

Health-related quality of life in diabetic foot ulcer patients with unilateral above-knee amputation

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Objective: To evaluate the health-related quality of life in patients with above knee amputation due to diabetic ulceration.

Methodology: This cross-sectional study was conducted from May to August 2021 on 97 patients using a non-probability convenient sampling technique. The data were collected from Services Hospital, PSRD, and General Hospital, Lahore. A previously validated questionnaire EQ-5D was used for data collection.

Results: Out of 97 patients, there were 53 (54.6%) males and 44 (45.4%) females. Out of 97, 57 (58.8%) patients were with gangrene and 40 (41.2%) without

gangrene, 68 (70.1%) presented with infection, and 29 (29.9%) were without infection. Seven (7.2%) presented with a slight problem in mobility, 48 (49.5%) with the moderate problem in mobility, 28 (28.9%) with a severe problem in mobility and remaining 14 (14.4%) were unable to do any activity.

Conclusion: Patients with ongoing ulcers that undergo amputation had fair health related quality of life (HRQL). Rehabilitation services for patients and objectives for recreation exercise and physical function and social activities should be started early to enhance the quality of life.

Keywords: Amputation, ulcer, diabetes, HRQL.

INTRODUCTION

Foot ulcers (FU) are among the most common diabetic complications that are difficult to treat. Ulcers develop when skin tissue breaks away, exposing the layers beneath.¹ They are most common beneath the big toes and on the balls of feet, and can affect the bones of the feet. FU can affect anyone with diabetes, but careful foot care can help avoid them.² FUs are the cause of more than 80% of amputations. A few diabetic groups are at a higher risk than others.³ Diabetic foot ulcers (DFU) usually require an extended treatment period with frequent visits, hospitalization, and frequent ulcer dressing changes.⁴

The appearance of FU may create worry due to the prospect of amputation. Aside from amputation, concomitant disability necessitates a change in living arrangements and housing, which creates a significant financial problem for both patients and their families.⁵ As a result, QOL suffers.⁶ There has been little research on HRQOL on these patients.⁷ After a significant amputation, QOL is seriously affected.⁸ This study rationale was to find the complications of ongoing FUs after amputation and the QOL of amputees.

METHODOLOGY

This cross-sectional study was carried out at the Services Hospital, PSRD, and General Hospital, Central Park Teaching Hospital, Mayo Hospital and Ganga Ram

Hospital, Lahore. The study was carried out with ethical considerations and written informed consent was obtained from all patients.

Validated surveys in a Performa the EQ-5D was delivered to 97 persons who agreed to take part. The Euro QOL Group developed the EQ-5D as a standard measure of HRQOL using a simple generic questionnaire.⁹ It looks at health in terms of five different sizes. The EQ-5D is also known as a patient-reported outcome (PRO) measure. Patients can complete the questionnaire themselves to offer information about their current health condition and how it changes over time. From 0 to 100, this scale is used. The number 100 denotes the best possible health. 0 indicates the worst possible health.⁹

Statistical Analysis: Data were analyzed on SPSS version 21. The participants' QOL scores and their clinical and demographic information were reported using descriptive statistics such as mean, standard deviation, and percentages.

RESULTS

Out of 97 patients, there were 53 (54.6%) males and 44 (45.4%) females. Mean age of patients was 38.96 ± 16.742 years (range 18 – 68). Out of 97 patients, 57 (58.8%) were with gangrene and 40 (41.2%) without gangrene, 68 (70.1%) presented with infection. Seven (7.2%) were presented with a slight problem in mobility,

48 (49.5%) with the moderate problem 28 (28.9%) with severe problem and remaining 14 (14.4%) were unable to do any activity (Table 1).

Table 1: Descriptive statistics of mobility.

Mobility	Frequency	Percent
Slight problems	7	7.2
Moderate problem	48	49.5
Severe problem	28	28.9
Unable to do	14	14.4
Total	97	100.0

Table 2: Descriptive statistics of Quality of life.

Level of QoL	Frequency	Percent
satisfactory	13	13.4
Fair	52	53.6
Good	32	33.0
Total	97	100.0

Out of 97 patients, 13 (13.4%) presented with satisfactory QOL, 52 (53.6%) had fair QoL and remaining 32 (33.0%) had good QoL (Table 3).

DISCUSSION

This is the first study to look at the HRQL of large number of diabetics with FUs. The findings confirm that current FU patients' HRQL is poorer than patients who have mainly recovered without amputation. We could not find any statistical evidence that patients with significant amputations had a lower HRQL than those who were essentially cured. However, one explanation could be that the data set contains a small number of patients with severe amputations, owing to the observation area's successful reduction in the rate of painful amputations.¹⁰

According to reports of patients with associated issues such as peripheral arterial disease, individuals' QOL following major amputation is lower than that of patients without amputation.^{11,12} The high death rate of patients with FUs, particularly those who have had major amputations, is another explanation for the low frequency of large amputations. Because some of the patients with the most serious illnesses have died, the study population can represent a sample of diabetes patients unlikely to require a major amputation.¹³ The current analysis is complicated because some

patients with existing or healed ulcers had amputated in earlier ulcer episodes. Regardless of whether a patient has had a previous amputation or has a history of ulcers, the HRQL of patients with FUs is lower than patients who have healed completely. The most relevant variables in the EQ-5D score are severe amputations and current ulcers.¹⁴

According to regression analysis, patients who suffered a major amputation had a significantly poorer HRQL. The most severe result of diabetic foot ulceration is amputation of the lower limb, which has far-reaching medical and psychosocial repercussions. In patients with DFU, outcome prediction is expected to help doctors make early and appropriate decisions, such as customizing and optimizing existing therapy options and resources.⁶

Even though diabetes and DFUs are rising in developing countries, one potential flaw in the study is that only one general tool was utilized. Each patient had only one QOL rating scale, and the endpoint group comprised a small number of patients with significant amputations. The overall study population's median and mean HRQOL values are poor, showing that HRQOL is essential in diabetes individuals with foot difficulties.

CONCLUSION

Patients with ongoing ulcers that undergo amputation had fair HRQOL, and amputations significantly decrease HRQOL. Rehabilitation services for patients and objectives for recreation exercise and physical function and social activities should be started early to enhance the QOL. Use of prosthesis after amputation enhance QOL and improve physical function.

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