

Effect of Self-Compassion Training Program on Self-esteem and Quality of Life Among Patients with Post Diabetic Foot Amputation

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Abstract

Background: Amputation is known as a triple insult since it causes loss of function, sensation, and alteration in body image. This abrupt transformation affects the individual's self-esteem and quality of life due to physical activity restrictions immediately following amputation. **Aim of the study:** was to evaluate the effect of a self-compassion training program on self-esteem and quality of life among patients with post diabetic foot amputation. **Research design:** Quasi-experimental research design, pre-posttest was conducted. **Setting:** The study was conducted at the Surgical Outpatient Clinic of Benha University Hospital. **Subject:** A purposive sample of (60) patients with post-foot amputation was chosen. **Tools of data collection:** I: Interviewing questionnaire, II: Self-compassion scale, III: Self-esteem Scale, IV: Quality of Life Scale. **Results:** The main findings of the study were: less than two third of the studied patients had high level of self-compassion post program, nearly two third of them had moderate level of self-esteem and average level of quality of life post program implementation. There was a highly statistically significant positive correlation between total mean score of self-compassion, self-esteem and quality of life among studied patients following program implementation. **Conclusion:** The self-compassion program applied in the current study has the potential to dramatically increase self-compassion, self-esteem, and quality of life in patients with post-diabetic foot amputations. **Recommendations:** As a consequence of the favorable impacts of the self-compassion training program, it is advised that the same protocol be incorporated into the rehabilitation process for elderly patients with foot amputation. A further study should demonstrate such a training program in various settings and with a large number of amputee-elderly patients.

Key words: Self-compassion training program, Self-esteem, Quality of life, Post diabetic foot amputation

Introduction

Amputation is the removal of a whole or a portion of a limb from the body when a limb condition is incurable or when a life-threatening exists. Peripheral vascular disease, diabetes, and trauma account for 82% of all amputations (Rabie et al., 2020). Furthermore, diabetic foot amputation is one of the most prevalent forms of amputation; it is used to treat diabetic foot ulcers, which are one of the most serious complications of diabetes, have a significant influence on the health of affected individuals, and are the leading cause of morbidity and mortality all over the world. Patients with diabetes estimated around 3% of the whole population in the United States, with more than 50% requiring foot amputations (Kumar et al., 2020).

Moreover, diabetic foot amputation is a painful incident, both as a surgical procedure and

because of its consequences. It is perceived as an assault on bodily integrity, and in addition to physical distress, it can aggravate several disharmonies that affect the patient's well-being. Amputation significantly alters the patient's daily life, particularly in psychosocial relationships, and can result in despair, nervousness, anxiety, depression, low self-esteem, stigma, and isolation (Roşca et al., 2021).

Self-esteem is considered one of the most important indicators of mental health in elderly people. It refers to an individual's sense of worth as well as the degree of confirmation and approval by others. As a result, confronting a complicated condition as amputation with changes in body image, as well as the various restrictions experienced by the elderly, substantially threatens their self-esteem (Alavi et al., 2017). Several studies have indicated that amputees have low self-esteem and social

isolation as a result of their disability, as well as a decrease in quality of life (Mireille & Foje, 2019).

Diabetic foot amputation has an adverse impact on patients' lives and reduces their overall quality of life. Individuals' lifestyles may differ due to restrictions in physical movement caused by health problems or organ losses. In addition, amputation results in loss of function, body image, occupation, and social relations. Following amputation, individuals feel that their life objectives are at risk and may experience extreme feelings such as anxiety about being dependent on the prosthetic limb, fear of death, anger, helplessness, and despair (Şimsek et al., 2020).

Self-compassion training is recognized as the ability to feel empathy, warmth, love, and acceptance for oneself. Self-compassion is an awareness and acceptance of one's own suffering, viewing it as a natural aspect of the human experience rather than ignoring it or criticizing oneself. Self-compassion helps patients with amputations connect more deeply with themselves, be non-judgmental toward it, become motivated, self-assured, and confident, suffer less from mental health conditions, and be more resilient (Neff & Germer, 2022).

Psychiatric and mental health nurses play vital roles in providing psychological support for patients with amputation to help patients counteract symptoms such as anxiety, shame, and feelings of uselessness that occur after amputation. In addition, self-compassion has illustrated efficacy in managing emotional responses, improving positive affect, happiness, optimism, and extroversion, lowering self-criticism, and physiological arousal and perceiving the same stressful situation as less stressful than before (Mifsud et al., 2021). A compassionate attitude towards oneself for patients with amputation results in a state of mindfulness in which a person tends to observe feelings and thoughts in a non-judgmental way. Therefore, the ability to stop any self-blame and self-criticism can result in a positive body image, increase self-esteem, and improve the quality of life (Wakelin et al., 2022).

