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# Analysis of Physical Functioning and Social Functioning and Its Association with Body Image in Amputee's Individual: A Cross-Sectional Study

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## ABSTRACT

**Introduction:** An amputation is a life-changing event that results in significant physical and psychological challenges for the affected individual, and we will see the Problems related to the quality of life and body images of amputee patients are important.
**Objectives:** To analyze physical functioning and social functioning using SF-36 questionnaire in amputee individuals. And body image using the amputee body image scale. And determine the association of body image and physical functioning and social function of amputee individuals.
**Purpose of the Study:** Analyzing the quality of life and its association with body image in amputee individuals is important to understand how limb loss impacts various aspects of their well-being and adjustment. By examining the relationship between body image perception and quality of life,
**Methods:** A cross-sectional pilot study was conducted among amputee individuals. Patients were recruited from a district disability center located in Ahmednagar, Maharashtra. Demographic data, including age, gender, duration of amputation, and comorbidity, were collected, and participants were assessed using the SF-36 questionnaire to measure physical function and social function. Demographic data were analyzed using descriptive statistics.
**Result:** Questionnaires were distributed among 10 participants, and data were analyzed for 10 participants. Demographic details of participants were recorded, and each participant was interviewed individually in order to complete the data collection. The mean age (years) of participants was 54.3 $\pm$13.39. The demographic details of the participants of both groups. The SF-36 QoL scale two sub-dimensions average points (Table 2) were 31.00 $\pm$ 10.20 for physical function, 44.6 $\pm$ 14.87 for social function. The ABIS average score was 78.7 $\pm$ 6.59 (min71.00, max =91.00). The correlation between the quality of life sub-scales and AVIS scores was presented. The physical roles, social function, sub-dimension, and SF-36 showed negative significant correlations between the mean ABIS scores for two subscales (>0.005).
**Conclusion:** Quality of life of patients with amputation. Perception of one's physique deteriorated more than averagely. The most typical post-amputation concern was one connected to to mobilization. Training related to the amputation process and social support might significantly reduce problems with amputation.

***Keywords:*** amputation, body image, physical function, social function, etc.

## INTRODUCTION

An amputation is marked by an apparent visible and objective change damage the body, which may result from an illness process (such asa complication associated with diabetes) but also by trauma. Individuals with an amputation commonly experience symptoms of depression and anxiety within the first 2 years following amputation [1]. The most common cause of amputation is vascular diseases, whereas other causes include trauma, tumors, acute and chronic infections, and necrosis resulting from congenital and metabolic diseases [2]

The loss of a limb may significantly affect the standard of living foran individual, affecting their mobility, independence, self-esteem, and social interaction. The emotional impact of lower limb amputation can also be significant.[3] 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. [4] social changes related to the amputation, as well as the presence of psychological disturbances, might directly be detrimental to one's quality of life of these patients [5.]

The most obvious advantage of the SF-36 Quality of Life is measuring physical function and its related abilities. The SF-36's 36 items are divided into eight categories. sub-scales separated into two main groups: physical and mental health. The physical health scales include physical functioning, and the mental health scales include social functioning [6]

The Amputee Body Image scale was originally prepared in English to evaluate body image disorders in amputated patients. ABIS consists of a total of 20 items and evaluates how the amputated patient senses and feels about his/her body. The development of body image is an important element for adolescents and affects identity development, daily functions, and social relationships. One of the things that has been shown to have a substantial impact on psychosocial functioning and quality of life is body image concerns. [7]. The aim of this study was to analyze the physical and social functions and their association with body image in amputees.

## METHOD

### Study design

This study was designed as a cross-sectional survey

### Participant

The institutional Ethics Committee approved the request for ethical clearance. Participants who had both upper and lower limb amputations and were older than 18 were eligible. All amputation levels for both upper and lower limbs were covered.

## PROCEDURE

This is a cross-sectional study that was carried out in Amputee individual for one month. They were decided using purposive sampling. Once approval from the Institutional Ethics Committee was received, written and informed consent was obtained from upper and lower amputee individual. The individuals were divided according to the types of amputation and their samples were collected.

### Outcome Measures

### Health-Related Quality Of Life (HRQOL):

The health-related quality of life (HRQOL) of people with limb amputations using instruments is known to be valid and reliable for the general population. The SF-36 quality of life (QoL) is a generic scale and allows for wide perspective management. It was developed by the Rand Corporation in 1992. The SF-36 QoL is a self-rating scale. The scale consists of 36 items and provides a measurement of eight dimensions: physical function (ten items), social function (two items), physical roles

(four items), emotional roles (three items), mental health (five items), energy/vitality (four items), pain (two items), and general health (five items). The rating is performed on a Likert scale except for two items that were answered as yes/no. Scale sub-dimensions rate health between 0 and 100; 0 indicates a poor health status, while 100 indicates an excellent health status. The most obvious advantage of the SF-36 quality QoL is the measurement of physical function and related abilities.

