Original Article

Patients Awareness about Diabetic Foot

Determination of the Severity of Diabetic Foot Ulcer and its Awareness in Patients with Diabetes Mellitus

Anser Abbas[1], Ibtisam Ilahi[2] and Ruqia Bano[3]

ABSTRACT

Objectives: To determine the severity of diabetic foot ulcer, and awareness regarding its care in patients with diabetic mellitus

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Medicine Department of DHQ Hospital Muzaffargarh and at some private medical centers from June 2016 to December 2016.

Materials and Methods: Patients with age more than 40 years either gender or with diagnosis of diabetic foot ulcer were selected in the study. Severity of foot ulcer was evaluated by according to Wagner's classification as: grade 0 (intact skin), grade 1 (superficial ulcer), grade 2 (deep ulcer to tendon, bone, or joint), grade 3 (deep ulcer with abscess or osteomyelitis), grade 4 (forefoot gangrene), and grade 5 (whole foot gangrene). All the selected cases were interviewed regarding awareness of diabetic foot. To assess the awareness a questioner was used from previous published studies.[1,8] All the data regarding demographic characteristics, severity of foot ulcer and awareness were recorded on the proforma.

Results: Mean age of the patients was 43.21±5.22 years, male gender was most common 61.41%, while female were 38.59%. Almost equally patients were found according to residential status. 26.31% patients were uneducated, majority of the cases 35.08% had educational status primary to middle, metric pass were 29.82% patients, while graduate patients were only 8.77%. Majority of the cases 52.63% were found with grade II, following by 26.31% with grade III, 17.54% were with grade I and only 3.50% patients were with IV, while no any case was found with grade V. Awareness regarding diabetic ulcer very low , no any patient had complete knowledge regarding all awareness parameters, on some places some patients had average knowledge regarding care of the diabetic foot ulcers like as; taking antidiabetic treatment, daily washing the feet, trimming nails of feet and should not walking bare foot, remaining other questions very few were in the knowledge of the patients

Conclusion: We concluded that mostly severity of diabetic foot ulcer was from grade II to III. Patients had inadequate knowledge regarding care of diabetic foot ulcer.

Key Words: Diabetic foot**,** severity, awareness.

Citation of article:Abbas A, Ilahi I, Bano R.Determination the Severity of Diabetic Foot Ulcer and its Awareness in Patients with Diabetes Mellitus.Med Forum 2017;28(5):146-149.

INTRODUCTION

Diabetes Mellitus is a disorder of chronic hyperglycemia because of relative insulin insufficiency, resistance or the both. Estimatly10-15% of cases diabetes creates foot ulcers at some phase in the lives. Diabetic foot (DF) ulcer issues are in charge of almost half of all diabetes associate to hospitalization.[1,2] Diabetic foot typically begins with sensual complications as; pain, paresthesia and the numbness which on its proper course developments to motor change like natural muscle weakness and the muscle atrophy causing alteration structure and function which prompts irregular plantar pressure that is the big risk for improvement of the plantar pressure ulcers. Loss of defensive sensation to the noxious stimuli can without of a stretch outcome in injury induced by skin or bone micro trauma or injury brought by stepping on a sharp protest or injury of the skin because of sick fitting shoes.[3] A few endeavors have been made to set up arrangement frameworks that help to evaluate the disease severity. As indicated by the International Working Group on DF, an arrangement system proper for the practice clinically ought to encourage correspondence between medicinal services suppliers, impact every day administration, and give data about the healing capability of the ulcer.[4,5] Ulcers of the foot are among most widely recognized complexities of diabetes with predominance of 4-10%. They frequently

[1.] Departmentof Medicine, DHQ Hospital Muzaffargarh.
[2.] Department of Medicine, BHU, TDA district Bhakkar
[2.] Department of Medicine, Holy family Hospital Rawalpindi

Correspondence: Dr. Anser Abbas, Medical Officer, Department of Medicine, DHQ Hospital Muzaffargarh.
Contact No: 031312851728
Email: anserqureshi2015@gmail.com