Significance of Study

Amputation caused by diabetes is one of the most serious problems; more than 1 million limbs are amputated each year, one every 30 seconds globally (Shakshi & Ranju, 2019). Several studies have shown that following limb amputation, patients can suffer from a distorted body image, low self-esteem, social isolation, a decrease in their quality of life, and increased dependency on others (Khan et al., 2018). According to research conducted at Beni-Suef University Hospital's outpatient clinic, 60% of the total 70 studied patients after amputation had an unhealthy or poor quality of life (Ahmed et al., 2023). Also, there is a lack of studies on self-compassion in patients with amputation for this reason; this study evaluates the effect of a self-compassion training program on self-esteem and quality of life among patients with post diabetic foot amputation.

Aim of the study:

To evaluate the effect of self-compassion training program on self-esteem and quality of life among patients with post diabetic foot amputation.

Research hypotheses:

Levels of self-compassion, self-esteem and quality of life among patients with post diabetic foot amputation would be enhanced following the program implementation.

Subject and Methods

Research Design:

Quasi-experimental research design was used (one group pre-posttest design).

Setting of the study:

This study was conducted at Surgical Outpatient Clinic of Benha University Hospital.

Sample size:

A purposive sample of (60) patients with post diabetic foot amputation who were admitted to the previously mentioned setting. The sample size was obtained using the following formula: n

= $(z^2 \times p \times q) / D^2$ for an 80% power and a 95% confidence level. These inclusion criteria were used to choose those patients: first experience with lower limb amputation, unilateral amputation (below knee amputation and above knee amputation), able to read and write and able to communicate.

Tools of the Study:

The data was gathered using the following tools:

Tool I: - Structured Self-administered Questionnaire:

To collect the socio-demographic and clinical characteristics of the patients.

Part 1: Demographic characteristics as (age, sex, marital status, educational level, occupation, residence, income, who live with and family support).

Part 2: Clinical data as (duration of diabetes, diabetes mellitus medication, amputation site and amputation part).

Tool II: Self-Compassion Scale (SCS): This scale was developed by **Neff, (2003)** to measure self-compassion. It consisted of 26-item rated on a 5-point Likert scale ranged from (1= almost never) to (5 = almost always). The scale is divided into six sub-scales: self-kindness (5 items), self-judgment (5 items), common humanity (4 items), isolation (4 items), mindfulness (4 items), and identification (4 items). Before computing the subscale mean, subscale items such as self-judgment, isolation, and over identification are reversed to negative.

Scoring system:

Low self-compassion: <50%

Moderate self-compassion: 50 % - 70%

High self-compassion :> 70%

Tool III: Rosenberg Self- Esteem Scale:

This scale was developed by **Rosenberg, (1965)**. It was used to assess self- esteem among patients with post diabetic foot amputation. It consisted of 10 items. Positive and negative statements were included in the scale. Scores was calculated as follows: for items 1, 3, 4, 7, 8 and 10: Strongly agree= 3, Agree= 2, Disagree= 1, Strongly disagree= 0 & for items 2, 5, 6 and 9

(which are reversed in valence): Strongly agree= 0, Agree= 1, Disagree= 2, Strongly disagree= 3. The scoring system of self-esteem ranges from 0 to 30, where 0–14 = low self-esteem, 15–20 = moderate self-esteem, and 21–30 = high self-esteem.

Tool IV: Quality of life scale:

This scale was developed by **Batarfi et al., (2018)** to identify a way of living or the manner in which people conduct their daily activities. It consisted of 28- item rated on a 3-point Likert scale ranging from (0= always), (1= sometimes), and (2= never), which were divided into three domains: the physical domain (11 items), the psychological domain (10 items), and the social domain (7 items). The total quality of life score was considered good if it was >75% (42) points, considered average if it was 50–75% equal (28–42) points, and considered poor if it was <50% (28) points.

Validity and reliability:

Arabic translation and retranslation to English were done by researchers using the tools of the research and tested for their translation. A group consisting of five specialists in the psychiatric and mental health nursing fields at the faculty of nursing reviewed the instruments' validity to ensure that the questions were relevant, comprehensive, and applicable. According to their opinion, no modifications were made. For the assessment of reliability, Cronbach alpha was used for tools one ($\alpha = 0.847$), two ($\alpha = 0.831$), and three ($\alpha = 0.863$).

