STM JOURNALS

International Journal of
Orthopedic Nursing and Practices

Volume 3, Issue 1, 2025
January–June
DOI (Journal): 10.37591/IJORNP

https://journals.stmjournals.com/ijornp

Research IJORNP

Assessment of Quality of Life and Coping Strategies Used by Amputated Patients Attending Orthopedics OPD to Provide Rehabilitation Program: A Descriptive Study

Monika[1,*], Kavita Choudhary[2], Krishna P.M.[1]

Abstract

Introduction: *Amputation is defined as the surgical removal of a body appendage such as limbs. It has a profound social, economic, physical and psychological impact on patients. Objectives of the study: To assess the quality of life and coping-strategies used by an amputated patient and to determine an association between the quality of life and coping-strategies with selected socio-demographic variables at Pt. B. D. Sharma, PGIMS, Rohtak.* ***Material and Method:*** *A quantitative research approach and descriptive cross-sectional was adopted for the study. WHOQQL-BREF scale and Brief-COPE scale were used for data collection on various dimensions of quality of life and coping-strategies.* ***Results:*** *40 patients were experiencing very poor and 56 patients were experiencing poor overall quality of life. Coping-strategies utilized by the patients with a predominant use of problem-focused by 50, avoidant by 34 and emotion-focused by 16 patients. There is no significant association between QoL and age, gender, marital status, educational status, occupation, income of the family, place of residence, site of amputation, leg involved, reason for amputation and walking ability but there is a significant association between QoL and use of prosthesis. There is no significant association between coping-strategies and age, gender, marital status, educational status, occupation, the income of the family and place of residence but there is some association between coping-strategies and site of amputation, leg involved, the reason for amputation, use of prosthesis and walking abilities. This study contributes valuable insights to inform the development of targeted rehabilitation programs for amputees attending orthopedics OPD at Pt. B. D. Sharma PGIMS, Rohtak.* ***Conclusion:*** *Quality of life is very poor to poor in amputees in each domain and coping-strategies used by these patients were inadequate. These patients need specific rehabilitation and support to enhance overall well-being and adaptation.*

Keywords: Amputation, assess, quality of life, coping-strategies, rehabilitation

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Received Date: February 22, 2025
Accepted Date: March 03, 2025
Published Date: March 20, 2025

Citation: Monika, Kavita Choudhary, Krishna P.M. Assessment of Quality of Life and Coping Strategies Used by Amputated Patients Attending Orthopedics OPD to Provide Rehabilitation Program: A Descriptive Study. International Journal of Orthopedic Nursing and Practices. 2025; 3(1): 23–39p.

INTRODUCTION

Amputation is defined as the surgical removal of a body appendage (limbs). Amputation can result from various causes, including trauma, vascular diseases like peripheral arterial occlusive disease, or complications from conditions like diabetes mellitus (DM) [1]. Diabetic foot complications significantly increase morbidity, mortality, and diminish quality of life, particularly following amputation [2].

Nowadays, over half of amputations are done on patients with vascular disease. Among these,

vascular disease, particularly associated with DM and peripheral arterial disease, stands out as the leading cause, constituting approximately 54% of all amputations globally. The frequency of limb loss is alarming, with over one million amputations performed annually worldwide, equivalent to one procedure every 30 sec [3]. Notably, the United States grapples with a substantial burden, with 25.8 million individuals affected by diabetes-related complications, a primary driver of lower extremity amputations. The Amputee Coalition of America reports an estimated 150,000 new lower extremity amputations yearly in the US [4].

Amputation forces the patient to change their lifestyle and living standard. Amputation impacts the individual on various levels, including socially, economically, physically, and psychologically. When focusing on physical support, amputees can benefit from the use of prostheses, and proper treatment and rehabilitation can enhance their Quality of Life (QoL), helping them reintegrate into society. Consequently, addressing how amputation affects an amputee's body image and overall well-being is a key nursing priority. This approach underscores the significance of nursing interventions in managing changes in body image. QoL evaluations typically include subjective assessments, such as surveys or interviews, that gather the patient's views on factors like pain, mobility, independence, social connections, and general life satisfaction. Healthcare providers typically incorporate both objective health indicators and subjective patient-reported outcomes to deliver well-rounded, individualized care that meets the patient's specific needs and preferences (Figure 1).

NEED FOR THE STUDY

The World Health Organization (WHO) defines Quality of Life (QoL) as an individual's perception of their position in life, shaped by the cultural and value systems in which they live, and in relation to their personal goals, expectations, standards, and concerns. Key indicators of QoL include wealth, employment, environment, physical and mental health, education, recreation, social connections, religious beliefs, safety, security, and freedom. The impact of amputation on an individual's QoL can be extensive and complex. To address the holistic needs of amputees, a comprehensive approach is essential, which includes not just physical rehabilitation but also attention to psychosocial and vocational factors. Rehabilitation programs often incorporate counseling, peer support, and vocational training to help individuals adjust and enhance their QoL. By acknowledging and tackling these diverse challenges, healthcare providers can better assist individuals in their adaptation and recovery. The impairment of body function and structure significantly affects amputees' daily activities and their participation in social life [5–12]. Personal attitudes and environmental factors also play a major role in determining their QoL post-amputation, as well as the goals of rehabilitation. Additionally, the psychological aspect is a critical factor in the life of an amputee. When individuals are unable to ambulate or perform basic tasks without assistance, it can significantly affect their self-perception and mental health. Therefore, interventions aimed at optimizing physical functioning and facilitating the effective use of prosthetics are essential components of comprehensive rehabilitation programs for amputees [13]. So, as nursing personnel, keeping in mind these problems the study was conducted.

