



The Impact of Diabetic Foot Ulcer on Health Related Quality Of Life and Employment among Diabetics Attending Tertiary Care Teaching Hospital, Davangere

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ABSTRACT

Background: Diabetic foot ulcer is the most common complication of diabetes mellitus. Diabetic foot disease reduces quality of life. It is associated with early retirement and reduced productivity. This research was conducted to study the health related quality of life among patients with diabetic foot ulcer; and also to study the impact of diabetic foot ulcer on employment status.

Materials and Methods: This was a hospital based cross-sectional study. This study was conducted among 80 patients with diabetic foot ulcer attending the outpatient department of tertiary care teaching hospital Davangere.

Results: Among 80 patients with diabetic foot ulcer, 79% had poor environmental domain composite score, 46% of the participants had poor physical and 48% had poor social health composite score. 38% study participants were not currently working. 15% had changed the job / wok they did because of their diabetic foot ulcer.

Conclusions: Majority of patients with diabetic foot ulcer had poor health related quality of life and almost one-thirds of them were unemployed

Key Words: Health related quality life, Diabetic foot ulcer, employment status.

INTRODUCTION

Diabetes mellitus is a major public health problem. Globally around 422 million people were living with diabetes as of 2014¹. It is estimated that by 2040 the global prevalence of diabetes mellitus will rise to almost 642 million, and around 75 % of these people will live in developing countries. Poorly managed diabetes leads to serious complications and early deaths².

Diabetic foot ulcer is most common complication and it is estimated that approximately 15% of diabetic patients will experience foot ulcer during their lifetime³. Diabetic foot is consists of ulceration, infection and/or destruction of the deep tissues, associated with neurological abnormalities and peripheral vascular disease in the lower limb⁴.

In India the prevalence of diabetic foot ulcer varies

from 3 to 14%. Sociocultural factors like bare foot walking, use of improper footwear and lack of knowledge regarding foot care are significant contributors of diabetic foot complications in India⁵. Diabetic foot disease is not only an important factor of morbidity, mortality, costs among diabetic patients but also reduces quality of life⁶.

Diabetic foot ulcers are associated with reduced mobility and disability related to activities of daily living⁷. In this manner Diabetes can have a negative impact on the psychological functioning and quality of life of the affected individuals, particularly in the physical, social and psycho-emotional domains⁸. Previous studies have shown that half of patients with diabetic foot ulcers had either retired early, lost their jobs or found with reduced productivity⁹. With this background, the present study has been undertaken.

OBJECTIVES

This research was conducted to study the health related quality of life among patients with diabetic foot ulcer; and also to study the impact of diabetic foot ulcer on employment status.

MATERIALS AND METHODS

It is a hospital based cross-sectional study carried out among patients attending outpatient department of tertiary care teaching hospital Davangere, during the period from 1st January to 31st March 2018. Total 80 patients were recruited for the study.

Inclusion criteria: Patients aged between 18 years and 60 years with diabetic foot ulcer diagnosed for a minimum of one year, attending outpatient department of tertiary care teaching hospital Davangere were included in the study.

Exclusion criteria: Patients with severe physical or cognitive impairments or not willing to give consent were excluded from the study.

Data collection from these 80 patients was started after getting institutional ethical review board clearance. After obtaining written consent all the 80 patients were interviewed using WHO 'Quality of life Instrument for Diabetic patients' (WHOQOL-BREF)¹⁰ tool to assess quality of life. This tool comprises of 26 items that address the areas of physical health, psychological health, social relationship and environmental health. Study participants rated all items on 5 point Likert scale. All the questionnaires were converted into local language and data was collected by conducting one to one interview. Information was collected on socio-demographic variable and impacts of Diabetic foot ulcer on employment were collected using pre-designed, pre-tested, semi-structured questionnaire.

Data was analysed using SPSS v17.0 and presented in the form of descriptive statistics (means, proportions, percentages).

