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Knowledge and practice of foot care amongst diabetic patients attending a tertiary care hospital of Kolkata, India

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Abstract

Introduction: Prevalence of Diabetic Foot Ulcer in the southern part of India is higher compared to eastern, northern and western India.

Objectives: To assess the knowledge and practices of foot care among patients attended diabetic clinic of a tertiary care hospital of Kolkata.

Materials and Method: A cross-sectional study was carried out from 01.05.2016 to 28.05.2016 among275 patients attending the Diabetic OPD using a pre designed structured pre tested schedule.

Data Analysis: Epi-info version 6 and SPSS Version 16.0.

Results: About 71.27% & 40% had good knowledge & practice respectively; 62.91% checked their feet daily; 42.91% inspect their footwear regularly; 90.81% used footwear outdoors; 6.91% used footwear indoor; washing & drying of feet was present in 78.91% & 18.90% respectively; healthy nail trimming was found in 61.81% of the patients. Gender, residence, education, occupation, income, family history of diabetes, duration, regular use of medication was found to be associated with both knowledge & practice.

Conclusions: Patient education on prevention of foot ulceration should be incorporated into the routine care of diabetic patients both in the hospital and in the community.

Keywords: Knowledge, Practice, Diabetic foot care, Diabetic foot ulcer.

Introduction

Diabetes is an important public health problem, and one of four priority non communicable diseases (NCDs) which is targeted for action by global leaders. Both the number of cases and the prevalence of diabetes have been steadily increasing over the past few decades worldwide. The number of diabetic people has risen from 108 million in 1980 to 422 million in 2014[(1)] and the prevalence of adult diabetes has risen from 4.7% in 1980 to 8.5% in 2014.[(1)] Importantly diabetes prevalence has been rising more rapidly in middle- and low-income countries.[(1)] In 2012, an estimated 1.5 million deaths were caused by diabetes directly. Moreover another 2.2 million deaths were attributable to high blood glucose.[(1)] WHO projected that diabetes will be the 7th leading cause of death in 2030.[(2)] Diabetic foot ulcer (DFU) is one of the common but often neglected complications of diabetes. The annual incidence of DFU is 2.5% and it is estimated that 15% of all patients with diabetics will suffer from diabetic foot ulcers anytime during their life.[(3)] Accurate figures are difficult to obtain for the prevalence of Diabetic foot ulcers, it ranges from 2%-12%.[(4,5)]

India leads the world with largest number of diabetic subjects being termed as "diabetes capital of the world". According to the Diabetes Atlas 2006 published by the International Diabetes Federation, the number of people with diabetes in India currently around 40.9 million is expected to rise to 69.9 million by 2025 unless urgent preventive steps are taken.[(6)]

Studies revealed that the prevalence of Diabetic Foot Ulcer in the southern part of India is higher: 13.5 per cent in Chennai, 12.4 per cent in Bangalore, 16.6 per cent in Hyderabad; compared to eastern India (Kolkata)11.7 per cent; northern India (New Delhi), 11.6 per cent; and western India (Mumbai), 9.3 per cent.Diabetic patients are at high risk of developing foot ulcers. But mere diagnosis and treatment is not sufficient to tackle this important public health problem. Awareness in part of the patient and community is imperative. To generate awareness it is essential to find out the existing level of knowledge and relevant practice of this high risk group.

Although there is a large amount of literatures on diabetic foot care and it's importance, there are limited published data on knowledge and practices of foot care among diabetic patients in India, specifically in West Bengal. With this background a study was conducted to assess the knowledge and practices of foot care among patients who attend diabetic clinic of a tertiary care teaching hospital of Kolkata, India.

Materials and Method

Type, design, timing & area of study: An Institution based observational descriptive study, cross-sectional in design was carried out from 01.05.2016 to 28.05.2016, a duration of 28 days (4 weeks) at Diabetic OPD of a tertiary care teaching hospital of Kolkata.

Study population: Patients attending the Diabetic OPD of a Tertiary care teaching hospital of Kolkata during data collection period.

Inclusion Criteria: Known diabetic patients, age 20 years & above, both gender, irrespective of presence of foot ulcer, who gave informed written consent to participate in the study.

Exclusion Criteria: Seriously ill patients, & who didn't gave consent.