OBJECTIVES OF THE STUDY

1. To evaluate the quality of life and the coping strategies employed by a patient who has undergone amputation at Pt. B.D. Sharma, PGIMS, Rohtak.
2. To determine an association between the quality of life and coping-strategies with selected socio-demographic variables at Pt. B. D. Sharma, PGIMS, Rohtak.

SAMPLING CRITERIA

Inclusion Criteria for Sampling

- Patients who provide consent for participation in the research study.
- Patients who have lower limb amputation.
- Patients who are present at the time of data collection.
- Patients who have amputation within the past 3 months to 1 year.

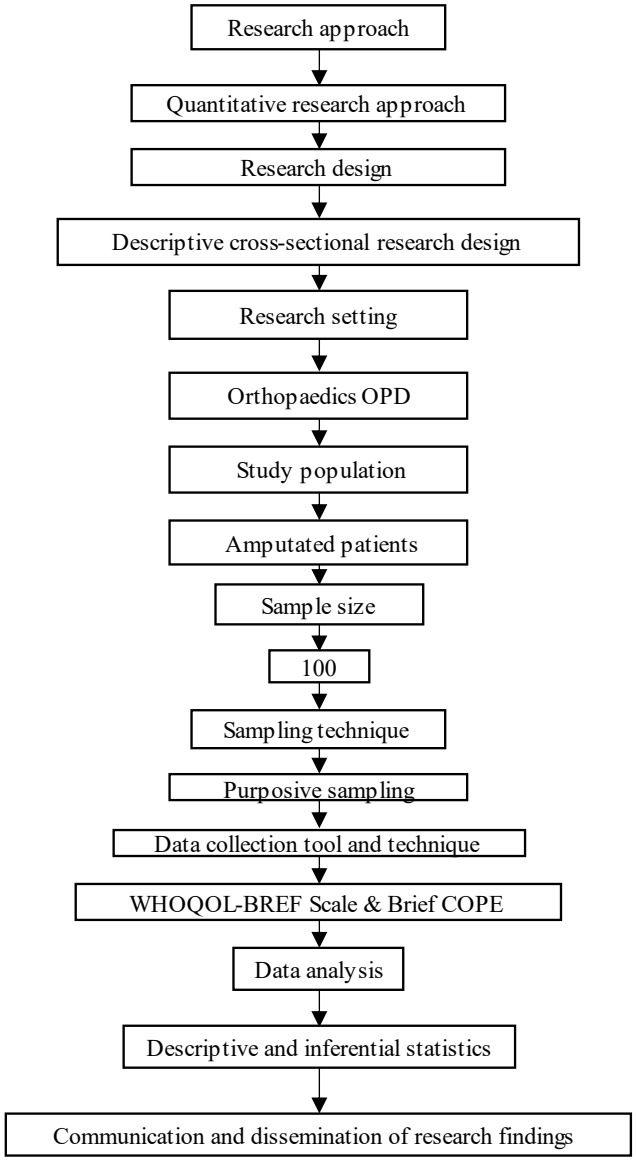

Figure 1. Research design.

Exclusion Criteria for Sampling

- Patients who have recently amputated.
- Unconscious patients.
- Patient with minor amputation (toes and metatarsal).
- Patients who have four limbs amputated.

DATA COLLECTION TOOL

WHOQOL-BREF and Brief-COPE scales were used to assess the QoL and coping-strategies respectively among the amputated patients who have LLA.

Section 1: Sociodemographic

Socio-demographic characteristics of the participants: It mainly contained all the sociodemographic aspects for the lower limb amputees covering important areas such as age, gender, marital status, educational status, occupation, income of family, type of family, place of residence, reason for amputation, use of prosthesis, and walking ability.

Section 2: WHOQOL-BREF

The WHO Quality of Life Scale-Brief (WHOQOL-BREF) is a 26-item version derived from the WHOQOL-100. The scoring procedure for the WHOQOL-BREF follows the same steps as the WHOQOL-100 (World Health Organization, 2004) [14].

Section 3: BRIEF Cope (Carver, 1997) [15]

The three types of coping subscales identified were:

1. Problem-Focused Coping (items 2, 7, 10, 12, 14, 17, 23, 25).
2. Emotion Focused Coping (items 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28).
3. Avoidant coping (items 1, 3, 4, 6, 8, 11, 16, 18, 19).

ETHICAL CLEARANCE

Permission was obtained from the concerned authority (HOD) Orthopedics Department, Pt. B. D. Sharma, PGIMS, Rohtak, Haryana. A verbal/written informed consent was taken from the patients who had LLA within the past 3 months to 1 year before enrolling them into the study. No invasive procedure is there.

PROCEDURE FOR DATA COLLECTION FOR FINAL STUDY

Before collecting data for the present study, approval was obtained from the Principal of the College of Nursing, as well as permission from the Head of the Department of Orthopedics at PGIMS, Rohtak. Data collection took place between January 23, 2024, and February 24, 2024. All participants were thoroughly briefed on the purpose of the study and assured that their confidentiality would be maintained throughout. Assessment of QoL and coping-strategies was taken in 25 settings with four subjects per day. After the assessment phase, a rehabilitation program was given to the lower limb amputees. In the rehabilitation program, subjects were oriented to care for stump and prosthesis, the management of phantom limb pain, when to contact the medical team, psychological support, exercise and follow-up care.