Pilot Study:

It was conducted on 10% of the total number of studied patients (6) to ascertain the clarity and applicability of the research tools and identify the time needed for data collection. According to the results of the pilot research, no modifications were made, and the pilot research sample was included in the total sample.

Ethical considerations:

Approved study following clearance from Benha University's **Scientific Research Ethics Committee**. Following the clarification of the

study's purpose, the Director of Hospital obtained an official letter from the Dean of the Faculty of Nursing at Benha University. Each participant gave informed consent to participate in the study after knowing about its aims and being assured that all information obtained would be kept very confidential. The study's authors made it clear that participation was totally voluntary, and the data were coded to protect the patients' privacy. The participants were also informed that they might withdraw from the research at any time.

Field of work:

The study was performed from the beginning of January 2022 until the end of August 2022. Participants agreed to participate. The self-compassion training program was conducted for patients who fulfilled the study's inclusion criteria. It went through the following phase:

1-Assessment phase (pre-test):

During this phase, the researchers met with patients who were eligible for study in the rest room beside the surgical outpatient clinic and guided them through filling out the tools; the average time for each participant's interview took around 45 minutes. The researchers schedule two days (Saturday and Tuesday/week) for data collection. This phase took around one month.

2-Planning phase:

The aim of this phase was to develop self-compassion training. It was designed in the Arabic language using relevant recent literature reviews. This phase contains: developing self-compassion training objectives and content, including concepts, benefits, self-compassion with oneself and others, and strategies for practice.

3-Implementation phase:

The studied patients divided into ten subgroups. Each subgroup contained 6 patients and attended 10 sessions (two sessions per week (Saturday&Tuesday /week) for a total of five weeks from 9 Am to 12 Pm, each session lasted for approximately 30-40 minutes for theoretical

and 60-90 minutes for practical. Researchers met 2 subgroups/ week.

The training program was carried out using lectures, handouts, brochure, power-point, videos, role play, modeling, demonstration and re-demonstration. The researchers encouraged and motivated the studied patients to participate in the program's sessions by using positive reinforcement. The researchers used role play, demonstration, and re-demonstration as methods of teaching practical skill in the practical sessions. There was also a lecture, a film, and a group discussion. Role play was used between the studied patients and between the studied patients and the researchers. The researchers also gave a summary of the last session and informed them about the timing of the next session. They were assigned homework for each session.

The program content included the following:

Session 1: Introductory session included the aim, objectives, sequence, and time frame of the program's sessions.

Session 2 (theoretical): negative effect of foot amputation (physically, psychologically, and socially) and its impact on quality of life and self-esteem.

Session 3 (theoretical): self-compassion (the meaning, importance, components, effect of self-compassion on our lives, and connection with self-esteem and quality of life)

Session 4 (practical): Educate participants on how to treat themselves as friends and develop an inner compassionate voice.

Session 5 (practical): Exploring self-compassion through writing a letter to oneself.

Session 6 (practical): Supportive Touch and Hand-on-Heart Exercise.

Session 7 (practical): Using a role-playing scenario in which participants were separated into groups, they impersonated the critic, the criticized, and the compassionate observer, while discussing how to use kind and supportive words.

Session 8 (practical): Using imagining, participants exercised self-compassion by writing a letter to themselves about their future personal improvements from the perspective of a friend who is compassionate.

Session 9 (practical):- Being present, focusing on the practice of mindfulness, or being present in the moment without judging the experience.

Session 10 (practical):- an open discussion about how to deal with positive aspects of oneself and one's life with appreciation. Participants are advised to engage in self-compassion activities every day. The group maintains a warm and friendly atmosphere, with plenty of conversation regarding the individuals' experiences.

4- Evaluating phase (post-test): Following program implementation, a post-test was conducted to assess levels of self-compassion, self-esteem and quality of life using the instruments of the pre-test. This was done one week following the training program's implementation.

Data Analysis:

All data were gathered, tabulated, and statistically analyzed with SPSS 22.0 for Windows. Quantitative data were reported as mean \pm SD, whereas qualitative data were expressed as frequencies and percentages. The Chi-square test, Fisher exact test, and Paired t-test were used to compare percentages of the variables, if applicable. P-values < 0.05 were considered statistically significant (S).

Results:

Table (1): shows that (78.3%) of the studied patients are male; 70% of them are between 50 and 60 years old, with a mean age of 58.71 ± 6.56 years; (83.3%) of them are married and live with family; and (38.3%) of them have a high education level. As regards to occupation, 41.7 % of the studied patients are employed, 71.7 % of them live in rural areas, and 70.0% of them have enough income.