Study Variables: Age(in years), Sex(Male/Female), Residence(Urban/Rural), Education(Illiterate, Primary School, Middle School, Secondary, Higher Secondary, Graduate & above),Occupation(Unskilled, Skilled, Service, Business, Student, Housewife, Unemployed), Per Capita Monthly Income (PCMI)(As per modified B. G. Prasad Scale May, 2015), Addiction(Yes/No; if yes types), clinical profile,questions of knowledge & practices.

Study Tool: A predesigned, structured, pretested schedule, OPD tickets, & investigation reports. The schedule was designed by a research team consisting of experts from endocrinology & community medicine; piloted among 30 randomly selected patients attended the same setting to assess it's clarity, reliability & validity. After some minor modifications the schedule was re-evaluated by the same panel of experts. The schedule had three parts- the first part consisted of socio-demographic data (7 items -age, gender, residence, educational level, occupation, Per Capita Monthly Income/PCMI, & addiction); the second part was concerned about patient's clinical profile-FBS,PPBS, duration, type of medication use, regular use of medication, family history. The third part assessed the participant's knowledge & practices using 10 statements. The participants who were included in the pilot study were not included in the whole study sample.

Study Technique: Face to face exit interview, clinical examination & review of records.

Sample Size: Sample size was determined by applying the formula $4pq/L2$ where p is the proportion of study population having good practices, q is the proportion of study population not having good practices, and L is allowable error of 5%. Considering 19.4% had good practice score about care of diabetic foot,[7] with a type-1 error of 5% (alpha = 0.05) and 95% level of confidence, the sample size was calculated as $4 \times 19.4 \times 80.6/(5)2 = 250$; nonresponse rate was taken as 10%; hence, the target has been set to reach 275 participants to achieve the objectives of the study.[7]

Sampling technique: Selection of the study population was done by non-randomized convenient sampling technique among patients attending diabetic OPD.

Methods of data collection: Patients were approached at exit point of diabetic OPD by explaining the purpose and nature of the study. They were ensured about their anonymity and confidentiality. Then data collection was done by face-to-face exit interview, clinical examination & reviewing of records after obtaining their informed written consent. Following this, each patient received face-to-face health education regarding self-care which included advice for diet, regular exercise, timely medication, blood glucose monitoring and foot care. At last, any questions they had were answered.

The questions covered foot care knowledge and practices in the areas of feet inspection, feet washing & drying techniques, nail care and foot wear care. The responses were in the format of 'Yes'; 'No' or 'Don't know'. Each 'Yes' answer carried one (1) mark and 'No' or 'Don't know' answer carried zero(0) mark. The points were then added up knowledge and practice categories separately. Total possible score was 0-10, with higher scores indicating better knowledge & practices. Study population with scores of 8-10(>=80%) were considered as having "good knowledge"; scores of 6-7(60%-70%) were interpreted as "satisfactory knowledge" and scores from 0-5 (<=50%) were described as "poor knowledge". Similarly we divided the diabetic foot care score into poor (0-5), satisfactory (6-7) and good (8-10) categories respectively.

Data Analysis: Data were entered in Microsoft Office Excel 2010(Microsoft Corp, Redmond, WA, USA) and analysis was done using Epi-info version 6 software (Centres for Disease Control and Prevention, Atlanta, GA, USA, 2001) and Statistical Package for the Social Sciences SPSS Inc. Released 2007. SPSS for Windows, Version 16.0. Chicago. Results were expressed by tables (numbers &percentages) .We explored the association of diabetic foot care knowledge & practice with variables such as age, gender, residence, education, occupation, income, addiction, family history, duration, regular use of medication by using Chi square test. A p value of <0.05 was interpreted as significant.

Operational definitions:

A. Residence:

1. Rural: Area under Panchayat
2. Urban: Area under Municipality/Corporation

B. Educational Qualification:

1. Illiterate: A person aged 7 years & above can't read & write with understanding in any language.
2. Primary Education: Class IV pass
3. Middle School Education: Class VIII pass
4. Secondary School Education: Class X pass
5. Higher Secondary Education: Class XII pass
6. Graduate and above

C. Occupation:

1. Service: who are engaged in specific job like engineers, legal professions, teachers, clerk etc.
2. Business: who are engaged in trade business, like shop owners etc.
3. Unskilled worker: who are casual workers and are engaged by others on wages on daily basis.