Received: March 12, 2017; Accepted: April 17, 2017

infected as often as possible, can be costly to treat and for the most part are the initial move towards lower extremity amputation.[6] It has been demonstrated that 49-85% of all DF related issues are preventable if taken the suitable measurements. This can be accomplished through the combination of good care of the foot given by a multidisciplinary diabetic care group and suitable training for both individuals with diabetes and human services professionals.[7] All diabetes cases are possibly at hazard of DF which must be avoid by development of awareness about significance of suitable self-care. Incidence of diabetes and its associated complications complication as diabetic foot ulcer is rising day by day, also at a younger age. Ulcers of the diabetic foot are the commonest reason of the amputations and also preventable.[7] Complete knowledge, favorable attitude and associated good life style are necessary to prevent the development of diabetic foot ulcers. Therefore this study has been conducted to evaluate the severity of diabetic foot ulcers and awareness regarding it in patients having diabetic mellitus and foot ulcers.

MATERIALS AND METHODS

This was correctional study and conducted in medicine department DHQ Hospital Muzaffargarh and some private medical centers with 7 months of duration from June 2016 to December 2016. Patients with age more than 40 years either gender or with diagnosis of diabetic foot ulcer were selected in the study. Cases without diabetic foot ulcer and don't want to participate in the study were excluded. All the cases were underwent complete clinical examination. Severity of foot ulcer was evaluated by clinical examination, Doppler ultrasound, and grading of ulcer was classified according to Wagner's classification as: grade 0 (intact skin), grade 1 (superficial ulcer), grade 2 (deep ulcer to tendon, bone, or joint), grade 3 (deep ulcer with abscess or osteomyelitis), grade 4 (forefoot gangrene), and grade 5 (whole foot gangrene). All the selected cases were interviewed regarding awareness of diabetic foot. To assess the awareness a questioner was used according to previous published studies.[1,8] All the data regarding demographic characteristics, severity of foot ulcer and awareness were recorded on the proforma. Data was entered in the SPSS version 16.0 for the analysis.

RESULTS

In this study mean age of the patients was 43.21±5.22 years, male gender was most common 61.41%, while female were 38.59%. Almost equally patients were found according to residential status 52.63% from rural areas and 27.37% were from urban areas. According to the educational status 26.31% patients were uneducated, majority of the cases 35.08% had educational status primary to middle, metric pass were 29.82% patients, while graduate patients were only 8.77%. Table:1.

Table No. 1: Demographic characteristics (n = 57)

Characteristics	Frequency	%
Gender		
Male	35	61.41%
Female	22	38.59%
Residential status		
Rural	30	52.63%
Urban	27	47.37%
Educational status		
Uneducated	15	26.31%
Primary to middle	20	35.08%
Metric	17	29.82%
Graduate	05	08.77%

Age (mean+SD) = 43.21±5.22 years

Table No. 2: Severity of diabetic foot ulcer according to Wagner's Grading (n = 57)

Wagner's Grading	Frequency	%
Grade I	10	17.54%
Grade II	30	52.63%
Grade III	15	26.31%
Grade IV	02	03.50%
Grade V	00	00
Total	57	100%

Table No. 3: Wagner's grading of diabetic foot (n = 57)

Wagner's Grading	Frequency	%
1. Importance of taking antidiabetic treatment to prevent complications	30	52.63%
2. Daily washing the feet	25	43.85%
3. Using warm water for washing/bathing	10	17.54%
4. Checking temperature of water before using	02	03.50%
5. Drying the feet after washing	15	26.31%
6. Talcum powder usage for keeping interdigital spaces dry	10	17.54%
7. Keeping skin of the feet soft to prevent dryness	16	28.07%
8. Lotion not to be applied in the interdigital spaces	07	12.28%
9. Daily change of socks	17	29.82%
10. Trimming nails of feet straight with care	45	78.94%
11. Inspection of feet once a day by respondents	12	21.05%
12. Wearing comfortable coat shoes	18	31.57%
13. Checking the shoes from inside before wearing	20	35.08%
14. Not walking bare foot	40	70.17%
15. Warning signs for which consultation is required	45	78.94%

According to severity of the diabetic foot ulcer majority of the cases 52.63% were found with grade II,

following by 26.31% with grade III, 17.54% were with grade I and only 3.50% patients were with IV, while no any case was found with grade V. Table:2.