Table (2): demonstrates that (73.3%) of the studied patients have diabetes ≥ 10 years and 65.0% of them are taking insulin. As regards to

amputation site, (51.7%) of them are amputated right leg and (68.3%) of them amputated part below knee.

Figure (1): illustrates that (70.0%) of the studied patients have a low level of self-compassion preprogram, while (65.0%) of them have a high level of self-compassion post-program implementation.

Figure (2): illustrates that (80.0%) of the studied patients have a low level of self-esteem preprogram, while (65.0%) of them have a moderate level of self-esteem post program implementation.

Table (3): reveals that 66.7% and 71.7% of the studied patients have poor quality of life related to physical domain and psychological domain preprogram implementation, respectively. While 58.3% and 68.3% of them have average quality of life post-program implementation, respectively. Also, this table shows that there is a highly statistically significant difference between quality of life in all domains pre and post-program implementation ($p < 0.001$).

Figure (3): illustrates that 50.0% of the studied patients have a poor level of quality of life preprogram, while (63.3.0%) of them have an average level of quality of life post program implementation.

Table (4): shows that there is a highly statistically significant difference between total self-esteem and age ($P < 0.001$) and between total self-esteem and who you live with ($P < 0.001$). Also, there is a statistically significant difference between total marital status and educational levels ($P < 0.05$, $P < 0.05$), respectively. Also, this table shows that there is a statistically significant difference between total quality of life and family support ($P < 0.05$).

Table (5): shows that there is a statistically significant relationship between total self-esteem and the duration of diabetes ($P < 0.05$). Also, this table shows that there is a highly statistically significant relationship between total quality of life and diabetes mellitus medication ($P < 0.05$).

Table (6): reveals that there is a highly statistically significant positive correlation between the total mean score of self-compassion,

self-esteem, and quality of life following program implementation.

Table (1) Socio-demographic characteristics of the studied patients (n=60).

Items	No (n=60)	%
Age		
• 40-<50	5	8.3
• 50-<60	42	70.0
• ≥60	13	21.7
Mean ±SD	58.71± 6.56	
Sex		
• Male	47	78.3
• Female	13	21.7
Marital status		
• Married	50	83.3
• Widowed	2	3.3
• Divorced	8	13.4
Educational level		
• Read and write	11	18.3
• Preparatory	13	21.7
• Secondary	13	21.7
• High education	23	38.3
Occupation		
• Employed	25	41.6
• Housewife	10	16.7
• Free work	12	20.0
• Retired	13	21.7
Residence		
• Rural	43	71.7
• Urban	17	28.3
Income		
• Not enough	12	20.0
• Enough	42	70.0
• Enough and save	6	10.0
Who live with		
• Alone	4	6.7
• With family	50	83.3
• With relatives	6	10.0
Family support		
• Present	50	83.3
• Not present	10	16.7

Table (2) Clinical data of the studied patients (n=60).

Items	No (n=60)	%
Duration of diabetes		
• <5	3	5.0
• 5-<10	13	21.7
• ≥10	44	73.3
M±SD	2.24 ± 0.88	
Diabetes mellitus medication		
• Oral hypoglycemia	21	35.0
• Insulin	39	65.0
Amputation site		
• Right leg	31	51.7
• Left leg	29	48.3
Amputation part		
• Below knee	41	68.3
• Above knee	19	31.7

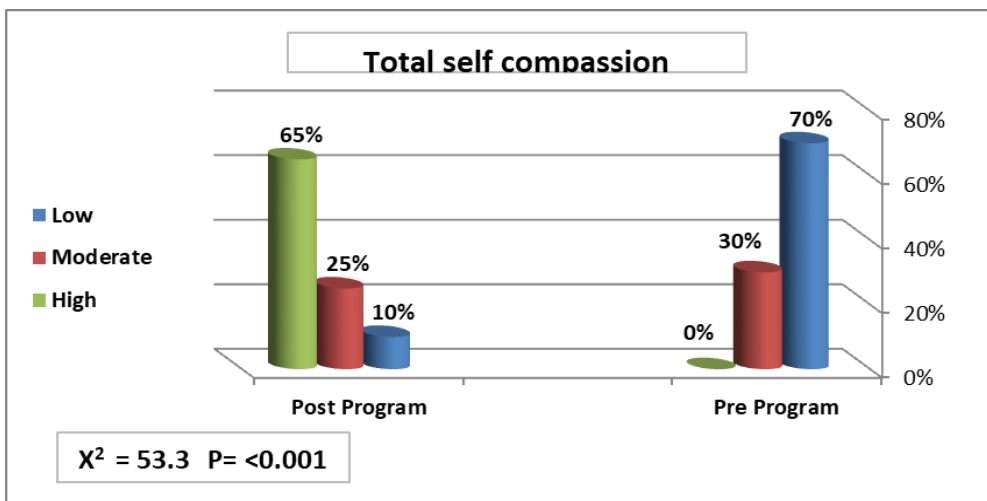


Figure (1): Self-compassion among the studied patients on pre and post program (n=60)