RESULTS

In the present study most of the study participants (31.25%) were in the age group of 61-70 years followed by 51-60years (28.25%) (Table 1). Mean age of mothers was 58.82±10.26years. In our study 66.25% were from rural areas, 39(48.75%) were illiterate, and 37.5% were educated upto primary school. In our study 37.5% were currently not working and 41.25% were involved in semi-professional work. Majority of participants were belonging to class IV and V according to modified B G Prasad socio-economic classification. Majority of participants were having Diabetes mellitus since

6 to 10 years. In present study 28.75% were obese, 41.25% were alcoholic and 37.5% participants had family history of Diabetes mellitus

In the present study 70 (87.5%) reported that their physical pain prevents them from doing what they need to do, 75 (93.75%) need medical treatment to function daily and only 17 (21.25%) satisfied with capacity for work. 59(73.75%) were enjoying life, 61 (76.25%) felt their life is meaningful and only 10 (12.5) were satisfied with oneself (Table 2).

Table 1: Clinico-demographic characteristics of study participants

Variable	Number (n=80) (%)
Age group	
30-40	9 (11.2)
41-50	12 (15)
51-60	23 (28.75)
61-70	25 (31.25)
>70	11 (13.75)
Sex	
Male	68 (85)
Female	12 (15)
Residence	
Rural	53 (66.25)
Urban	27 (33.75)
Education	
Illiterate	39 (48.75)
Primary school	30 (37.5)
High school	5 (6.25)
PUC/Diploma	6 (7.5)
Occupation	
Semi-Professional	33 (41.25)
Unskilled	10 (12.5)
Housewives	7 (8.75)
Currently not working	30 (37.5)
Socioeconomic status	
Class I	8 (10)
Class II	9 (11.25)
Class III	21 (26.25)
Class IV and V	44 (55)
Marital status	
Married	73 (91.25)
Widow/widower	7 (8.75)
Duration of diabetes (years)	
1-<6	10 (12.5)
6-<10	53 (66.25)
≥10	17 (21.25)
Body Mass Index(Kg/m²)	
Upto 22.9	10 (12.5)
23-24.9	47 (58.75)
>25	23 (28.75)
Habits	
Smoking	11 (13.75)
Alcohol	33 (41.25)
None	36 (45)
Family History of Diabetes	
Yes	30 (37.5)
No	50 (62.5)
Glycaemic status	
FBS (mean±SD)	208±54.98 ()

Table 2: Distribution of study subjects according to physical health

Various Domains	Cases (%)
Physical domain	
Physical pain preventing from what they need to do	70 (87.5)
Need medical treatment to function daily life	75 (93.75)
Have enough energy for everyday life	67 (83.75)
Able to get round	46 (57.5)
Satisfied with sleep	44 (55)
Satisfied with ability to perform daily living activities	23 (28.75)
Satisfied with capacity for work	17 (21.25)
Psychological domain	
Enjoying life	59 (73.75)
Life is meaningful	61 (76.25)
Able to concentrate life	58 (72.5)
Able to accept bodily appearance	62 (77.5)
Satisfied with oneself	10 (12.5)
Negative feelings	59 (73.75)
Social domain	
Satisfied with personal relationship	17 (21.25)
Satisfied with support from friends	17 (21.25)
Environmental domain	
Feeling safe in daily life	60 (75)
Healthy physical environment	73 (91.25)
Have enough money to meet needs	52 (65)
Availability of information needed in day to day life	69 (86.25)
Have opportunity for leisure activities	51 (63.75)
Satisfied with conditions of living place	17 (21.25)
Satisfied with access to health services	17 (21.25)
Satisfied with transport	17 (21.25)

Table 3: Overall health related quality of life

Variable	Cases (%)	Mean±SD (Range)
Physical health Composite Score		
Below average (≤50%)	37 (46.25)	19.13±3.5 (14-27)
Above Average (>50%)	43 (53.75)	
Psychological health composite score		
Below average (≤50%)	19 (23.75)	17.26±1.83 (13-21)
Above Average (>50%)	61 (76.25)	
Social health composite score		
Below average (≤50%)	39 (48.75)	5.9±1.2 (4-8)
Above average (>50%)	41 (51.25)	
Environmental Health Composite score		
Below average (≤50%)	63 (78.75)	19.7±5.69 (13-31)
Above Average (>50%)	17 (21.25)	

With respect to social relationship, only 17 (21.25%) were satisfied with personal relationship and support from friends (Table 2).

