International Journal of Community Medicine and Public Health
Subhashini S et al. Int J Community Med Public Health. 2016 Apr;3(4):861-864
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20160917

Research Article

Awareness and practice regarding foot self-care among patients of known type 2 diabetes mellitus in a rural area

Subhashini Selvakumar*, Pankaj B. Shah

Department of Community Medicine, Sri Ramachandra Medical College & Research Institute, Sri Ramachandra University, Porur, Chennai-116, India

Received: 27 January 2016
Revised: 20 February 2016
Accepted: 08 March 2016

***Correspondence:**
Dr. S. Subhashini,
E-mail:email.subhi@gmail.com

ABSTRACT

Background: Diabetic foot problems accounts for about nearly 50% of diabetes related hospital admission. About 49-85% of all diabetic foot related problems are preventable if appropriate measures are taken. The objective of the study was to assess the awareness and practice towards foot self - care among patients of known type 2 diabetes mellitus in a rural area.
Methods: The present study was conducted among patients with type 2 diabetes, attending Non-communicable disease (NCD) clinic, Rural Health Training Centre (RHTC), Sri Ramachandra University (SRU), Tamil Nadu, India. 31 participants gave written consent for their participation and they were interviewed using a questionnaire. Data entry and analysis was done using statistical package for Social Sciences (SPSS) 16 version software.
Results: Mean age of participant was 54.5years. Regarding awareness, 64.5% were unaware that they need to give special attention to foot care, 77.4% were unaware that smoking causes poor circulation affecting the feet. Poor foot practices are; 67.7% do not check inside of footwear for objects before putting them on and 74.2% walk barefoot and 54.8% did not cut their toenails properly.
Conclusions: Foot self-care awareness and practices among patients with diabetes were found to be poor. This implies an urgent need for health educating the patients which may prevent disability and reduce medical expenditure in long run.

Keywords: Diabetes, Foot care, Practices, Awareness, Rural area

INTRODUCTION

World Health Organization (WHO) is focusing the next World Health Day, on 7 April 2016, on diabetes. Goal of World Health Day 2016 is to scale up prevention, strengthen care, and enhance surveillance.[1] Efforts to prevent and treat diabetes will be important to achieve the global Sustainable Development Goal 3 target of reducing premature mortality from non-communicable diseases (NCDs) by one-third by 2030.

Diabetes, with a global prevalence of 8.3%, affects 387 million people around the world.[2] India with a diabetic population of around 66.8 million cases ranks second in the list of countries affected by diabetes, with China topping the list. The chronic complications of diabetes affect various organs and accounts for the majority of the morbidity and mortality. Nearly 50% of all diabetes related hospital admission is due to diabetic foot problems.[3] About 10-15% of diabetic patients develop foot ulcers at some stage in their lives. These ulcers frequently become infected, and are the common cause for lower extremity amputation.[4] The progression of diabetes and its complications are mainly due to poor awareness and practices among patients with diabetes.[5] Around 49-85% of all diabetic foot related problems are preventable if appropriate measures are taken. Foot care education has not been give importance and many

patients realize the need only after they develop an ulcer, which could have been prevented. Consistent foot care education has been shown to reduce foot ulceration and amputations.[6] Evidence suggests that adoption of foot care practice after education reduces foot problems and promote healing of foot ulcers.[7] Regular practice of these activities is associated with good outcomes among people with diabetes.[8] In developing countries like India, where the resources are limited, and treatment costs for diabetes are constantly increasing, the self-care component among patients with diabetes may lead to better economic and therapeutic outcomes.[9]

The objective of the study was to assess the awareness and practice towards foot self - care among patients of known type 2 diabetes mellitus in a rural area.

METHODS

A cross sectional study was conducted among patients with type 2 diabetes, attending Non-communicable disease (NCD) clinic, Rural Health Training Centre (RHTC), Sri Ramachandra University (SRU), Tamil Nadu, India. The study was done during the month of September 2015. The study was started after obtaining ethical clearance from IEC, SRMC. Informed consents were obtained from all the study participants. Individuals above the age of 18 years with type 2 diabetes mellitus of minimum one year duration were only included in the study. Those excluded were patients with hearing/cognitive impairment and patients with foot ulcer. Thirty one participants gave written consent for their participation and they were interviewed using a questionnaire. Data entry and analysis was done using statistical package for Social Sciences (SPSS) 16 version software.