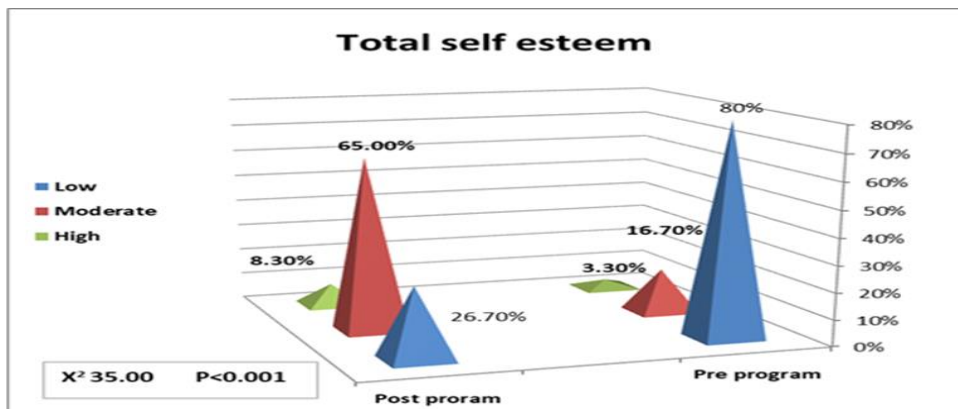


Figure (2): Levels of self-esteem among the studied patients on pre and post program (n=60)

Table (3): Distribution of studied patients quality of life domain subscale pre and post program implementation (n = 60).

Quality of life subscale	Poor		Average		Good		X ²	P-value
	No	%	No	%	No	%		
Physical domain								
• Pre program	40	66.7	16	26.7	4	6.6	30.00	<0.001**
• Post program	15	25.0	35	58.3	10	16.7		
Psychological domain								
• Pre program	43	71.7	18	25.0	2	3.3	28.00	<0.001**
• Post program	16	26.7	41	68.3	3	5.0		
Social domain								
• Pre program	16	26.7	34	56.6	10	16.7	12.00	<0.001**
• Post program	6	10.0	42	70.0	12	20.0		

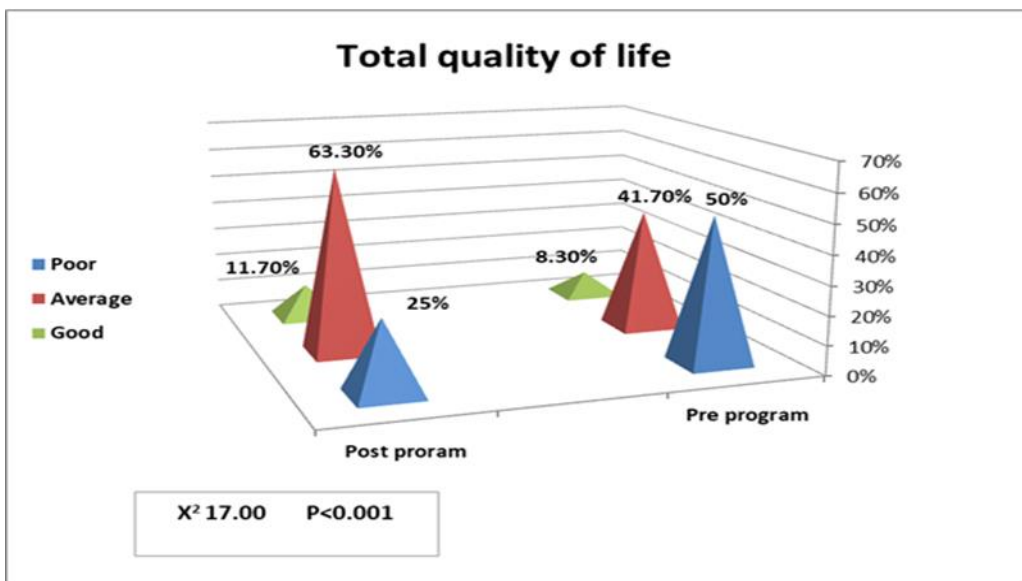


Figure (3): Quality of life among the studied patients on pre and post program (n=60)

Table (4): Relationship between socio-demographic data, total self-esteem and total quality of life among the studied patients post program (n = 60).

