

# Quality of Life in People with Lower Limb Amputation: A Study Based on Gender Differences

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## ABSTRACT

**Aims and Objectives:** The present study compares the gender differences in quality of life in people with lower limb amputation.

**Methodology:** The Study was done on 100 Lower Limb Amputee Patients (n=100, n=50 Males, n=50 Females) from rehabilitation hospitals & NGOs of New Delhi. Convenient Sampling technique was used to collect the sample. WHO Quality of life Brief Scale was administered to assess the Quality of Life among males & females with lower limb amputation. The scores of Quality of life were evaluated to find out the gender differences among subjects with lower limb amputation.

**Results:** Data recorded was analyzed using SPSS data analysis software. An Independent t-test was used to compare the difference among both the genders with lower limb amputation in terms of quality of life. The results of the study indicated that Quality of life of females was significantly poorer in comparison to males.

**Conclusion:** It can be concluded that there was a gender difference in context of Quality of life in subjects with lower limb amputation. The key findings of the study suggest that the females with lower limb amputation have lower quality of life in comparison of males with lower limb amputation.

**Key words:** Lower limb amputation, gender difference, quality of life, WHO Quality of life, Scale-Brief.

## INTRODUCTION

Amputation is a significant burden on the health of families, society and medical services [1]. Amputation poses difficulties that are multi-directional. It influences the picture of the body, feeling and function. In most cases, the amputee's predominant experience is one of loss: not only the obvious loss of the limb, but also functional, self-image, career and relationship losses [2].

In recent years there has been a broadening in focus in the measurement of health beyond traditional health indicators such as mortality and morbidity, and quality of life (QOL) has turned into an important outcome in clinical and interventional studies. Different definitions of QOL have

been proposed by different researchers or Organizations. The World Health Organization (WHO) has defined "QOL" as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" [3].

Patients with lower limb amputation highlight the importance of quality of life in defining a successful treatment outcome. Despite this significance, the number of studies that examine the variety of factors influencing the quality of life of these individuals is relatively small [4,5]. Although quality of life is a multidimensional construct consisting of objective components (such as conduct and

environment) and subjective components (psychological well-being and satisfaction with life), a serious illness may have a direct effect on the state of health of a person, restricting his/her mobility and autonomy. On the other hand, the satisfaction of individuals with their own lives can vary from that of other patients, since due to their objective health and life circumstances they have the same illness. Relevant proportions of difference in the quality of life of people can be clarified by objective and subjective components [6].

Physical health, psychological status, degree of freedom, social relationships and environmental relationships affect the quality of life in a complex way [7]. Among the domains of quality of life, it appears that psychological functioning and physical health are the most investigated subjects in health, since all studies evaluated one or both aspects [8]. The ability to walk is considered fundamental to the quality of life perception, as it directly influences the ability to live independently (autonomy) and group engagement [9].

Persons with amputation may report a decline in their quality of life immediately after limb loss, but over time the answer may change with mild improvement based on their tolerance to the new condition as they live longer with the sequel [10].

There has also been speculation regarding the connection between pain and psychosocial dysfunction and gender [11]. Gender and social isolation are independent significant factors influencing the outcome of rehabilitation after amputation; in that woman tend to have a poorer outcome than men and people who live alone tend to have a poorer outcome than people who live with a spouse or others. This effect is independent of the patients' age, level of amputation and the presence of comorbidities [12]. The quality of life of a person is likely to be adversely affected following an amputation of his/her body parts [13]. Quality of life is influenced and compromised by physical and mental health. Activities of daily living can be

compromised partially or totally due to amputation, this compromise occurs due to the experience of a daily life permeated by difficulties, limitations and restrictions imposed by amputation; suffering by dependence on others, personal and economic limitations or inadequacy of public policies, besides the personal and professional life changed by the surgery and living in fear of loss of physical integrity [14].

People with lower limb amputation had worse QoL as compared to the general population. This finding has been corroborated by various other studies and indicates that amputation is a major life event potentially affecting QoL many years after the event.

Patients with lower limb amputation have quality of life changes that can vary between males and females, taking into account the different difficulties faced by individuals after amputation, and particularly on the basis of gender differences. Hence, the objective of this research is to compare & determine the prevalence of difference in quality of life and its associated risk factor among the lower limb amputees on the basis of gender.

## **MATERIALS AND METHODS**

This research study was conducted to examine to compare the components of quality of life among males and females with lower limb amputation. Since lower limb amputees have associated psychological problems and their lifestyle, work culture, daily routine is altered due to limb loss.

A convenient sample of 100 lower limb amputees participated in the study in which 50 were males and 50 were females.

Research design was survey study. Inclusion criteria included included age-18-60, Lower limb amputees including amputation from hip, knee, ankle, foot.

The data was collected from rehabilitation department Prosthetics & Orthotics unit from hospitals and NGOs in New Delhi. A comparison was done on

how the life style, psychological status and quality of life differ among males and females with lower limb amputees.

Subjects were screened according to the inclusion criteria and consent form was filled up by the lower limb amputees both males and females. The Comparison between the Quality of life among males and females lower limb amputees was done using WHO QOL brief Scale.

After obtaining the scores for questionnaire, the scores were evaluated and result was obtained.