4. Skilled workers: who are engaged in occupation which requires training i.e. carpenter, electrician, driver etc.
5. Housewife: A married woman whose main occupation is caring for her family, managing household affairs, and doing housework.
6. Student: A person formally engaged in learning specially enrolled in a school or college.
7. Unemployed: a person without a paid job but available to work and searching for a employment.

D. Addiction:

1. Any substance/drug which is self- administered for nonmedical reasons, in quantities and frequencies which may impair an individual's ability to function effectively, and may result in social, physical or emotional harm.
2. Tobacco addiction is a strong craving for nicotine, a chemical in tobacco that makes it hard for people to quit tobacco despite many health risks.
3. Alcoholism: a physical dependence on alcohol.

Results

We enrolled a total of 275 patients in the study; 53.82% were males and 46.18% were females; 52.36%were below the age of 50 years; mean age of the patients was 49.8 ± 10.8 years; urban: rural was almost similar; 19.27% were illiterate; 33% were housewives; 21.82% were both in Class I & II respectively as per Modified B.G. Prasad Scale 2015; and 29% had any type of addiction. The characteristics of the patients were shown in Table 1.

Table 2 revealed clinical profile of the study population. When considering duration of diabetes, 19.64% has been having diabetes for 10 years or more, 80.73% had positive family history of diabetes; 30.18% had other chronic diseases; only Insulin was used by 8.73% patients for their control of diabetes; 69.82% used oral hypoglycaemic agents(OHA); and rest used both OHA & insulin (19.63%).

Diabetic awareness score & foot care practice score were shown in Table 3.The mean knowledge & practice score were 6.8 ± 3.2 & 4.2±2.4 respectively. About 71.27% & 40% had good knowledge & practice respectively.

The distributions, of the response to questions related to the knowledge & practice of foot care were shown in Table 4. Showed that around 62.91% of the diabetics checked their feet daily and 42.91% inspect their footwear regularly. The use of footwear outdoors was found among 90.18% of the patients, whereas indoor footwear use was found in 6.91% patients. Around 56% of patients reported that their footwear was fitting properly and 69.45% reported that they change their footwear whenever it gets damaged. Washing and drying of feet was present in 78.91% & 18.90% of the patients and healthy nail trimming using a curved nail clipper was found in 61.81% of the patients.

Association of demographic factors with the knowledge and practice of foot care were shown in Table 5. Male gender, Urban residence, Higher Education, Occupation, Higher income, Positive family history, Longer duration of diabetes, regular use of medication was found to be associated with both diabetes knowledge & practice (*P* values <0.05).

Table1: Distribution of the study population according to socio demographic variables (N=275)

Socio demographic variables	Number (n)	Percentage (%)
Age group(in years)		
20-30	28	10.18
30-40	40	14.54
40-50	76	27.64
>50	131	47.64
Gender		
Male	148	53.82
Female	127	46.18
Residence		
Urban	138	50.18
Rural	137	49.82
Educational status		
Illiterate	53	19.27
Just literate	34	12.36
Primary school	43	15.63
Middle school	39	14.18
Secondary	20	07.28
Higher secondary	44	16.00
Graduation & above	42	15.28
Occupation		
Housewife	91	33.10
Unskilled labour	25	09.09
Skilled labour	24	08.72
Student	24	08.72
Business	63	22.91
Service	48	17.46
Per capita monthly income(PCMI)		
Upper(I)(>=6277)	60	21.82
Upper middle(II)(3139-6276)	60	21.82
Lower middle(III)(1883-3138)	52	18.91
Upper lower(IV)(942-1882)	63	22.91
Lower(V)(<942)	40	14.54
Addiction		
Present	80	29.09
Absent	195	70.91
Total	**275**	**100.00**

Table 2: Clinical profile of the study population (N=275)

Clinical profile	Number(n)	Percentage(%)
Duration of diabetes since diagnosis (in years)		
<10	221	80.36
10-20	44	16.00
>20	10	03.64
Family history of diabetes		
Yes	222	80.73
No	53	19.27
Current use of medications		
Oral hypoglycemic agents(OHA)	192	69.82
Insulin	24	08.73
Both OHA and insulin	54	19.63
Others	05	01.82
Regular use of medication		
Yes	242	88.00
No	33	12.00
Other co morbidities(Hypertension, High cholesterol etc)		
Yes	83	30.18
No	192	69.82
Fasting blood sugar		
<126	155	56.36
>=126	120	43.64
PP Blood Sugar		
<200	213	77.45
>=200	62	22.55
Total	**275**	**100.00**