According to the awareness of the diabetic ulcer patients had very low awareness regarding it. results showed in Table: 3

DISCUSSION

Present study was carried out to see the severity of diabetic foot ulcers and patients awareness regarding it. In this study mean age of the patients was 43.21+5.22 years, male gender was most common 61.41%, while female were 38.59%. Our finding are correlated with others studies as Pal B et al[9] reported that out of 53 patients, 32 patients were male and remaining 21 were female. Seema Hussain et al[1] was also found comparable findings and reported that patients mean age was 48 ± 10.8years. Voulgari et al[10] and Larsson et al[11] also found male in majority as compare to female, this higher prevalence in our country may because male are more involved in outdoor activities as well as more risk of injuries.

In this study almost equally patients were found according to residential status 52.63% from rural areas and 27.37% were from urban areas. According to the educational status 26.31% patients were uneducated, majority of the cases 35.08% had educational status primary to middle, metric pass were 29.82% patients, while graduate patients were only 8.77%. Kishore S et al[8] found comparable findings and reported that around 24% cases had no education, 17.2% had primary level education, 31% had received education till metric and 27.7% patients were graduate.

In this study severity of DF ulcer was assessed according to Wagner's classification and majority of the cases 52.63% were found with grade II, following by 26.31% with grade III, 17.54% were with grade I and only 3.50% patients were with IV, while no any case was found with grade V. Jan WA et al[12] reported some more severe results according to Wagner's classification as; 11 cases had grade 1 diabetic foot ulcer , 15 grade with II, 19 with grade III, 32cases were grade IV and 21 cases were with grade V lesions. Findings of the present study slightly different from studies of Doumi E. A et al[13] in Sudan in which stated 74.1% cases had Wagner Grade more than 3. Similar findings were seen in the study conducted by Abbas et al in MNH.[14]

In this study according to the awareness of the diabetic ulcer patients had very low knowledge, no any patient had complete knowledge regarding all awareness parameters, on some places some patients had average knowledge regarding care of the diabetic foot ulcers like as; taking antidiabetic treatment, daily washing the feet, trimming nails of feet and should not walking bare foot, remaining other questions very few were in the knowledge of the patients. Similarly in some other studies reported that the lack of foot awareness in cases having diabetes,[15,16] not much has been done to recover this condition. In another study consultation time <5 minutes for nearly 50% of the cases.[17] In the study of Muhammad-Lutfi AR et al[18] reported that mostly cases 58% were with inadequate knowledge regarding foot care, while 61.8% patients had very poor care practice about diabetic foot. In this study educational level very low in the patients, which is very necessary to get the knowledge regarding disease and its complications. Hasnain S et al[1] reported that 29.3% patients had good knowledge, 40% were with satisfactory awareness and 30.7% had very poor knowledge regarding care of the diabetic foot ulcer. In the literature reported that the physician's role is very essential in improvement of awareness e and practices for foot ulcers in diabetic cases. In another study reported that >50% cases did not examined their feet by proper physician and 28% were without education regarding diabetic foot ulcer. Thus awareness and practices of the diabetic cases strongly correlated to the physicians' attitudes.[19] Theses finding we also found in our study participants, but another problem is of poor socioeconomic status is very worse full for us we found in many cases mostly in males those were very poor, they had no any other income support, and those were still working in their fields with foot ulcer and elevated glycemic status, no proper antidiabetic medication in their life's, and they had done dressings their diabetic foot ulcer mostly at their home by himself and unfortunately with contaminated process, when they were severely infected they come to the Hospitals.

