

# Life with Diabetic Foot Ulcer: A Cross Sectional Study

J M Haria<sup>1</sup>, V K Singh<sup>2</sup>,  
S K Jain<sup>3</sup>

<sup>1</sup>Associate Professor, Department of Medicine, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, <sup>2</sup>Associate Professor, Department of Medicine, Teerthanker Mahaveer Medical College and Research Centre, Moradabad, <sup>3</sup>Professor Anatomy, Department of Anatomy, Teerthanker Mahaveer Medical College and Research Centre, Moradabad

**Corresponding Author:** Dr. S K Jain, Professor Anatomy, Dept of Anatomy, TMMC and RC, Moradabad. E-mail: drskjain2005@rediffmail.com

## Abstract

**Introduction:** Diabetic foot ulcer is one of the important problems related to diabetes which affects the quality of life of the patients. The purpose of this study was to compare the quality of life of men and women with diabetic foot ulcer.

**Material and Methods:** This cross-sectional study aimed to study the quality of life of 72 men and 48 women with diabetic foot ulcer using convenience sampling method. The data gathering instrument was diabetic foot scale questionnaire which is used for evaluation of the quality of life of the patients with diabetic foot ulcer. The data were analyzed through descriptive and analytic statistical tests.

**Results:** Of 120 patients with diabetic foot ulcer participating in this study, 60% were men and 40% were women with the mean age of 54.23(±12) years. The scores obtained in quality of life domains showed that friendship ( $p=0.024$ ), following the treatment (0.013) and financial status ( $p=0.032$ ) had significant difference between men and women. A significant relationship was also found between age and quality of life in both genders ( $p=0.007$ ). Marriage showed a significant relationship with quality of life in men ( $p=0.014$ ) and women ( $p=0.002$ ). The correlation between quality of life and economic status was significant only in men ( $p=0.010$ ) and its association with employment status was only significant in women ( $p=0.001$ ). Education level and body mass index had no significant relationship with quality of life in any of the genders.

**Conclusion:** In most domains, the effect of diabetic foot ulcer on quality of life was more in women than men.

**Keywords:** Ulcer, Diabetes, Quality of life

## INTRODUCTION

Diabetes mellitus is one of the chronic and debilitating diseases with serious complications, and diabetic foot ulcer is seen in 15% of diabetics.<sup>1</sup> Diabetic foot ulcers are the wounds, which have a long term impact on the morbidity, mortality and quality of affected individuals.<sup>2,3</sup> Patients, who develop a diabetic foot ulcer are more prone of premature death, myocardial infarction and fatal stroke.<sup>4</sup> Diabetic foot ulcer rapidly deteriorates, and 15-20 percent need amputation of the affected limb.<sup>5</sup> It has been estimated that every 20 seconds a lower limb is amputated due to diabetic foot ulcer.<sup>6</sup> Mortality increases with level of amputation<sup>7</sup> and ranges from 50–68% in a period of five years, which is worse than as compared to other malignant conditions.<sup>8,9</sup> Considering the importance of the issue and little researches in this regard in the country, the

present study was designed to compare the quality of life of women and men with diabetic foot ulcers in order to plan effective medical care programs to improve the quality of life the patients.

## MATERIAL AND METHODS

In this cross-sectional study, 60 patients with diabetic foot ulcer hospitalized at Teerthanker Mahaveer Medical College, Moradabad, in a 3 months period were recruited using convenience sampling method. The patients had no audio-visual disorder to answer the questions asked. The questionnaire was used as the data gathering instrument which is used for evaluation of the quality of life in diabetic patients with foot ulcer. The questionnaire which was designed by Johnson in 1995 in England and its validity and reliability have been studied in several countries<sup>10</sup> contains

58 questions in 11 domains, including pleasure of life (5 items), physical health (6 items), daily activities (6 items), emotions (17 items), lack of ulcer care (2 items), family relationships (5 items), friendship (5 items), following the treatment (4 items), satisfaction (1 items), positive attitude (5 items), and financial status (2 items). For the analysis, descriptive and analytic statistical methods were used.