DATA ANALYSIS

Data analysis was conducted based on the study's objectives and hypotheses using both descriptive and inferential statistics.

- Descriptive statistics were utilized to examine the frequency and percentage of demographic data, as well as the mean and standard deviation of QoL and coping strategies employed by amputee patients attending the Orthopedics OPD.
- Inferential statistics were applied to explore associations. The Chi-square test was used to analyze the relationship between QoL, coping strategies, and selected sociodemographic variables.
- Sample characteristics were presented through frequency and percentage distributions, displayed in tables, charts, and graphs.
- SPSS 20.0 software was used to carry out the data analysis.

RESULT

Table 1 indicates that out of 100 subjects, the majority 27 (27%) were found in the age group of 40–49 years followed by 23 (23%) samples in the age group of 50–59 years and 20 (20%) of the samples were in the age group of 30–39 years and 14 (14%) of the samples were in the age group of 60–69 years and 12 (12%) of the samples were in the age group of 18–29 years and 4 (4%) of the samples were in the age group of above 70 years.

- With regard to gender, 89 (89%) were males and 11 (11%) were females.
- With regard to marital status, 85 (85%) were married and 15 (15%) were unmarried.
- Educational status shows that the majority 34 (34%) of the samples were in secondary school followed by 24 (24%) senior secondary school who were illiterate, 19 (19%) samples were undergraduates and above and 14 (14%) who were illiterate and 09 (09%) were having primary education.

- According to occupation, 26 (26%) were non-govt. employees, 19 (19%) were farmers, 13 (13%) were unemployed, 12 (12%) were pensioners, 10 (10%) were homemakers, 9 (9%) were laborers, 7 (7%) were govt. employee and 4 (4%) were self-employed.
- Family income shows that 37 (37%) samples possessed income between Rs. 10,000 and 20,000 and 3 (31%) samples had below Rs. 10,000 and 20 (20%) had income between Rs. 21,000 and 30,000 and 8 (8%) had income between Rs. 31,000 and 40,000 and 4 (4%) had income above Rs. 41,000.
- According to residences, 75 (75%) were rural and 25 (25%) were urban.
- The majority of samples, 63 (63%) were living in nuclear families and the remaining 37 (37%) were living in joint families.
- At the site of amputation, it was found that the majority 71 (71%) sample had a below-knee amputation and 29 (29%) had an above-knee amputation. In terms of leg-involved in the amputation of patients, 47 (47%) were right leg and 46 (46%) were left leg and seven (07%) were both leg involved.
- In regards of the reason for amputation, 47 (47%) were due to peripheral vascular disease and 36 (36%) were due to traumatic injury and 17 (17%) were due to other reasons.
- In regards of the use of prostheses by amputated patients; 53 (53%) were not using any prosthesis and 47 (47%) were using the prosthesis.
- In regards of walking ability; 41 (41%) were regularly walking with assistive aids and 38 (38%) were unable to walk and 16 (16%) were regularly walking with other person's help and 5 (5%) were regularly walking without any aids.

Table 1. Depicts the frequency and percentage distribution of socio-demographic variables of the samples.

S. N.	Sample characteristics	Frequency (F)	Percentage
1	*Age*		
	18–29 years	12	12%
	30–39 years	20	20%
	40–49 years	27	27%
	50–59 years	23	23%
	60–69 years	14	14%
	Above 70 years	4	4%
2	*Gender*		
	Male	89	89%
	Female	11	11%
3	*Marital status*		
	Married	85	85%
	Unmarried	15	15%
	Divorce	0	0%
	Widow/Widower	0	0%
4	*Educational status*		
	Illiterate	14	14%
	Primary education	9	9%
	Secondary education	34	34%
	Senior secondary education	24	24%
	Undergraduate and above	19	19%
5	*Occupation*		
	Laborer	9	9%
	Farmer	19	19%
	Government employee	7	7%

	Non Govt. employee	26	26%
	Pensioner	12	12%
	Unemployed	13	13%
	Self-employed	4	4%
	Homemaker	10	10%
6	*The income of the family per month (Rs.)*		
	<Rs. 10,000	31	31%
	Rs. 10,000–20,000	37	37%
	Rs. 21,000–30,000	20	20%
	Rs. 31,000–40,000	8	8%
	Above Rs. 40,000	4	4%
7	*Place of residence*		
	Rural	75	75%
	Urban	25	25%
8	*Types of family*		
	Nuclear family	63	63%
	Joint family	37	37%
9	*Site of amputation*		
	Below knee	71	71%
	Above knee	29	29%
10	*Leg involved*		
	Left leg	46	46%
	Right leg	47	47%
	Both	7	7%
11	*Reason for amputation*		
	Peripheral vascular disease	47	47%
	Traumatic or crush injury	36	36%
	Others	17	17%
12	*Use of prosthesis*		
	Yes	47	47%
	No	53	53%
13	*Walking ability*		
	Regularly walking without aids	5	5%
	Regularly walking with assistive aids	41	41%
	Regularly walking with other person's help	16	16%
	Unable to walk	38	38%

Table 2. Frequency and percentage distribution of subjects according to quality of life.