Socio-demographic data	Total Self esteem						X ²	P-value	Total Quality of life						X ²	P-value
	Low (n=16)		Moderate (n=39)		High (n=5)				Poor (n=15)		Average (n=38)		Good (n=7)			
	No	%	No	%	No	%			No	%	No	%	No	%		
Age																
• 40-<50	3	18.7	2	5.2	0	0.0	13.7	<0.001**	1	6.7	4	10.5	0	0.0	3.3	>0.05
• 50-<60	11	58.8	30	76.9	1	20.0			10	66.7	28	73.7	4	57.1		
• ≥60	2	12.5	7	17.9	4	80.0			4	26.6	6	15.8	3	42.9		
Sex																
• Male	15	93.8	28	71.8	4	80.0	3.23	>0.05	11	73.3	30	78.9	6	85.7	0.45	>0.05
• Female	1	6.2	11	28.2	1	20.0			4	26.7	8	21.1	1	14.3		
Marital status																
• Married	15	93.8	33	84.6	2	40.0	11.46	<0.05*	13	86.6	33	86.8	4	57.1	6.74	>0.05
• Wildwood	0	0.0	2	5.1	3	60.0			1	6.7	1	2.6	0	0.0		
• Divorced	1	6.2	4	10.3	0	0.0			1	6.7	4	10.5	3	42.9		
Education level																
Read and write	5	37.5	5	12.5	0	0.0	15.9	<0.05*	6	40.0	5	13.2	0	0.0	8.22	>0.05
Basic education	5	37.5	6	15.4	1	20.0			3	20.0	8	21.1	2	28.6		
Secondary education	4	25.0	8	20.5	1	20.0			3	20.0	9	23.7	1	14.3		
High education	0	0.0	20	51.3	3	60.0			3	20.0	16	42.0	4	57.1		
Occupation																
• Employed	8	50.0	15	38.5	2	40.0	5.95	>0.05	8	53.3	16	42.1	1	14.3	7.73	>0.05
• Housewife	2	12.5	8	20.5	0	0.0			2	13.3	5	13.2	3	42.8		
• Free work	5	31.5	6	15.4	1	20.0			1	6.7	10	26.3	1	14.3		
• Retired	1	6.2	10	26.6	2	40.0			4	26.7	7	18.4	2	28.6		
Residence																
• Rural	11	68.8	27	69.2	5	100.0	2.15	>0.05	13	86.7	25	65.8	5	71.4	2.30	>0.05
• Urban	5	31.2	12	30.8	0	0.0			2	13.3	13	34.2	2	28.6		
Income																
• Not enough	2	12.5	9	23.1	1	20.0	5.03	>0.05	5	33.3	5	13.2	2	28.6	7.38	>0.05
• Enough	14	87.5	24	61.5	4	80.0			10	66.7	24	76.3	3	42.8		
• Enough and save	0	0.0	5	15.4	0	0.0			0	0.0	4	10.5	2	28.6		
Who live with																
• Alone	0	0.0	4	10.3	0	0.0	18.12	>0.05	1	6.7	3	7.9	0	0.0	9.79	>0.05
• With family	16	100.0	32	82.0	2	40.0			13	86.3	33	86.8	4	57.1		
• With relatives	0	0.0	3	7.7	3	60.0			1	6.7	2	5.3	3	42.9		
Family support																
• Present	14	87.5	31	79.5	5	100.0	1.61	<0.001**	12	80.0	31	81.6	7	100.0	1.60	<0.05*
• Not present	2	12.5	8	20.5	0	0.0			3	20.0	7	18.4	0	0.0		

Table (5): Relationship between studied clinical data, self-esteem and quality of life among the studied patients post program (n = 60).