Table 3: Distribution of the study population as per Awareness score (N=275)

Knowledge	Number(n)	Percentage (%)
Adequate(>=60%)	196	71.27
Inadequate(<60%)	79	28.73
Practice		
Good (>=60%)	165	60.00
Bad(<60%)	110	**40.00**
Total	**275**	**100.00**

Table 4: Response to questions assessing knowledge and practices (N=275)

Sl No.	Awareness	Knowledge		Practice	
		n	%	n	%
1.	Daily inspection of feet	192	69.82	173	62.91
2.	Daily washing of feet	231	84.00	217	78.91
3.	Drying feet after washing	80	29.09	52	18.90
4.	Daily inspection of interdigital space	137	49.82	109	39.64
5.	Trimming toe nails straight	195	70.91	170	61.81
6.	Wearing comfortable footwear	201	72.83	154	56.00
7.	Inspection of footwear daily	151	54.91	118	42.91
8.	Footwear use outdoors	254	92.36	248	90.18
9.	Footwear use indoors	45	16.37	19	06.91
10.	Talcum powder usage for keeping interdigital spaces dry	41	14.90	16	05.82

- **Wrong: False and don't know**

Table 5: Association of awareness with socio demographic factors (N=275)

Variables	Knowledge				Practice		
	Adequate (N=196)	Inadequate (N=79)	Total N=275)	Chi square; p value	Good (N=187)	Bad (N=88)	Chi square; p value
Age							
<=40	49(72.06)	19(27.94)	68(24.72)	**0.02;0.86**	41(60.29)	27(39.71)	**2.01;0.15**
>40	147(71.01)	60(28.99)	207(75.28)		146(70.53)	61(29.47)	
Gender							
Male	113(76.35)	35(23.65)	148(53.82)	**4.03;0.04**	109(73.65)	39(26.35)	**4.15;0.04**
Female	83(65.35)	44(34.65)	127(46.18)		78(61.42)	49(38.58)	
Residence							
Urban	106(76.81)	32(23.19)	138(50.18)	**4.15;0.04**	102(73.91)	36(26.09)	**3.92;0.04**
Rural	90(65.70)	47(34.30)	137(49.82)		85(62.04)	52(37.96)	
Education							
Illiterate	20(37.74)	33(62.26)	53(19.27)	**46.1;0.00**	20(37.74)	33(62.26)	**41.3;0.00**
Just literate	23(67.65)	11(32.35)	34(12.36)		22(64.71)	12(35.29)	

Primary school	29(67.44)	14(32.56)	43(15.63)		25(58.14)	18(41.86)	
Middle school	31(79.49)	08(20.51)	39(14.18)		30(76.92)	09(23.08)	
Secondary	16(80.00)	04(20.00)	20(07.28)		15(75.00)	05(25.00)	
Higher secondary	38(86.36)	06(13.64)	44(16.00)		37(84.09)	07(15.91)	
Graduation & above	39(92.86)	03(07.14)	42 (15.28)		38(90.48)	04(09.52)	
Occupation							
Housewife	56(61.54)	35(38.46)	91(33.10)	**11.9;0.03**	54(59.34)	37(40.66)	**12.6;0.02**
Unskilled labour	15(60.00)	10(40.00)	25(09.09)		13(52.00)	12(48.00)	
Skilled labour	17(70.83)	07(29.17)	24 (08.72)		16(66.67)	08(33.33)	
Student	19(79.17)	05(20.83)	24(08.72)		17(70.83)	07(29.17)	
Business	48(76.19)	15(23.81)	63(22.91)		47(74.60)	16(25.40)	
Service	41(85.42)	07(14.58)	48(17.46)		40(83.33)	08(16.67)	
PCMI							
Upper(I)	50(83.33)	10(16.67)	60(21.82)	**16.3; 0.00**	48(80.00)	12(20.00)	**14.7;0.00**
Upper middle(II)	49(81.67)	11(18.33)	60(21.82)		47(78.33)	13(21.67)	
Lower middle(III)	36(69.23)	16(30.77)	52(18.91)		34(65.38)	18(34.62)	
Upper lower(IV)	40(63.49)	23(36.51)	63(22.91)		38(60.32)	25(39.68)	
Lower(V)	21(52.50)	19(47.50)	40(14.54)		20(50.00)	20(50.00)	
Addiction							
Present	57(71.25)	23(28.75)	80(29.09)	0.11; 0.74	55(68.75)	25(31.25)	**0.29;0.86**
Absent	135(69.23)	60(30.77)	195(70.91)		132(67.69)	63(32.31)	
Duration of Diabetes							
<10 years	151(68.33)	70(31.67)	221(80.36)	**4.77; 0.02**	143(64.71)	78(35.29)	**5.61;0.01**
>=10 years	45(83.33)	09(16.67)	54(19.64)		44(81.48)	10(18.52)	
Family H/O Diabetes							
Yes	165(74.32)	57(25.68)	222(80.73)	**5.24; 0.02**	161(72.52)	61(27.48)	**9.21;0.00**
No	31(58.49)	22(41.51)	53(19.27)		27(50.94)	26(49.06)	
Regular use of medication							
Yes	181(74.79)	61(25.21)	242(88.00)	**12.2; 0.00**	177(73.14)	65(26.86)	**21,3;0.00**
No	15(45.45)	18(54.55)	33(12.00)		11(33.33)	22(66.67)	