Quality of life	Frequency	Percentage
Very poor	40	40%
Poor	56	56%
Neither poor nor good	4	4%
Good	0	0%
Very good	0	0%
Total	100	100

Overall Quality of Life

Table 2 and Figure 2 show the overall quality of life of amputated patients in the study, which shows that the majority of the subjects 56 (56%) had poor quality of life. Subjects who were having very poor

quality of life were 40 (40%). Only 4 (4%) of the subjects had their quality of life as neither poor nor good.

Level of Health

Table 3 and Figure 3 depict the level of health of amputated patients; the majority of the subjects 57 (57%) were dissatisfied with their health. Subjects who were very dissatisfied regarding their health was 33 (33%). Those who were neither satisfied nor dissatisfied with their level of health were 10 (10%).

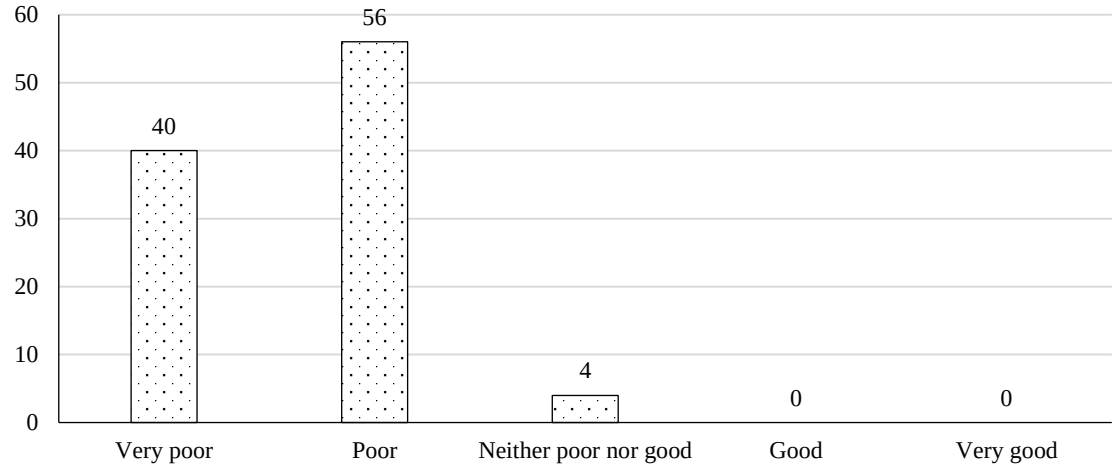

Figure 2. Bar graph shows the frequency of distribution of amputated patients overall quality of life.

Table 3. Frequency and percentage distribution of subjects according to level of health.

Level of health	Frequency	Percentage
Very dissatisfied	33	33%
Dissatisfied	57	57%
Neither dissatisfied nor dissatisfied	10	10%
Satisfied	0	0%
Very satisfied	0	0%
Total	100	100

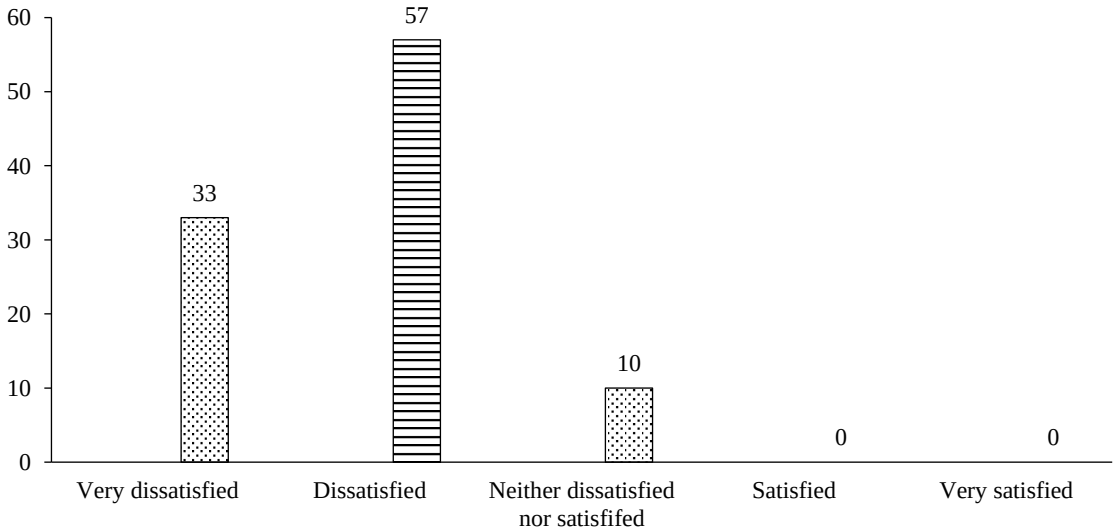

Figure 3. Bar graph shows the frequency distribution of amputated patients by level of health.

Table 4 and Figure 4 signify that the mean scores of all domains are very low. Moreover, only the social domain has a somewhat higher score than other domains.

The mean of the physical domain is 27.3, the mean of the psychological domain is 28.03, the mean of the environmental domain is 28.5 and the mean of the social domain is 42.8.