## RESULTS

The data collected was obtained by following the standard protocol and scored and analyzed with the help of SPSS. The analyses involved Mean, Standard

deviation, and T test. A total of 100 subjects in which 50 subjects was males and other 50 subjects was females. The subjects were recruited for the study after checking and screening for the inclusion criteria.

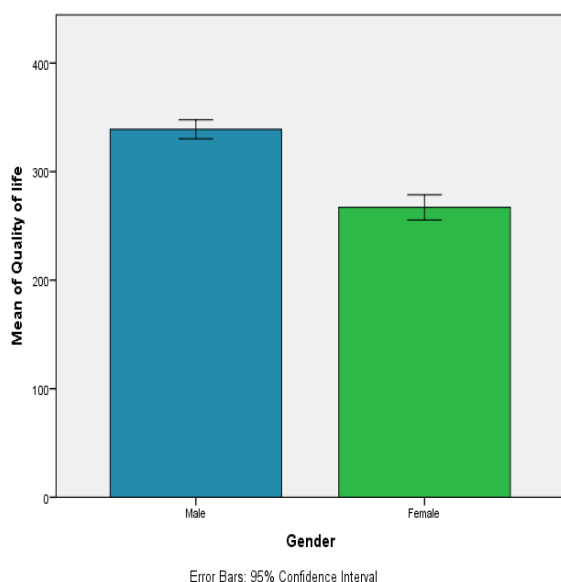
## WHOQOL

To see the significant difference in mean of Quality of life among male and female, we applied independent sample t-test, with t -statistic is 9.997242 & p-value is 0.00001. Here p-value is less than 0.05 shows that there is a significant difference in Quality of life among Male and Female. Moreover, the mean of quality of life of Male is significantly greater than female.

Below given tables shows the scores minimum, maximum with standard deviation and mean difference.

Gender	N	Min	Max	Mean	Std. Deviation	Std. Error Mean	Mean Difference
Male	50	260	396	338.96	30.707	4.343	71.920
Female	50	160	364	267.04	40.556	5.735	
Total	100	160	396	303	50.862	5.086	

The graph of mean of Quality of life gender wise is given below. Here error bar represents 95% confidence interval of mean.



## DISCUSSION

Limb amputation is a dreaded word in our society and in very rare circumstances would patients and relations accept this therapeutic procedure easily.

Statements such as ‘I would rather die than lose my limb’ and ‘that is not my portion’ are commonly heard in our hospitals. This is because amputation carries a stigma. It serves as a mode and mark of punishment for certain offenders in some parts of world [15].

When judging the success or failure of lower limb amputation, the assessment of QoL outcome is paramount. A number of factors need to be taken into consideration to ensure holistic reintegration of the amputees back into the society. Results of the studies suggest the fact that amputation continues to be associated with lower QoL scores [16].

Therefore the present study was aimed to find the differences which prevailed among both the genders in context of Quality of life. The result of the study suggested that out of 100 subjects who participated in the survey study, 50 subjects was male with minimum score of WHO QOL being 260 and maximum score being 396 and mean of WHO QOL was 338.96. The mean score of WHO QOL with

standard deviation among males subjects was  $338.96 \pm 30.707$ , standard error of 4.343.

Whereas among the other 50 subjects who participated in the study was females with minimum score of WHO QOL being 160 and maximum score being 364 and mean of WHO QOL was 267.04. The mean score of WHO QOL with standard deviation among females was  $267.04 \pm 40.556$ , standard error of 5.735.

The overall mean score of WHOQOL with standard deviation was  $303.00 \pm 50.862$  with standard error 5.086. The mean difference between both genders was 71.920.

After applying independent t test with p-value less than 0.05, the result suggested that there is a significant difference in Quality of life among males and females. Moreover the mean of quality of life of males is significantly greater than females, which further suggested that females after amputation have poorer quality of life in comparison of males. The greater score interpretation from the questionnaire indicate better quality of life which is evaluated after the calculations of four domains including- Physical health, Psychological, Social relationships and environment. QOL questionnaire reflects the view that quality of life refers to a subjective evaluation that is embedded in a cultural, social and environmental context [17]. This may reflect the fact that women have poor quality of life as a women post amputation is not accepted by the society, doesn't feel safe and is more devastated in comparison of males.

People with amputation need to adapt to the loss and changes in the pace of life in interpersonal, social and professional interactions. There are few studies addressing the quality of life of patients with amputation when compared to other pathologies [18]. Previous studies focused their approach primarily on physical functioning and the use of prostheses. However, in the last ten years, new research approaches have been introduced to

understand the psychosocial aspects of this population.

The amputation of a limb brings about several changes in the psychological and social functioning of an individual: alterations in self- concept and body images, decreased quality of life and loss of employment status or occupation.

It is observed from the study that females are not able to accept their bodily appearance post amputation, females are less satisfied with their work capacity, are emotionally more hampered, feels more worried, feels others are able to live their lives better which leads to more poor quality of life among females in comparison to males.

## CONCLUSION

The result of the studies shows that there was a gender difference in context of Quality of life. The key findings of the study suggest that the females with lower limb amputation have lower quality of life, in comparison of males with lower limb amputation.

## Clinical Implications

The findings of the study suggest that amputation is not just a medical problem in terms of lower & altered mobility but it also hampers the patient mentally causing emotional trauma and psychological disturbances which can affect a patient's quality of life.

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