Discussion

Among diabetic patients; the lifetime risk of developing diabetic foot ulcer (DFU) has been estimated to be 15 %; and could be as high as 25 %. To prevent & reduce this complication of diabetes mellitus, emphasis should be put on importance of self-care of foot by the diabetics.

Knowledge of foot care: The importance of knowledge regarding foot care in preventing foot ulcers among diabetic patients is a widely accepted fact. Around one third of the patients of our study had a poor overall knowledge regarding diabetic foot care, which can be compared with the findings of earlier studies by different investigators globally.[7,9,11,12,13,14,16]

In the present study 70% had good knowledge about foot care; the corresponding figures were 40.7% by Saurabh et al at Puducherry,[7] 30.1% by Desalu et al at Nigeria,[9] 42% by Muhammad-Lutfi et al at Malayasia,[11] 65% by Vankrude et al at Kancheepuram,[12] 75% by Jinadasa et al at Srilanka,[13] 24% by Gholap et al st Karad,[14] and 29.3% by Hasnain et al at Lahore.[16]

This flaw in knowledge can be explained by lack of infrastructure (overcrowding of clinics, shortage of trained staffs, lack of knowledge among health care providers) to conduct an effective health education programme for diabetics. Thus intensive effort by health education is necessary to reinforce self-care among them.

Foot Care Practice: In this study, about 60% had good diabetic foot care practice which was in agreement with some previous studies worldwide e.g.; Puducherry (55.3%)[7] and Srilanka(52%).[13] However study at Nigeria,[7] Karad,[14] Lahore,[10] and Saeed et al at Islamabad[17] demonstrated that only 10.2%, 22%, 14%, & 6% respectively had good diabetic foot care practice. The poor foot care practice in these studies might be due to lack of knowledge among the study population.

Practice of daily foot inspection found in our study(62.91%) was almost similar to that of earlier Puducherry by Saurabh et al[7] (47.6%), Nigeria by Desalu et al(40.9%),[9] Tanzania by Chiwanga et al (38%),[10] Malayasia by Muhammad-Lutfi et al (56.7%),[11] Srilanka by Jinadasa et al(65.5%),[13] Lahore by Hasnain et al (35.5%),[16] and UK by Pollock et al (81.5%).[19] On the contrary; only 19% &17% respectively checked their feet daily in studies by Al-Khaldi et al at Saudi Arabia[8] & Saeed et al at Islamabad.[17]

Daily inspection of footwear done by 42.91% in this study; which was in accordance with the findings of the Puducherry(47.6%),[7] Saudi Arab,[8] Nigeria(47.7%),[9] Tanzania(37%),[10] Malayaasia (56.1%),[11] Lahore(76%)[16] and Pakistan (25%).[17]

Walking barefoot was found much lower (9.82%) in our study, compared with 62%, 38%, 18%, 58%, 23%, 7%, 43.3%, & 36% in Iranian,[15] Nigerian,[9] Saudi,[8] Tanzanian,[10] Malayasian,[11] Indian multicentric studies by Viswanathan et al,[18] Lahore,[16] Pakistan[17] respectively. In contrast, it was much lower in Puducherry (3%).[1] The traditional habit of walking barefoot should be discouraged in all patients. Absence of use of therapeutic footwear pointed to a deficit in care by the health-care providers.