## RESULTS

The findings of the study on 60 patients with foot ulcer showed that the mean age was  $52.18 \pm 1.8$  and 60% of the patients were male. The mean scores of 11 domains of quality of life showed that the women had the highest and lowest scores. This indicates the vast level of changes in women (Leisure 5 items), (Physical health 6 items), (Daily activities 6 items), (Emotions 17 items), (Noncompliance 2 items)(Family 5 items), (Friends 5 items), (Treatment 4 items), (Satisfaction 1 items), (Positive attitude 5 items), and (Financial 2 items).

The relationship between quality of life and sex showed that the domains of friendships following the treatment and financial status had a significant relationship with sex; the mean score in women was less than men. It must be noted that the average quality of life of women was less than men in other domains except for pleasure of life, lack of ulcer care and family relationships; however, the difference was not statistically significant ( $p > .005$ ).

## DISCUSSION

Discussion with patients, made it possible to identify quality-of-life concepts specific to foot ulcers. The questionnaire developed in this manner was acceptable to patients, and showed content validity.<sup>10</sup>

In the study by Johnson, 1995<sup>10</sup> significant relationship was observed between age and quality of life in both sexes for all domains of quality of life except friendship and satisfaction. But in our study significant relationship was observed in all domains except one, which in our case was satisfaction. Valensi and colleagues showed that age is significantly correlated with the various domains of quality of life such as activities of daily living, physical health and dependence on others.<sup>11</sup>

According to Ribu *et al.* age has a significant relationship with quality of life which is due to physical, emotional and self-care limitations,<sup>12</sup> which also supports our study and also our study supported by (Oyibo *et al.*)<sup>13</sup> that age is one of the social factors affecting the quality of life of these patients. In other words, the younger patients have a more positive attitude towards for diabetic foot ulcer, on

the other hand old patients suffer chronic complications of the diabetes and achieve lower scores on quality of life.

Papadopoulos *et al.* also concluded that the married compared with the singles, have a better score which is due to the psychological support from the family.<sup>14</sup>

It seems that the patients with diabetic foot ulcers experience higher rate of decreased quality of life than diabetic patients without foot ulcer, which is due to the heavy costs of the disease imposed on the patient and his family. On the nutritional and economic front in our study men suffered more than women because the costs are mostly burdened on men than women, the quality of life of men is more affected, same findings and interpretations were also observed by Wexler.<sup>15</sup>

Ribu *et al.*<sup>12</sup> 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.

No significant relationship between the quality of life and education was observed in any of the female and male sex groups in our study. The study by Kolawole and colleagues reached a similar conclusion,<sup>16</sup> on the other hand Darvishpoor Kakhki *et al.*<sup>17</sup> stated that education level and quality of life are of a significant relationship. They expressed that there is significant difference between the education level and physical performance. They also stated that the patients with a higher education level have better conditions for learning, self-care and follow more guidelines of concerned medical staff.

Briggs and colleagues found that Body Mass Index affects the quality of life resulting in reduced quality of life especially in the obese patients. Findings of Briggs and colleagues correlates well with our study also. The reason for this was the decrease in physical and social activities in the obese.<sup>18</sup> On the other hand Valensi and colleagues found no correlation between BMI and the quality of life.<sup>11</sup>

The reason for this conflict can be that the diabetic patients without foot ulcer do their efforts to prevent complications such as diabetic foot ulcers and try to keep their weight at an optimal level; however, when the foot ulcer is created, they suffer from a psychological hopelessness that make weight control of no importance for them and they tend to think more about their ulcer to be treated.

## CONCLUSION

The results show that quality of life in women is lower as compared to men and they are more affected by

diabetic foot ulcer. The data of this study provide useful information for medical and paramedical staff and diabetes management persons to consider the effect of diabetic foot ulcers on life of the patients and identify at risk individuals to set programs to help the patients modify their lifestyle so that quality of life may be improved.