Clinical data	Total Self esteem						X ²	P	Total Quality of life						X ²	P
	Low (n=16)		Moderate (n=39)		High (n=5)				Poor (n=15)		Average (n=38)		Good (n=7)			
	No	%	No	%	No	%			No	%	No	%	No	%		
Duration of diabetes																
• <5	3	18.8	0	0.0	0	0.0	11.91	<0.05*	1	6.7	2	5.3	0	0.0	7.27	>0.05
• 5-<10	5	31.2	8	20.5	0	0.0			4	26.6	5	13.2	4	57.1		
• ≥10	8	50.0	31	79.5	5	100.0			10	66.7	31	81.6	3	42.9		
Diabetes mellitus medication																
• Oral hypoglycemia	4	25.0	16	41.0	1	20.0	1.82	>0.05	10	66.7	11	28.9	0	0.0	10.99	<0.01**
• Insulin	12	75.0	23	59.0	4	80.0			5	33.3	27	71.1	7	100.0		
Amputation site																
• Right leg	8	50.0	22	56.4	1	20.0	2.37	>0.05	8	53.3	21	55.3	2	28.6	1.70	>0.05
• Left leg	8	50.0	17	43.6	4	80.0			7	46.7	17	44.7	5	71.4		
Amputation part																
• Below knee	13	81.2	25	64.1	3	60.0	1.71	>0.05	11	73.3	25	65.8	5	71.4	0.31	>0.05
• Above knee	3	18.8	14	35.4	2	40.0			4	26.7	13	34.2	2	28.6		

Table (6) Correlation between self- compassion, self-esteem and quality of life among the studied patients post program (n = 60).

Item	Self-esteem		Quality of life	
	r	P	r	P
Self-compassion	0.639	0.00**	0.48	0.00**

(*) Statistically significant at $p < 0.05$

Discussion

Amputation is known as a triple insult since it causes loss of function, sensation, and change in body image. This abrupt transformation affects the individual's quality of life due to physical activity constraints immediately following amputation, as well as having long-term effects in other aspects of life. Patients following amputation encounter extensive and developing threats and obstacles to their physical, psychological, and social functioning (Rabie et al., 2020).

As regards to sociodemographic characteristics, the current study found that more than three quarters and more than two thirds of the studied patients were male and their age ranged from 50 to 60 years. Also, more than one-third of them had high education levels. As regards to employment, more than one-third were employed; less than three-quarters of them lived in rural areas and had enough income.

Concerning to clinical data, the current study concluded that less than three quarters of the studied patients had diabetes from 10 years and nearly two thirds of them were taking insulin. As regards to amputation site, more than half of the studied patients' amputated right leg and more than two thirds of them amputated part below knee.

Regarding to level of self-compassion preprogram implementation, the current study revealed that less than three quarters of the studied patients had low level of self-compassion. The researchers attributed this result due to that, after limb amputation; an individual faces various physical, psychological and psychosocial challenges such as changes in daily functioning, occupational hindrances due to the loss of the limb, and body appreciation related concerns. This result was in accordance with Ain & Fatima, (2016) revealed that self –

compassion was not found in individuals with amputation not using prosthesis.

Furthermore, the study results indicated that the studied patients with amputation reported a high level of self-compassion post-program, indicating that self-compassion sessions had an impact on how the studied patients with amputation accepted their difficulties and responded to these health problems self-compassionately through the spread of compassion, kindness, and affection for oneself and others, as well as accepting the negative aspects and life's disasters such as amputation of foot. Finally, all these factors reduce perceived stress, improve psychological well-being and self-esteem. This result was in accordance with Elhgry et al., (2020) concluded that self-compassion-based intervention had a strong association with promotion of self-compassion.

Concerning to level of self-esteem, it was found that before the program, the majority of the studied patients had a low level of self-esteem. This might be due to; the patients with amputation had negative thoughts regarding themselves and a distorted body image, which leads to inadequate and negative feelings about their body and low self-esteem. This finding was in the same line with Simsek et al., (2020) concluded that following amputation, people experienced serious mental problems such as anger, introversion, and low self-esteem. Furthermore, this conclusion was consistent with Beisheim-Ryan et al., (2021), who discovered that another psychological change that might occur following amputation is a lower level of self-esteem.

Furthermore, the findings of the present research highlighted that two-thirds of the studied patients had moderate levels of self-esteem post-program implementation. According to the researchers, self-compassion

training increased positive features such as logical self-perception, patience, tolerance, emotional balance in difficult situations, and remembering that unpleasant things can happen to anyone while decreasing negative features.

This comes in line with the findings of **Kwon et al., (2018)** who concluded that the efficacy of the self-compassion program on supports self-esteem. Moreover, this result was in accordance with **Mahmoud et al., (2022)** indicated that mindful self-compassion (MSC) can be successful in improving self-esteem among studied participants. Also, this result was comparable to that of **Alavi et al., (2017)** indicated that the CBT applied in the current study may considerably increase self-esteem in elderly patients with amputations.

Related to quality of life, it was found that before the program, half of the studied patients had poor quality of life related to physical and psychological domains. According to the researchers, this might be due to elderly patients' perceptions of their bodies being distorted after amputation; causing them to have more difficulty performing the physical motions necessary for everyday activities. On the other hand, the deterioration in the amputated person's body image perception may have an impact on their lives physically, socially, and psychologically.