Around 56% of patients reported that their footwear was fitting properly and 69.45% reported that they change their footwear whenever it gets damaged. The corresponding figures were 96.1% & 84.5% respectively by Saurabh et al.[7]

One good finding in our study was that washing of the feet daily(78.91%) like Puducherry (80.6%),[7] Saudi Arabia,[8] Nigeria(82.4%),[9] Tanzania(92%),[10] Malayasia (80.9%),[11] Lahore(88.75),[16] and Pakistan(20%).[17] However, the practice of drying the feet was low (18.90% in the present study, 32% at Saudi Arabia,[8] 52.7% at Tanzania,[10] 22.3% at Malayasia,[11] 28% at Lahore,[16] and 23% at Pakistan;[17] the moisture left between the toes heightened the possibility of the occurrence of infections.[8] Keeping the interdigital space dry by applying talcum and avoiding application of lotion was also important to prevent fungal infections as part of foot care hygiene[11] which was done by 15.9% at Malayasia,[11] and 2.7% at Lahore.[16]

Healthy nail trimming was practised by 61.81% in the patients in the present study and 72.8% in Puducherry,[7] 80% in Saudi Arabia,[8] 33.5% at Nigeria,[9] 51% at Malayasia,[11] 58% at Iran,[14] 62% at Lahore[16] which could be explained by the fact that most people cut their nails regularly as a habit rather than recommendation by health professionals.

Toe space examination was done by only 39.64% like Puducherry[7] (33%), and Nigeria(33.5%).[9]

Comparison of knowledge and practice score: In terms of the foot care scoring, practice was reflected to be lower than knowledge. Patients already had some knowledge of foot care but the practice of that particular knowledge was not always carried out. This observation was comparable with other related studies, which also demonstrated that, in same pattern of scoring for knowledge and practice of foot care; the score of practice was always poorer than the score of knowledge.[9,11,13,14,16]

Association of knowledge & Practice with socio demographic variables: Our finding that patients with low educational status had both poor knowledge as well as poor practice regarding diabetes foot care has also been found in earlier studies done in Puducherry,[7] Nigeria,[9] Tanzania,[10] Kancheepuram,[11] Iran,[15] and Lahore.[16] This indicates that education determines knowledge, which eventually determines practice of diabetics. The association between education and knowledge may be explained by the fact that, educated persons can read, write and understand educational materials and can use technology to obtain more information about the disease.[9] In contrast no association in Malaysia,[11] and Pakistan.[17]

Patients with less duration of diabetes having a poor diabetic foot care in the present study, which was in line with Tanzania[10] and in contrast to Puducherry,[7] Malaysia,[11] Kancheepuram,[12] Iran[15] and Pakistan[17] where there was no association with the duration of diabetes. Patients with longer duration of diabetes are more likely to have repeated health education sessions, which may favour their knowledge & practice scores.

However, there was no association with age in our study like Nigeria,[9] Malayasia,[11] Kancheepuram,[12] and unlike Saurabh et al[7] where patients older than 60 years were at risk of having a poor diabetic foot care.

Low socioeconomic status was significantly associated with lower knowledge and practice score in this study and Nigeria study[9] but not in Malayasia study,[11] Lahore,[16] and Pakistan.[17]

Gender differences were not significantly associated with the knowledge & practice of foot care in Nigeria,[9] Malayasia;[11] Kancheepuram;[12] and Lahore.[16] However in our study males had more knowledge. Women were less knowledgeable than men can be partly explained by the fact that due to socio-cultural situation, women are not allowed to attain more higher educational level compared with their male counterpart in the family, which eventually results in women having less knowledge & practice of diabetes mellittus foot care.[9] In contrast Pollock et al reported that women have a significantly higher diabetic foot care knowledge score compared to men in a study conducted in Europe.[19]

Conclusions and Recommendations

This study has presented an opportunity to educate all diabetic patients about good foot care. Patient education on prevention of foot ulceration should be incorporated into the routine care of diabetic patients both in the hospital and in the community. Time must be allotted for communication, information and education(IEC) during clinic sessions.

Moreover, the education of physicians is highly imperative to supplement and reinforce the behaviours of patient with regards to foot care; they need to learn the skills of counselling and risk assessment.

Furthermore, result of this study has highlighted the gaps between knowledge and practice which indicates urgency of patient friendly educational intervention coupled with regular physician reinforcement to reduce the risk of diabetic foot ulcer and amputations.

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