

Psychological Stress among Gaza War Amputees: Impact of a Designed Training Counseling Program on Psychological Stress Level.

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Abstract: Wounded amputees are faced with myriad issues involving mutilation, pain, multiple surgeries, body image issues, depression, anxiety, and post traumatic stress disorder symptoms. All are common and must be addressed rapidly with ongoing counseling and pharmacologic management and a long period of rehabilitation. **The aim of this study** was to investigate the effect of a designed training-counseling program on psychological stress among Gaza War amputees in Gaza Governorates. Quasi-experimental **design** (pre-test/post-test) was used in this study; all the accessible population (100 subjects) were included in the assessment phase. The study was conducted at **Alsalama Charitable Society**, on the **24 subjects** who have the highest stress level scores. Data were obtained through three main **tools**; Sociodemographic and historical data sheet, psychological stress scale; and session evaluation form. The training counseling program was designed on **Albert Ellis theory for rational emotive behavior therapy**. **Method**; the program was divided into 22 sessions, 60 minutes each. It was given in an average of three sessions per week for two months with pre-post implementation evaluation. **Results** revealed that the designed training counseling program was having an effective impact on reducing psychological stress level among Gaza war amputees. **The study concluded** that Gaza war amputees were exposed to a higher stress level that could negatively affect all their life aspects. However, the training counseling program showed a positive impact on reducing their psychological stress level and promoting their abilities to function productively with their disabilities. **The study recommended** that nurses should see their patient from a holistic perspective and should effectively utilize their roles as educators and counselors to contribute in resolving public health problems like stress among amputees in Gaza Strip, and to replicate the study on larger, probability sample in different geographical locations in Palestine.

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1. Introduction

The War in Gaza began on December 27, 2008. The first attack lasted four minutes during which 200 people were killed and more than 1000 were injured. The destruction and death during this 22-day war were unprecedented in human history; thousands of civilians were injured during Israel's 22-day on slaughter against the sealed off Gaza Strip (**Alternative News Network, 2009**). According to the assessment report issued by **Alsalama Charitable Society, ACS, (2009)**, the number of amputees during this war was about 120 persons. Their injuries ranged from losing one to four limbs. In this regard, four primary etiological factors necessitate the amputation of one or more limbs: (a) vascular disease, (b) trauma, (c) tumors, and (d) congenital deformities. Traumatic amputations accounted for the majority of upper extremity amputations. Freeland & Psonack, 2007; Dobbs et al 2004 & Puri, 2007).

Loss of a limb for any reason poses challenges

on many levels: physical, emotional, social, spiritual, and financial and may affect one's ability to think clearly and solve problems. Emotional responses to amputation are different for every individual and their family. It is common, however, to feel a sense of grief and loss. How people respond to their amputation depends upon their unique make-up (personality, values, and attitudes), previous life experiences, their support systems, and the meaning they give to their amputation. An amputation is typically equated with loss of once perception of wholeness, loss of spouse, symbolic castration and even death. Mansoor et al.(2010).

Therefore, caring for the amputee patient requires a bio-psycho-social approach. The initial clinical focus is rightly on medical stabilization. Rehabilitation focuses on restoring the individual to the greatest physical, psychological, social and economic functioning possible. A successful team approach to rehabilitation includes the patient, physicians, nurses, therapists, and family members

working together to create short and long term goals for the patient's rehabilitation (Horgan & MacLachlan, 2004). Thus, the aim of this study was to examine the impact of a designed training - counseling program on psychological stress among Gaza War amputees in Gaza Governorates.

Significance of the study

Little is known about the day-to-day experiences of amputees in Gaza strip. No previous studies were conducted in Gaza about this overwhelming experience and its management. Thus, the present study is very important to fill this gap especially among this segment of the population which is growing continuously due to the continuing Zionist aggressions on the Palestinian people. Based on that, this study is considered the first step to initiate wide database necessary for caring for those people, providing the Palestinian health care system with the valid and reliable information necessary to improving their health status, effectively allocating the limited health resources and providing health prevention, promotion, and restoration. This study focuses on the unique psychological needs of the Palestinian amputee patients. It is hoped that those of all disciplines involved in caring for amputees, regardless of their fields of expertise, will find both interest and practical help from its content.

Aim of the Study

The aim of this study has four folds: 1-To assess the level of psychological stress among amputees injured during Gaza war in Gaza Governorates. 2-To design training counseling program based upon their needs. 3-To implement the designed training counseling program. 4-To evaluate the effectiveness of the designed program on the psychological stress among amputees in Gaza Governorates during Gaza war.

Research Questions:

What are the different types and levels of psychological stress exhibited by the amputees in Gaza governorates during Gaza war? What are the relationships among age, gender, limb amputation, marital status, residency, educational level, occupation status and level of psychological stress among Gaza war amputees in Gaza governorates?

Research Hypotheses:

Total & subtotal mean pre-test stress scores of the study group subjects will be higher than those of the immediate post-test. Total & subtotal mean stress scores of the study group subjects after two months will be the same as those of the immediate post-test.

Theoretical Framework:

Ellis theory, rational emotive behavior therapy (REBT), was adopted as a theoretical framework for the current study. This theory is related to the fact that nursing care is based on the holistic bio-psycho-social approach.

2. Subjects and Methods

Study design: A quasi-experimental design was used in the current study (pre-test/post-test design).