Assessment of Coping-Strategies of Amputated Patients

Table 5 signifies that problem-focused coping is used by 50 subjects, avoidant coping is used by 34 subjects and emotional-focused by 16 subjects. Problem-focused coping primarily includes taking active steps to address the issue, utilizing instrumental support, reframing situations positively, and engaging in planning.

Emotion-focused coping primarily involves seeking emotional support, expressing feelings, using humor, practicing acceptance, relying on religion, and engaging in self-blame. Avoidant coping typically consists of distracting oneself, denying the problem, using substances, and withdrawing from activities.

Coping-Strategies Used by Amputated Patients

Table 5 and Figure 5 signify that problem-focused coping is used by 50 subjects, avoidant coping is used by 34 subjects and emotional-focused by 16 subjects.

Table 4. Showing the Mean and SD of all four domains.

Characteristic	Physical domain	Psychological domain	Social domain	Environment domain
Mean	27.34	28.03	42.86	28.5
SD	16.7	13.8	16.0	13.0

SD = Standard deviation.

Table 5. Showing evaluation of coping-strategies used by amputated patients.

Coping -strategies	Problem-focused	Emotional-focused	Avoidant
Total subjects	50	16	34

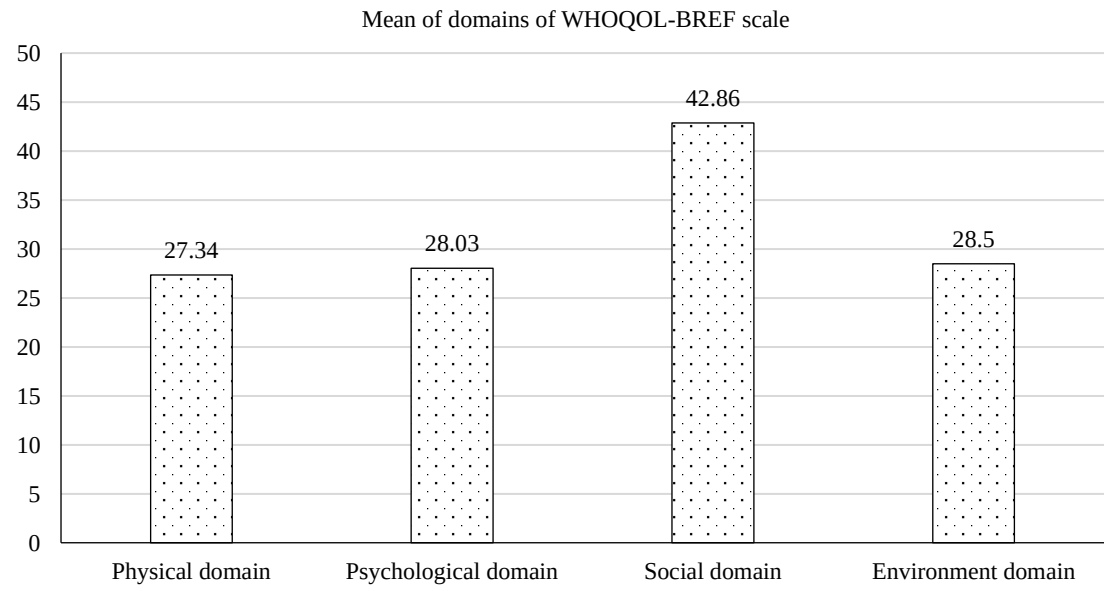

Figure 4. Bar graph shows mean of quality-of-life domains score of amputated patients.

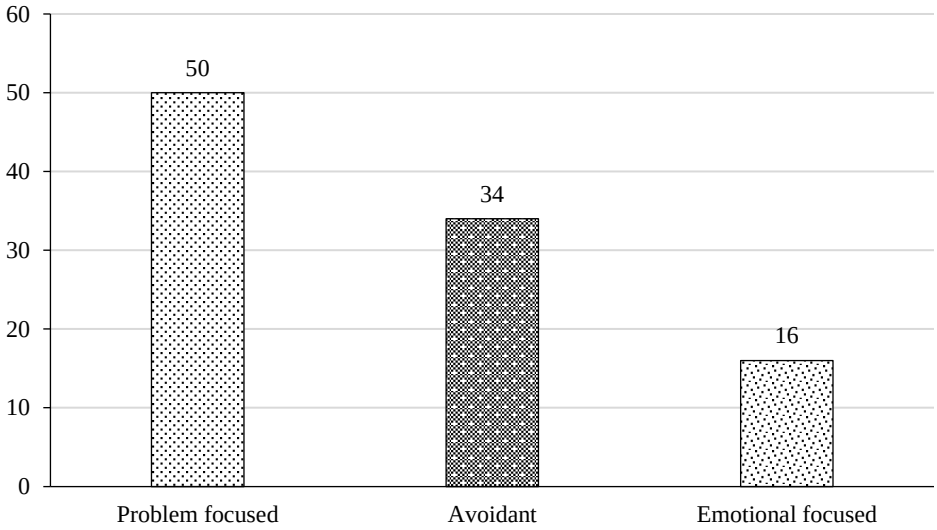

Figure 5. Bar graph shows the frequency of coping-strategies used by amputated patients.

Table 6. Shows the mean and standard deviation of three different coping-strategies.

Coping-strategies	Problem focused	Emotional focused	Avoidant
Mean	2.2055	2.057	1.8
SD	0.912176	0.377727	0.3

SD=Standard deviation.