Details about the age, sex, duration, educational level, socioeconomic status were noted. A questionnaire with 15 items relating to awareness and practice of foot care was prepared. These questions were based on foot care practices advised by the American Diabetes Association (ADA). The questionnaire was designed in English and translated to Tamil for easy flow of the interview schedule and then back translated to verify the corrections.

RESULTS

Of the study population, 58.1% were females. The mean age of the participants was 54.74 years (SD 10.52).

Awareness of foot care

Majority of the participants, 64.5% unaware that they should give special attention to foot care. None of the participants were aware that they should inspect their feet regularly. The distributions of the responses to questions related to knowledge of foot care are shown in the Table 2.

Practice of foot care

Most of the participants did not inspect their feet regularly and none of the participants made sure that their feet are dry after washing. 67.7% did not inspect inside of the footwear for objects or torn lining before putting them on. The distribution of responses to questions related to practice of foot care is shown in the table 3. In this study, lack of knowledge of foot care was reported by 93.5% of the participants as the barrier to good foot care practice.

Diabetes was diagnosed within the last 5 years for 54.8% of the participants. Mean duration of diabetes was 6.64 years (SD 10.52). About 61.3% of the participants had positive family history of diabetes. The background characteristics of the participants are shown in the Table 1.

Risk factors for awareness and practice of foot care

Patients with low educational status have poor foot care awareness and practices. 80% of patients below primary education were not aware that they should take medication regularly to prevent complication. None of the patients below primary education was aware that smoking affects poor circulation affecting feet.

60% of the patients below primary education walk barefoot and none of them checked inside of the footwear before putting them on.

Table 1: Background characteristics of participants

Characteristics	n (%)
Age group (years)	
< 40	3 (9.7%)
41-60	17 (54.8%)
> 60	11 (35.5%)
Sex	
Male	13 (41.9%)
Female	18 (58.1%)
Education	
Illiterate	2 (6.5%)
Primary	5 (16.1%)
Middle	11 (35.5%)
High	9 (29.0%)
Higher secondary	1 (3.2%)
Graduate	3 (9.7%)
Marital	
Single/Widow	5 (16.1%)
Married	26 (83.9%)
Occupation	
Skilled	1 (3.2%)
Semi-skilled	19 (61.3%)
Unskilled	7 (22.6%)
Unemployed/retired	4 (12.9%)
Duration of diabetes(years)	
1-5	17 (54.8%)
6-10	11 (35.5%)
>11	3 (9.7%)

Table 2: Responses to questions related to the awareness of foot care.

Questions related to awareness of foot care	Yes (%)	No / Don't know (%)
DM patients should take medication regularly because they are liable to get diabetes complications	20 (64.5)	11 (35.5)
DM patients need to give special attention to foot care	11(35.5)	20(64.5)
How often should a DM patient inspect his/her foot him/herself	0	31(100)
If you found blisters/cuts on your feet what is the first thing you do	18(58.1)	13(41.9)
If you found redness/increased temperature on your feet what is the first thing you do	0	31(100)
DM patients should not smoke because smoking causes poor circulation affecting the feet	7(22.6)	24(77.4)

Table 3: Responses to questions related to the practice of foot care.

Questions related to practice of foot care	Yes (%)	No / Don't know (%)
Do you examine your feet daily	2(6.5)	29(93.5)
Do you wash your feet daily	29(93.5)	2(6.5)
Do you check your feet are dry after washing	0	31(100)
Do you dry between your toes	0	31(100)
Do you check inside of the footwear for objects or torn lining before you put them on	10(32.3)	21(67.7)
Do you use moisturizing cream on your feet	0	31(100)
Are your toenails cut	14(45.2)	17(54.8)
Do you walk barefoot	8(25.8)	23(74.2)

DISCUSSION

The study had a majority of about 58.1% females and 41.9% males. This could be due to most of the men were working people and the women who stay at home attend RHTC to get treatment. Majority of the participants knew that diabetic feet needs special care was a positive finding. However, greater proportion of diabetes patients had a poor foot care awareness and practice which is similar to other studies.[10, 11, 12]

None of them were aware that they should check their feet regularly themselves. Around 77 .4% patients were not aware that they should not smoke because smoking causes poor circulation affecting the feet. Barefoot walking, particularly in rural India is common due to cultural practices. Diabetes patients should be warned about the chances of injury associated with barefoot walking.