This result was in the same line as **Abdel-Aziz et al., (2015)**, who revealed that the members of the experimental group had poor quality of life related to physical and psychological domains preprogram implementation. This result was also similar with the findings of **Ostler et al., (2022)** who revealed that limb amputation was associated with a higher level of social vulnerability and poor quality of life.

Furthermore, the findings of the current study revealed that the studied patients' quality of life had improved following program implementation. According to the researchers, this could be due to adopting a self-compassionate mindset allowed the studied patients to be kind to themselves rather than judge themselves, to support themselves against disease, to engage in more healthy behaviors, and to increase their self-care and protective

behaviors. Self-compassion, self-kindness, and shared humanity, on the other hand, were linked to reduced negative feelings in patients. It could indicate adherence to treatment and self-care routines. As a result, it may be claimed that the self-compassion components impact people's ability to record emotions, use the information to direct thoughts and actions and influence individuals in emotional regulation.

This result was in agreement with **Ghazanfari & Shafiei, (2017)** who showed that self-compassion training improved the quality of life of persons with amputations. This conclusion was also consistent with **Wongwan & Varma's (2022)** findings, which demonstrated that a self-compassion training program throughout the rehabilitation process might improve the quality of life for persons with mobility impairments and disabilities.

In addition, the findings of the current research pointed out that there was a highly statistically significant difference between total level self-esteem and age post-program. From the viewpoint of the researchers, these results might be due to the fact that the studied patients, aged 50 to 60, could make decisions by themselves, use logic to identify reasons, and be able to improve their self-esteem. In the other hand, these study results were odd with **Ali et al., (2021)** finding that the majority of young amputees had lowered self-esteem and greater adjustment issues compared to older amputees.

The findings of the current research indicated that there was a highly statistically significant difference between the total level of self-esteem and with whom they lived post-program. From the viewpoint of the researchers, individuals who live with their family have a greater degree of self-esteem, which might be attributed to the family support system, which helps them accept themselves and gain self-esteem. This conclusion is reinforced by **Ali et al., (2021)** who discovered that the involvement of family was critical in rebuilding their self-esteem and self-worth. Furthermore, social support influenced levels of hopefulness and self-esteem, which in turn decreased the level of depression and improved psychological adjustment.

Moreover, there was a statistically significant difference between total quality of life and family support post program implementation. From the viewpoint of the researchers, patients may receive greater psychological and social support from their families, as well as the availability of a caregiver, which improves patients' adherence to treatment and follow-up visits, resulting in enhanced quality of life. This finding was consistent with **Elywy et al., (2022)** who concluded that amputation patients' quality of life was depending on family and social support. Amputees will be able to cope better with obstacles and crises if they have more social support from family, friends, and community members.

According to the findings of the research, there was a statistically significant relationship between total level of self-esteem and duration of diabetes post program. From the viewpoint of the researchers, patients who received self-compassion training had a high degree of confidence in their abilities, allowing them to deal with their disease more effectively. This finding was consistent with **Kurniyawan et al., (2023)** reported that there was a significant relationship between self-esteem and diabetes distress.

The current study's findings revealed a highly statistically significant relationship between total quality of life and diabetes mellitus medication. This finding was in agreement with **Mishra et al., (2021)** who observed that patients who used anti-diabetic drugs had a significantly higher mean overall perception of quality of life and health.

Moreover, the finding of the present research indicated that, there was highly statistically significant positive correlation coefficient between total mean score of self-compassion and both of total mean score of self-esteem and total mean score of quality of life after self-compassion training. This indicated the effectiveness of self-compassion training intervention that the higher self-esteem level and high quality of life level was accompanied with improved in patient self-compassion; VS. A disorder in the self-esteem level results in poor quality of life domains. This result was in

agreement with **Barbeau et al., (2022)** concluded that self-compassion was positively correlated with self-esteem and self-esteem to be the factors with the highest predictive power for the physical component of quality of life.

Conclusion

The current study concluded that the self-compassion program applied in the current study has the potential to dramatically increase self-compassion, self-esteem, and quality of life in patients with post-diabetic foot amputations.

Recommendations

- As a consequence of the favorable impacts of the self-compassion training program, it is advised that the same protocol be incorporated into the rehabilitation process for elderly patients with foot amputation.

- Further research is recommended to evaluate the impact of cognitive factors on the self-esteem and physical and mental health of elderly patients with foot amputations.

- A further study should demonstrate such a training program in various settings and with a large number of amputee-elderly patients. Randomized clinical studies are being prioritized to obtain generalized outcomes.

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