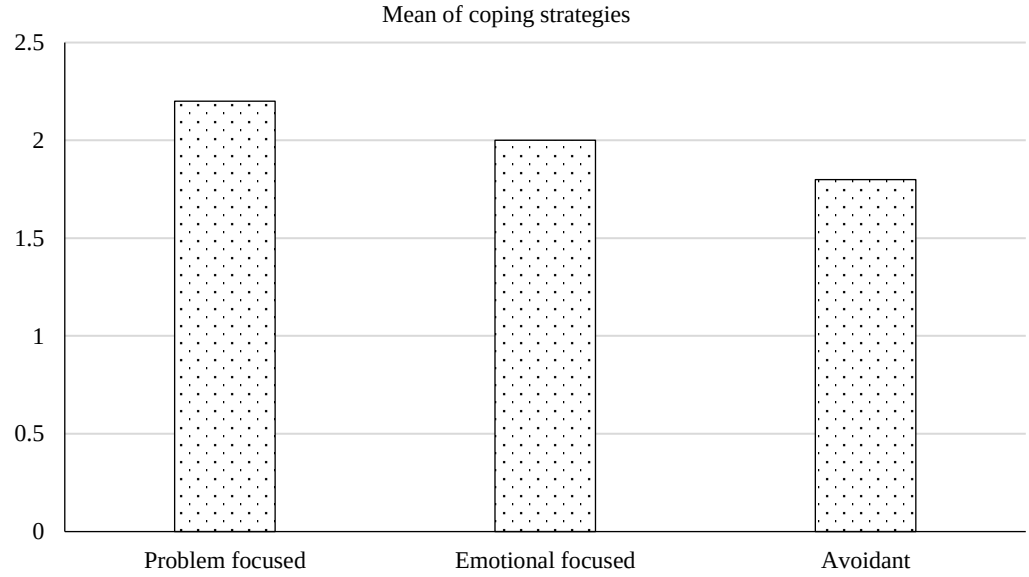

Figure 6. Bar Graph shows the mean of three different coping-strategies.

Mean of Coping-Strategies

Table 6 signifies that the mean of problem-focused coping is 2.2 and the standard deviation is 0.9, the mean of emotional-focused coping is 2 with a standard deviation of 0.3 and the mean of avoidant coping is 1.8 with a standard deviation of 0.3. The mean of all three coping-strategies is very low.

Figure 6 signifies that the mean of all the coping-strategies is low. It signifies that the mean of problem-focused coping is 2.2, the mean of emotional-focused coping is 2 and the mean of avoidant coping is 1.8.

Associating the Quality of Life with Selected Socio-Demographic Variables of Samples

Table 7 depicts that:

1. The calculated Chi-square value (9.903) is lower than the tabulated Chi-square value (18.31) at 10° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and age.
2. The calculated Chi-square value (1.612) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and gender.
3. The calculated Chi-square value (1.511) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and marital status.
4. The calculated Chi-square value (9.579) is lower than the tabulated Chi-square value (15.51) at 8° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and educational status.
5. The calculated Chi-square value (6.977) is lower than the tabulated Chi-square value (23.68) at 14° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and occupation.
6. The calculated Chi-square value (9.579) is lower than the tabulated Chi-square value (15.51) at 8° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and the income of the family.
7. The calculated Chi-square value (1.96) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and place of residence.
8. The calculated Chi-square value (1.374) is lower than the tabulated Chi-square value (9.49) at 4° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and type of family.
9. The calculated Chi-square value (2.60) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and the site of amputation.
10. The calculated Chi-square value (6.83) is lower than the tabulated Chi-square value (9.49) at 4° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and leg involved.
11. The computed Chi-square value (5.58) is lower than the critical Chi-square value (9.49) at 4° of freedom and a 0.05 significance level. Therefore, it indicates that there is no significant relationship between quality of life and the reason for amputation.
12. The computed Chi-square value (6.33) exceeds the critical Chi-square value (5.99) at 2° of freedom and a 0.05 significance level. As a result, it demonstrates a significant association between quality of life and the use of prostheses.
13. The calculated Chi-square value (12.37) is lower than the tabulated Chi-square value (12.59) at 6° freedom and 0.05 level of significance. Hence, it proves that there is no significant association between quality of life and walking ability.

There is no statistically significant association in the quality of life of amputated patients with selected socio-demographic variables such as age, gender, marital status, educational status, occupation, income of family per month, place of residence, type of family, site of amputation, leg involved, cause of amputation and walking ability respectively.

The calculated Chi-square value (6.33) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is a significant association between quality of life and the use of prostheses. Only the use of prostheses and quality of life have some significant relation.

Table 7. Depicts level of association between Quality of life with selected socio-demographic variables.