CONCLUSION

We concluded that most severity of diabetic foot ulcer was from grade II to III. Patients had inadequate knowledge regarding care of diabetic foot ulcer. Diabetic foot ulcers developed mostly due to poor care and uncontrolled diabetes, Awareness programs regarding diabetic foot care education should be conducted in the community, and strategies should be developed for diabetes control and its complications particularly diabetic foot ulcer especially in poor areas of the community.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Hasnain S, Sheikh NH. Knowledge and practices regarding foot care in diabetic patients visiting diabetic clinic in Jinnah Hospital, Lahore. Pak Med Assoc 2009;59(10):687.
2. Kumar P, Clark M. Diabetes Mellitus and other disorders of metabolism. Kumar & Clark Clinical Medicine. Spain: Elsevier Saunders 2005.p.1101-3

3. Papanas N, Maltezos E. The diabetic foot: a global threat and a huge challenge for Greece. Hippokrat 2009;13(4):199-204.
4. Beckert S, Witte M, Wicke C, Königsrainer A, Coerper S. A new wound-based severity score for diabetic foot ulcers. Diabet Care 2006; 29(5): 988-92.
5. Schaper NC. Diabetic foot ulcer classification system for research purposes: a progress report on criteria for including patients in research studies. Diab Metabol Res Rev 2004; 20(S1):S90-5.
6. Beckley ET. Get to know your patients' feet. DOC News dated Sept 1 2005.Am Diab Assoc 2005;2: 10.
7. Bakker K, Riley P. The year of the diabet foot. Diabetes Voice 2005; 50: 11-4.
8. Kishore S, Upadhyay AD. Awareness of foot care among patients with diabetes attending a tertiary care hospital. National Med 2014;28(3):122-5.
9. 9. Pal B, Gupta SK. A study on the relation of the severity of diabetic foot ulcers with the type of bacterial flora isolated from the wounds. Int Surg 2016;3(1):189-94.
10. Voulgari C, Doupis J, Grigoropoulou P, Stylianou A, Georga A, Thomakos P. High rates of comorbid conditions in patients with Type-2 diabetes and foot ulcers. Wounds 2008;20:132-8.
11. Gershater L, Löndahl M, Nyberg P, Thörne J, Eneroth M. Complexity of factors related to outcome of neuropathic and neuroischaemic / ischaemic diabetic foot ulcers: a cohort study. Diabetol 2009;52:398-407.
12. Jan WA, Shah HU, Usman M, Khan SM, Shah NA, Sharif N. Management of diabetic foot according to wagner's classification and frequency of diabetic foot disease in other foot a study of 98 cases. Postgrad Med Inst (Peshawar) 2011;23(3).
13. Doumi E. A. Diabetic Septic Foot Lesions in Ol-Obeid, Western Sudan. Sudan Med Sci 2007; 2 (2):119-121
14. Gulam-Abbas Z, Lutale JK, Morbach S, Archibald LK. Clinical Outcome of Diabetes Patients hospitalized with Foot Ulcers, Dar es Salaam, Tanzania. Diabet Med 2002; 19(7):575-9.
15. Jayaprakash P, Bhansali A, Bhansali S, Dutta P, Anantharaman R, Shanmugasundar G, et al. Validation of bedside methods in evaluation of diabetic peripheral Neuropathy. Ind J Med Res 2011;133:645–9
16. Shah VN, Kamdar PK, Shah N. Assessing the knowledge, attitudes and practice of Type 2 diabetes among patients of Saurashtra region, Gujarat. Int J Diab Dev Ctries 2009;29:118–22.
17. 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.
18. Muhammad-Lutfi AR, Zaraihah MR, Anuar-Ramdhan IM. Knowledge and practice of diabetic foot care in an in-patient setting at a tertiary medical center. Malay Orthop 2014;8(3):22.