In the present study 73 (91.25%) were having healthy physical environment and 52 (65%) had enough money to meet their needs. But 17 (21.25%) were satisfied with conditions of living place, access to health care services and transport (Table 2).

Majority of study participants (78.75%) had poor environmental domain composite score. Almost half of the participants had poor physical and social health composite score (Table 3).

Impact of diabetic foot ulcer on employment

38% (30/80) Participants were not currently working, out of which 26.6% (8/30) reported that they were unable to work due to disability. 20% (16/80) patients reported having left job as a result of their diabetic foot ulcer. 15% (12/80) changed the job /wok they did because of their diabetic foot ulcer. Out of 50 who were currently working, 14 (28%) described difficulty in performing task at work.

DISCUSSION

In the present study, almost half of the study participants had poor quality of life. More than 2/3rd of them had poor environmental domain composite score; almost half of the participants had poor physical and social health composite score.

In the present study, 87.5% reported that their physical pain prevents them from doing what they need to do. However, 83.75% of them report that they have enough energy in everyday life. With respect to Psychological health, more than 2/3rd of the participants mentioned that they were unable to accept their physical appearance, 74% of them reported experiencing extreme negative feelings and 76.25% felt their life is meaningful. In the study conducted by Shekhar et al¹¹ the physical component summary domain score (44.9 ± 6.3 v 28.4 ± 3.4) and mental component summary domain score (42.5 ± 3.8 v 29.5 ± 7.1) were poor indicating poor health related quality of life among study participants. Similar study conducted by Mazlina et al¹² found that the Physical domain was severely compromised and Diabetic foot ulcer more negatively impacted the Physical and mental aspects. In the study conducted by Ragnarson et al¹³ patients suffering from foot ulcers valued their quality of life lower than patients whose ulcers were healed. This shows that Diabetic Foot ulcers are much more daunting on the patients as it disables them and has a major impact on their functioning and lifestyle.

With respect to social relationship, only 17(21.25%) were satisfied with personal relationship and support from friends. According to environmental health, majority of them were having healthy physical environment, and 21.25% were satisfied with conditions of living place, transport access to health care services. J M Haria et al¹⁴ studied QOL of DFU is more decreased compared to Diabetic patients due to increased treatment related costs. Which is true as 35% of our study subjects reported that they didn't have enough money to meet their needs. In spite of 65% of them reporting that they were able to manage with their income, very few of them were satisfied with their health services. This is probably because most of our subjects were from

rural parts of the town which means a long commute to the nearest hospital, and most participants spent a lot on their travel along with that of their caregiver's.

In the present study almost one thirds of study participants were not currently working, out of which 26.6% reported that they were unable to work due to disability. Study conducted by Goodridge D¹⁵ showed that there was a limited employment among patients with Diabetic foot ulcer. But in the study conducted by Nicola Waters¹⁶, almost two-thirds of study participants were currently not working and were unable to work due to disability.

In the present study one in five participants reported having left job as a result of their diabetic foot ulcer and similar finding was observed by Nicola Waters¹⁶. 15% changed the job /work they did because of their diabetic foot ulcer which is lower (21.2%) than that found study conducted by Nicola Waters¹⁶. Within study participants who were currently working, 28% described difficulty in performing task at work which is lower (63.6%) than study conducted by Nicola Waters¹⁶.

Ribu et al ¹⁷ also noticed significant relationship between employment status and scoring of different domains. They also stated that higher domain scoring is due to the fact that they feel beneficial for the self, family and society.

CONCLUSIONS

In the present study majority of study participants had poor health related quality of life in environmental, physical and mental health. Almost one-thirds of patients with diabetic foot ulcer were unemployed and reported of having left a job/changed job.

RECOMMENDATION

Family members should be emphasized to provide support to patients with diabetic foot diseases which help in improving quality of life. Diabetic patients should be educated on regular foot care. At workplaces regular screening of diabetic patients for diabetic foot ulcer and those with disability due diabetic foot should be placed in a suitable job. Vocational rehabilitation is essential to prevent psychosocial morbidity.

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Ethical approval: The study was approved by the Institutional Ethics Committee.

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