Socio-demographic variables	Quality of life			Total	Calculated value χ2/p value	Df	Result
	Neither poor nor good	*Poor*	*Very poor*				
Age (years)	0	6	6		9.903[a]/0.449	10	NS
18–29	1	10	9	12			
30–39	1	15	11	20			
40–49	0	15	8	27			
50–59	2	6	6	23			
60–69	0	4	0	14			
Above 70		04		04			
Gender							
Male	4	48	37	89	1.612[a]/0.447	2	NS
Female	0	8	3	11			
Marital Status							
Married	4	48	33	85	0.924[a]/0.630	2	NS
Unmarried	0	8	7	15			
Divorce	0	0	0	0			
Widow/Widower	0	0	0	0			
Educational Status							
Illiterate	2	10	2	14	9.579[a]/0.296	8	NS
Primary Education		6	3	9			
Secondary	0	17	16	34			
Senior Secondary	1	14	10	24			
Under graduation and above	1	9	9	19			
Occupation							
Labor	0	7	2	9	6.977[a]/0.936	14	NS
Farmer	0	9	10	19			
Govt. employee	0	4	3	7			
Private employee	2	14	10	26			
Pensioner	1	6	5	12			
Unemployed	1	8	4	13			
Self-employed	0	2	2	4			
Home-maker	0	6	4	10			
Place of Residence							
Rural	2	41	32	75	1.96[a]/0.375	2	NS
Urban	2	15	8	25			
Type of family							
Nuclear	2	37	24	63	1.374[a]/0.849	2	NS
Joint	2	19	16	37			
Site of Amputation							
Below knee	4	37	30	71	2.60[a]/0.272	2	NS
Above knee	0	19	10	29			
Leg Involved							
Left leg	2	26	18	46	6.83[a]/0.145	4	NS
Right leg	2	29	16	47			
Both leg	0	1	6	7			

Reason for Amputation							
Peripheral vascular disease	03	30	14	47	5.58[a]/0.233	4	NS
Traumatic or crush injury	1	16	19	36			
Others	0	10	7	17			
Use of Prosthesis							
Yes	4	22	21	47	6.33[a]/0.042	2	NS
No	0	34	19	53			
Walking Ability					12.37[a]/0.054	6	NS
Regularly walking without aids	0	2	3	5			
Regularly walking with assistive aids	4	18	19	41			
Regularly walking with other person's help	0	8	8	16			
Unable to walk	0	28	10	38			

Associating the Coping-Strategies with Selected Socio-Demographic Variables of Samples

Table 8 depicts that:

1. The calculated Chi-square value (10.19) is lower than the tabulated Chi-square value (18.31) at 10° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and age.
2. The calculated Chi-square value (3.69) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and gender.
3. The calculated Chi-square value (4.038) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and marital status.
4. The calculated Chi-square value (5.984) is lower than the tabulated Chi-square value (15.51) at 8° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and educational status.
5. The calculated Chi-square value (11.65) is lower than the tabulated Chi-square value (23.68) at 14° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and occupation.
6. The calculated Chi-square value (6.65) is lower than the tabulated Chi-square value (15.51) at 8° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and the income of the family.
7. The calculated Chi-square value (0.713) is lower than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and place of residence.
8. The calculated Chi-square value (7.55) is lower than the tabulated Chi-square value (9.49) at 4° of freedom and 0.05 level of significance. Hence, it proves that there is no significant association between coping-strategies and type of family.
9. The calculated Chi-square value (9.52) is more than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is a significant association between coping-strategies and the site of amputation.
10. The calculated Chi-square value (11.25) is more than the tabulated Chi-square value (9.49) at 4° of freedom and 0.05 level of significance. Hence, it proves that there is a significant association between coping-strategies and the leg involved.
11. The calculated Chi-square value (10.08) is more than the tabulated Chi-square value (9.49) at 4° of freedom and 0.05 level of significance. Hence, it proves that there is a significant association between coping-strategies and the reason for amputation.

12. The calculated Chi-square value (61.66) is more than the tabulated Chi-square value (5.99) at 2° of freedom and 0.05 level of significance. Hence, it proves that there is a significant association between coping-strategies and the use of the prosthesis
13. The calculated Chi-square value (50.75) is more than the tabulated Chi-square value (12.59) at 6° of freedom and 0.05 level of significance. Hence, it proves that there is a significant association between coping-strategies and walking ability.

Table 8. Depicts the level of association between Coping-strategies with selected socio-demographic variables.

Socio-demographic variables	**Coping-strategies**			**Total**	**Calculated value χ2/p value**	**Df**	**Result**
	Avoidant	***Emotional***	***Problem-based***				
Age (years)					10.19[a]/0.424	10	NS
18–29	4	1	7	12			
30–39	8	2	10	20			
40–49	8	6	13	27			
50–59	10	1	12	23			
60–69	3	4	7	14			
Above 70	1	2	1	4			
Gender							
Male	33	13	43	89	3.69[a]/0.157	2	NS
Female	1	3	7	11			
Marital Status							
Married	26	13	46	85	4.038[a]/0.133	2	NS
Unmarried	8	3	4	15			
Divorce	0	0	0	0			
Widow/Widower	0	0	0	0			
Educational Status							
Illiterate	4	5	5	14	5.984[a]/0.649	8	NS
Primary Education	4	1	4	9			
Secondary	11	5	18	34			
Senior Secondary	8	2	14	24			
Under graduation and above	7	3	9	19			
Occupation							
Labor	5	1	3	9	11.655[a]/0.634	14	NS
Farmer	5	2	12	19			
Govt employee	2	2	3	7			
Private employee	9	3	14	26			
Pensioner	6	1	5	12			
Unemployed	5	2	6	13			
Self-employed	1	1	2	4			
Home-maker	1	4	5	10			
Income of the family per month (Rs.)							
Below 10,000	10	6	15	31	6.652[a]/0.575	8	NS
10,000–20,000	11	6	20	37			
21,000–30,000	6	2	12	20			
31,000–40,000	4	2	2	8			
Above 40,000	3	0	1	4			