We found that patients having low education had poor awareness and practices of foot care. This relationship is similar to other study.[10] Educated patients will be able to read and understand educational materials. International Consensus on the diabetic foot recommends that foot education to diabetes patients should be provided over several sessions.[13] Due to the increasing loads of diabetes, lack of time, lack of podiatrists and diabetes nurses and educators in the present health care setup, prevention and management of foot care poses a great challenge.

The current study has its own strength and limitations. The study was done on a small sample and needs further research. The findings from this study can be used to guide a health education program on foot care for people with diabetes. This is a hospital-based study and the results do not reflect those of the community.

CONCLUSION

The knowledge and practice of foot care among patients with diabetes were poor. Patient education when reinforced consistently will result in healthy habit formation and thus will prevent disability and reduce medical expenditure in long run. Patient education at primary level will be the most cost-effective way of reducing the burden of complications. Allocation of resources and training of health providers about regular foot examination and foot education should be the priority of any strategy.

ACKNOWLEDGEMENTS

I would like to acknowledge the Medical Officer and all the staff of the RHTC, for their support during the data collection period. It would not be fair if i do not mention my study participants, without whom, this study would not have been possible.

Funding: No funding sources.
Conflict of interest: None declared.
Ethical approval: The study was approved by the Institutional ethics Committee.

REFERENCES

1. Available at: www.who.int/campaigns/world-health-day/2016/event/en/. Accessed on 25/01/2016.
2. Available at: International Diabetes Federation. 2013. www.idf.org/diabetesatlas. Accessed on 25/01/2016.
3. Kumar P, Clark M. Diabetes mellitus and other disorders of metabolism. Kumar & Clark clinical medicine.Spain:Elsevier saunders. 2005:1101-30.
4. Beckley ET. Get to know your patients' feet. Doc News dated Sept 1, 2005. American Diabetes association. 2005;2:10.
5. Ramachandran A, Snehalatha C, Baskar AD,Mars S, Kumar CK, Selvam S, et al. Temporal changes in prevalence of diabetes and impaired glucose tolerance associated with lifestyle transition occurring in the rural population in India. Diabetologia. 2004;47:860-5.
6. Chellan G, Srikumar S, Varma AK, Mangalanandan TS, Sundaram KR, Jayakumar RV, et al. Foot care practice-the key to prevent diabetic foot ulcers in India. Foot (Edinb). 2012;22:298-302.
7. Viswanathan V, Madhavan S, Rajasekar S, Chamukkuttan S, Ambady R. Amputation prevention initiative in South India. Positive impact of foot care education. Diabetes Care. 2005;28:1019-21.
8. Shobana R, Begum R, Snehalatha C, Vijay V, Ramachandran A. Patients' adherence to diabetes treatment. J Assoc Physicians India. 1999;1173-5.
9. Kapur A. Economic analysis of diabetes care. Indian J med Res. 2007;125:473-82.
10. Viswanathan V, Shobana R, Snehalatha C, Seena R, Ramachandran A. Need for education on footcare in diabetic patients in India. J Assoc Physicians India. 1999;47:1083-5.
11. Shah VN, Kamdar PK, shah N. Assessing the knowledge, attitudes and practice of type 2 diabetes among patients of Saurashtra region, Gujarat. Int J Diabetes Dev Ctries. 2009;29:118-22.
12. George H, Rakesh P, Krishna M, Alex R, Abraham VJ, George K, et al. Foot care knowledge and practices and the prevalence of peripheral neuropathy among people with diabetes attending a secondary care rural hospital in southern India. J Family Med Prim Care. 2013;2:27-32.
13. Bakker K, Schaper NC, International working group on Diabetic foot Editorial Board. The development of global consensus guidelines on the management and prevention of diabetic foot. 2011;Diabetes Metab Res Rev. 2012;28 Suppl 1:116-8.

Cite this article as: Subhashini S, Shah PB. Awareness and practice regarding foot self-care among patients of known type 2 diabetes mellitus in a rural area India. Int J Community Med Public Health 2016:3:861-4.