمريض -جامعة المنوفية ، [٢] أستاذ مساعد التمريض الباطنى والجراحى - كلية التمريض - جامعة المنوفية

مقدمة :
القدم السكري هي واحدة من أكثر مضاعفات مرض السكري وهى السبب الرئيسي في دخول المستشفى بينهم. وتعتبر مشاكل القدم السكري هي المسئولة عن ما يقرب من ٥٠ ٪ من كل مرضي السكري لدخول المستشفى وبتر الأطراف و الوفيات.

هدف البحث:
أجريت هذه الدراسة لتقييم العناية الذاتية للقدم: المعلومات ، الممارسة ، والمعوقات بين مرضى السكري.

طرق و أدوات البحث:
عينة و مكان الدراسة:
أجريت هذه الدراسة على العينة المتاحة والتي تكونت من ١١٨ مريض سكر بالغ من الذكور والإناث لغرض هذه الدراسة. وقد أجريت الدراسة في العيادات الخارجية و القسم الداخلي في مستشفى جامعة المنوفية ومستشفى شبين الكوم التعليمي ، في محافظة المنوفية.

أدوات جمع البيانات:
تم جمع البيانات باستخدام أداة واحدة وتضمنت ستة أجزاء :

- البيانات الشخصية والاجتماعية .
- التاريخ الطبي والبيانات الطبية.
- معلومات المريض عن مرض السكري .
- معلومات المريض عن مشاكل القدم و كيفية العناية به.
- ممارسات المريض حـول العنايـة بالقـدم و رداء القدم .
- معوقات العناية الجيدة بالقدم.

النتائج :
أسفرت نتائج الدراسة عن الآتى:

- متوسط العمر للمرضى ٤٧.٦٣ ± ٩.٦٦ سنة. ما يقرب من نصف العينة (٥٠.٨ ٪) ذكور.
- حوالي ثلثي المرضى (٦٣.٦ ٪) لا توجد عندهم تجارب تعليمية عن كيفية العناية بالقدم السكري.
- أكثر من ثلاثة أرباع المرضى (٧٧.٦ ٪) الذين كان لديهم قلة فى ممارسة العناية بالقدم وليس لديهم معلومات كاملة عن كيفية العناية بالقدم (٨٠ ٪).
- الغالبية من المرضى(٨١ ٪) الذين كان لديهم فقر فى ممارسة العناية بالقدم السكري لم يكن لديهم معلومات عن كيفية ممارسة العناية بالقدم .
- ٥٥ ٪ و ٧٣.٣ ٪ من المرضى الذين كانوا على علم كافي حول مرض السكري ومشاكل القدم و العناية به كان عندهم ممارسة وعناية جيدة بالقدم.
- ٦٣.٢ ٪ ٧٣.٥ ٪ من المرضى الذين لديهم معلومات كافية حول مرض السكري ، و مشاكله والعناية بالقدم على التوالي، كان لديهم حسن ممارسة رداء القدم.

الخلاصة:
انخفاض مستوى تعلم كيفية ممارسة العناية بالقدم لديه ارتباط احصائى كبير بممارسة العناية بالقدم . المعلومات الغير كاملة عن العناية بالقدم هو المعوق الأكثر أهمية وارتباط بسوء الممارسة بالعناية بالقدم .

التوصيات:
فى ضوء النتائج الرئيسية للدراسة الحالية تم اقتراح التوصيات التالية:

- يجب توفير كتيب تعليمي لمرضي السكر يحتوي علي معلومات عن مرض السكر، مشاكل القدم وطرق وقايتها والعناية بها.
- يجب توافر فريق متخصص في العيادات الخارجية لتقييم ومنع وعلاج أي مشاكل للقدم. وينبغي لهذا الفريق أن يوفر التعليم المستمر لمريض السكري حول العناية المناسبه للقدم.