Place of residence							
Rural	27	11	37	75	0.713[a]/0.700	2	NS
Urban	7	5	13	25			
Type of family							
Nuclear	18	8	37	63	7.55[a]/0.109	2	NS
Joint	16	8	13	37			
Site of Amputation							
Below knee	18	11	42	71	9.52[a]/0.009	2	S
Above knee	16	5	8	29			
Leg involved							
Left leg	11	8	27	46	11.258[a]/0.024	4	S
Right leg	17	7	23	47			
Both legs	6	1	0	7			
Reason for amputation							
Peripheral vascular disease	18	5	24	47	10.08[a]/0.039	4	S
Traumatic or crush injury	13	4	19	36			
Others	3	7	7	17			
Use of prosthesis							
Yes	4	0	43	47	61.664[a]/0.000	2	S
No	30	16	7	53			
Walking Ability							
Regularly walking without aids	0	0	5	5	50.75[a]/0.000	6	S
Regularly walking with assistive aids	4	2	35	41			
Regularly walking with other person's help	6	4	6	16			
Unable to walk	24	10	4	38			

There is no statistically significant association in coping-strategies of amputated patients attending Orthopedics OPD of PGIMS with selected socio-demographic variables such as age, gender, marital status, educational status, occupation, income of family per month, place of residence, and type of family respectively. There is a significant association in coping-strategies of amputated patients attending Orthopedics OPD of PGIMS with selected socio-demographic variables like the site of amputation, leg involved, cause of amputation, use of prosthesis and walking ability respectively.

DISCUSSION

- The majority of subjects (23%) of subjects belong to 40–49 years of age.
- The majority of subjects (89%) were males.
- The majority of subjects (85%) were married.
- The majority of subjects (34%) of the samples were secondary school education.
- The majority (26%) were non-govt. employees.
- The majority (37%) of samples possessed income between Rs. 10,000 and 20,000.
- The majority (75%) of subjects belong to the rural area.
- The majority (63%) were living in the nuclear family.
- The majority (71%) sample had below-knee amputation.
- The majority 47%) were right-leg amputations.
- The majority (47%) were amputated due to peripheral vascular disease.
- The majority (53%) were not using any prosthesis. only two studies reported on the use of prostheses following amputation.
- The majority (41%) were regularly walking with assistive aids.

Out of 100 subjects, the overall QoL of amputated patients in the study shows that the majority of the subjects 56 (56%) had poor quality of life. Subjects who were having very poor quality of life were 40 (40%). Only 4 (4%) of the subjects were having their quality of life as neither poor nor good. The health status of amputee patients reveals that most participants, 57 (57%), expressed dissatisfaction with their health. A total of 33 (33%) participants were very dissatisfied with their health, while 10 (10%) reported being neither satisfied nor dissatisfied with their health condition. The coping-strategies are predominately problem-focused coping used by 50 subjects, avoidant coping used by 34 subjects and emotional-focused by 16 subjects [16–19].

Amputation profoundly affects physical, spiritual, mental and social aspects. Recognizing and strengthening the factors that influence illness acceptance can play a crucial role in helping individuals adapt to their new situation and enhance their quality of life [20]. Assessing QoL post-lower limb amputation is crucial [21]. Lower limb amputation impacts on mobility, social activities, roles and psychological well-being [22]. Nurses can also contribute to the rehabilitation process for amputees, ultimately improving their quality of life [23]. Quality of life (QoL) was found to have a negative correlation with depression, anxiety, body image concerns, activity limitations, and ineffective coping strategies, while it was positively correlated with perceived social support, satisfaction with prosthetics, self-esteem, and problem-focused coping. Coping styles were identified as significant predictors of psychosocial adaptation, with avoidance coping being particularly linked to psychological distress and poor adjustment [24]. These results highlight the potential benefits of interventions aimed at reducing avoidant coping behaviors and promoting more problem-focused coping strategies to support adaptation and prevent psychosocial difficulties following amputation [25]. Peer visitation enhances mental health, attitudes and overall rehabilitation outcomes for new amputees, with potential applicability to the broader amputee population [26]. There is significant difference observed in QoL between rehabilitated and non-rehabilitated lower limb amputees [27].

CONCLUSION

The present study shows that there is a significant low QoL of amputated patients. Overall QoL is very poor in 40 subjects, poor in 56 subjects, neither poor nor good in 4 subjects, good and very good of none of subjects. Mean of each domain is also very low. The coping strategies employed by these patients are insufficient. Problem-focused coping was used by 50 subjects, emotional-focused coping was used by 16 subjects and avoidant coping was used by 34 subjects. Mean for all these subscales is also low.

Moreover, it is also found that there is no significant association between quality of life with socio demographic variables such as age, gender, marital status, educational status, occupation, monthly family income, place of residence, site of amputation, leg involved, cause of amputation and walking ability. However, there is significant association between quality of life and use of prosthesis. There was no significant association found between coping strategies and sociodemographic variables such as age, gender, marital status, educational level, occupation, monthly income, place of residence, and family type. This indicates that coping strategies are not related to these variables. Site of amputation, leg involved, cause of amputation, use of prosthesis and walking ability. Hence, there is some association between coping-strategies and these five socio demographic variables.

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