**Amputee Body Image Scale (ABIS):**

The Amputee Body Image scale was originally prepared in English to evaluate body image disorders in amputated patients. The Amputee Body Image Scale (ABIS) consists of a total of 20 items and evaluates how the amputated patient senses and feels about his/her body. Scores are between 20 and 100 points; higher points indicate a poor body image. The original scale with five steps is graded where 1 denotes never, 2 Rarely, 3 sometimes, 4 often, and 5 always. Three questions (3, 12, and 16) are in the reverse order. The scale has a reliability of 0.8.

## RESULTS

Questionnaires were distributed among 10 participants and data were analyzed for 10 participants. Demographic details of participants were recorded and each participant was interviewed individually in order to complete the data collection. The mean age (years) of participants was 54.3 ±13.39. The demographic details of the participants of both groups are given below in (Table 1.)

**Table no1: Demographic details of the studied amputees (n= 10)**

| **Quantitative variable** | **Mean±SD** | |
|---|---|---|
| Age | 54.3 ±13.39 | |
| Comorbidity | | |
| DM | 20% | |
| BP | 80% | |
| Duration of amputation | 2.3 ± 0.75 | |
| Qualitative variables | | |
| Gender | Total No. | |
| | Male (n %) | 90% |
| | Female (n %) | 10% |

| **Reason for amputation** | |
|---|---|
| Accident | 4 |
| Infection | 3 |
| Gangrene | 2 |
| Diabetic foot | 1 |

The SF-36 QoL scale two sub-dimensions average points (Table 2) were 31.00 ± 10.20 for physical function, 44.6 ± 14.87 for social function.

**Table 2: SF-36**

| **SF-36 QoL sub-dimensions** | **Min-Max** | **Mean±SD** |
|---|---|---|
| physical function | 20.00-55.00 | 31.00 ± 10.20 |
| social function | 25.00-62.00 | 44.6 ± 14.87 |

The ABIS average score was 78.7 ± 6.59 (min71.00, max =91.00). [Table 3]

**Table 3: Amputee Body Image Scale**

| **Amputee Body Image Scale** | **Min-Max** | **Mean±SD** |
|---|---|---|
| | 71.00-91.00 | 78.7 ± 6.59 |

In Table 4, the correlation between the quality of life subscales and AVIS scores was presented. The physical roles and social function, sub-dimension, the SF-36 showed negative significant correlations between the mean ABIS scores for two subscales (>0.005).

**Table 4: SF-36 QoL and ABIS associations**

| SF-36 QoL | ABIS | |
|---|---|---|
| | r value | p-value |
| Physical function | - 0.09972 | 0.7840 |
| Social function | -0.5137 | 0.1288 |

## DISCUSSION

This study was made for determining the body image, QoL, and the problems of patients with amputation; the physical and emotional functional scores that are sub-dimensions of the quality of life are below the middle level. The average of sub-dimensions of quality of life of this study is lower than other studies in the literature.

In this study, the ABIS total point average was 78.7 $\pm$ 6.59. The ABIS average, which scales with amputated patients' body image disorders, shows that body image disorders are above the average. This shows that people who have had major amputations also have an impaired body image. Body image is a personal sense of one's body and is a multi-dimensional dynamic process.

Body image is affected by internal factors like age, gender, physical terms, and external factors, including environmental or social factors. Body image disorder is a result of social values emphasizing vitality, physical appearance, and health. Patients with lower limb amputations are exposed to several physical, psychological, and social problems. Training related to the amputation process and social support might significantly reduce psychological distress in amputee Patients' experiences with amputations fall into three broad types. have design Reactions upon learning that the amputation would be performed, issues encountered in the initial post-amputation period, and post-discharge issues have been identified as the three primary categories of patients' experience with amputation. The process of amputation varies from person to person and makes the patient uncomfortable. The disability caused by the loss of an organ and the psychosocial stress due to the social environment are important factors affecting QoL. It is necessary to provide an adaptation process that will help patients with extremity amputations with their social life, body image, and QoL after amputation and to listen to their experiences, feelings, challenges, and ways of dealing with these changes. In the qualitative results of the study, emotional effects from amputation, mostly due to reasons such as inability to move and limitation of movement, were expressed. However, there are problems experienced at the site of pain and amputation. In studies that resulted with the period after amputation affecting the accordance, it was determined that situations like anxiety and psychological resolve over time. Prosthesis usage in patients with amputation is an important factor associated with addressing a negative body image. It has been shown that other problems can be reduced with increased prosthesis satisfaction. Body image is the personal sense of the individual feelings and thoughts about their own body and appearance. As a result, the quality of life of patients who had undergone amputations was below the intermediate level. Perception of one's physique deteriorated more than averagely. Motion-related problems are the most prevalent post-amputation concern. In the correlation between the QoL subscales and ABIS scores, the physical and social function sub-dimension, SF-36 QoL, showed a negative and not significant correlation between the mean ABIS score for physical and social function subscales.

## CONCLUSION

Quality of life of patients with amputation. Perception of one's physique deteriorated more than averagely. The most frequent post-amputation concern was mobilization-

related problems. Training related to the amputation process and social support might significantly reduce problems with amputation.

**Ethical Approval:** Approved

**Conflicts of interest:** There are no conflicts of interest.

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