## REFERENCES

- Mansour AA, Alavai Jabbar M. Diabetic Foot: correlation between clinical abnormalities and electrophysiological studies. *Middle East J Family Med.* 2007;5(5):13-16.
- National Institute for Health and Clinical Excellence. Diabetic foot problems: inpatient management of diabetic foot problems. Clinical guideline 119. London: NICE, 2011. Available at: <http://publications.nice.org.uk/diabetic-foot-problems-cg119>. Accessed March 2013.
- Abetz L, Sutton M, Brady L et al. The diabetic foot ulcer scale: a quality of life instrument for use in clinical trials. *Pract Diab Int.* 2002;19:167-75.
- Brownrigg JR, Davey J, Holt et al. The association of ulceration of the foot with cardiovascular and all-cause mortality in patients with diabetes: A meta-analysis. *Diabetologia* 2012; 55(11):2906-12.
- Ranjbar H. Overview of diabetic foot; novel treatments in diabetic foot ulcer. *DARU Journal of Pharmaceutical Sciences.*2008;16(1):1-6.
- Hinchcliffe RJ, Andros G, Apelqvist J et al. A systematic review of the effectiveness of revascularisation of the ulcerated foot in patients with diabetes and peripheral arterial disease. *Diabetes Metab Res Rev.* 2012;28(Suppl 1):179-217.
- Berthel M, Ehrler S. Aspects épidémiologiques de l'amputation de membre inférieur en France. *Kinesithérapie Scientifique* 2010;7(512):5-8.
- Young MJ, McCardle JE, Randall LE, et al. Improved survival of diabetic foot ulcer patients 1995-2008: possible impact of aggressive cardiovascular risk management. *Diabetes Care* 2008; 31: 2143-47.
- Armstrong DG, Wrobel J, Robbins JM. Guest editorial: are diabetes related wounds and amputations worse than cancer? *Int Wound J.* 2007;4:286-87.
- Patient-Reported Outcome and Quality of Life Instruments Database (PROQOLID). Diabetic foot ulcer scale. Accessed 2009 Feb. 10. Available from: [http://www.proqolid.org/instruments/diabetic\\_foot\\_ulcer\\_scale\\_dfs](http://www.proqolid.org/instruments/diabetic_foot_ulcer_scale_dfs).
- Valensi P, Girod I, Baron F, et al. Quality of life and clinical correlates in patients with diabetic foot ulcers. *Diabetes Metab.* 2005;31:263-271.
- Ribu L, Hanestad BR, Moum T, et al. Health-related quality of life among patients with diabetes and foot ulcers: association with demographic and clinical characteristics. *J Diabetes Complications* 2007;21(4): 227-236.
- Oyibo SO, Jude EB, Tarawneh I, et al. The effects of ulcer size and site, patient's age, sex, and type and duration of diabetes on the outcome of diabetic foot ulcers. *Diabet Med* 2001; 18(2):133-8.
- Papadopoulos AA, Kontodimopoulos N, Frydas A, et al. Predictors of health-related quality of life in type II diabetic patients in Greece. *BMC Public Health* 2007;7:186.
- Wexler DJ, Grant RW, Wittenberg E, et al. Correlates of health-related quality of life in type 2 diabetes. *Diabetologia* 2006;49:1489-1497.
- Kolawole M, Babatope K, Celestine M et al. Depression, anxiety and quality of Life among diabetic patients: a comparative study. *J Natl Med Assoc.* 2008; 100(1): 73-78.
- Darvishpoor Kakhki A, Abed Saeedi ZH, Yaghmaie F, et al. Quality of life of diabetic patients referred to Tehran hospitals. *Iran J Endocrinol Metabol.* 2006; 8(1): 50-56,104.
- Hill-Briggs F, Gary TL, Hill MN. Health-related quality of life in urban African Americans with type 2 diabetes. *J Gen Intern Med.* 2002;17(6):412-419.

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