Sample:

24 adult Palestinian amputees of more than 17 years old who have lost at least a limb or a part of a limb during the last Gaza war (2008 – 2009), & registered at Alsalama Charitable Society, who have exhibited the highest stress level scores and are willing to participate voluntarily in the study. They were 16 males and 8 females.

Setting of the study:

The current study was conducted at Alsalama Charitable Society.

Procedure:

The study was conducted on 4 phases (preparatory phase, **implementation phase**, evaluation phase and dissemination phase).

1-The preparatory phase:

The researcher reviewed the related materials and literature extensively. Then trained in psychological counseling and educational guidance. And conducted a focus group interview on (15) amputees to develop the psychological stress questionnaire on the foundation of interviewing the amputees themselves. Then, Constructed and tested the tools & the training counseling program of the study. The two study tools are:

Psychological stress scale: to assess the level of stress among amputees. In addition to Sociodemographic and historical data.

Session evaluation form: the subjects clarified their feelings and attitudes towards the meeting, and performance in general.

First: Psychological stress scale:

The scale consisted of (144) items dimensions as follows:

1-	Amputation stress	(25) items
2-	Peer stress	(23) items
3-	Family stress	(20) items
4-	Responsibility stress	(20) items
5-	Physiological stress	(20) items
6-	Coping family stress	(18) items
7-	Emotional stress	(18) items
	Total	144 items

Scale validity:

Tool validity was checked by a group of 6 experts who were specialized in psychological counseling, psychiatric nursing, community mental health, and in medical surgical nursing. The necessary modifications were done.

Scale Reliability:

The reliability of the tool was tested by Alpha Cronbach and the Spilt- half coefficient techniques, alpha Cronbach value is (0.987) for all scale components, and the correlation between two halves by using spilt – half is (0.920) and after modified is (0.958).

Scoring system of the scale:

Scale was scored in the form of a Likert scale according to three levels range from three degrees and one degree as follows: Often (3scores). Sometimes (two scores) rarely (one score).

Accordingly, the overall degree of scale ranging from (144-432) degrees.

High stress level range from (289-432).
-Moderate stress level range from (145-288).
-Low stress level (less than 145).

Second: Session's evaluation form:

The form consisted of (10) items about the effectiveness of the provided training counseling program materials. Scale was scored in the form of a Likert scale according to three levels range from three degrees and one degree as follows:

1. To large extent (3 scores). 2- To a medium degree (two scores).
2. To low extent (one score).The overall degree ranged from (10-30)

Pilot study:

A pilot study was carried out on (20) amputees from the study subjects to test the applicability and clarity of the tool and to determine the needed time for application of the study tool. The necessary modifications were done and the twenty subjects were excluded from the actual study.

2- The implementation phase:

The training counseling program was divided into 22 sessions; each session was 60 minutes, given in an average of three sessions per week for two months.

3-The evaluation phase:

Each session was evaluated at its end separately, and after 2 months of the program application. The duration of the study was 6 months; the study started from July 15th, 2009 to January 15th, 2010.

4-Dissemination phase:

An official letter was issued from the Board of Directors of Alsalama Charitable Society appreciating the excellent results for the application

and the positive and remarkable change happened to the wounded amputees and the claim of the wounded amputees themselves to re-apply the program to the rest of them. Moreover, it reported that, it will put all its capabilities at the researcher's disposal for re-implementation of the project in several successive sessions.

Ethical Considerations:

The present study was approved by the Research Ethics Committee of the Faculty of Nursing – Cairo University, and Alsalama Charitable Society which sponsored its application (informed consent) of participation was obtained from each participant at the first session including taking photos. All ethical issues of research were maintained.

Data Analysis:

Data entry was performed by using the SPSS software version 16, Wilcoxon on matched-pairs signed rank test, correlation coefficient, Mann Whitney test, One Way ANOVA test, & Eta square formula. A significance level was considered when $P = 0.05$.

3. Results

Finding of the present study revealed that 66.7% were males, 45.8% had lower limb amputation as well the same percent had upper limb amputation, 54.2% were married, 58.33% were less than 25 years and 45.83% were educated to preparatory and secondary education level, 79.17% were without work, & 58.33% amputated due to shrapnel from a rocket plane.

Table (1) shows that; the baseline mean scores for total & subtotal stress levels are high before the training consoling program application. However, a sharp decrement in the mean stress scores was observed immediately after the application of the training program with significant statistical difference between the stress levels during the three assessments. This decrease lasted two months later with p-value of 0.01. Thus research hypotheses were supported. In relation to the answers of the stated research questions regarding the different types & ranks of stresses, table (2) presents the seven main types of stresses exhibited by the study group subjects in ranking order. Coping stress occupied the first rank with percent weight of (87.96%), and, the family stress occupied the seventh rank with percent weight of (72.78%). The total degree of the stress has percent weight of (83.09%). As regards to the relationship between socio demographic variables and the psychological stress level, findings of the present study did not reveal any significant statistical differences in this respect.

Table (1). Total & Subtotal Mean Stress Scores for Pre, Immediate Post and Two Months After Application of Training Program (N=24).

Scopes	Mean±SD	P-value
Amputation stress		
• pre	64.500±6.372	
• Immediate post-test	29.917±4.353	
• 2months post-test	29.083±3.752	
F-ratio	399.422	**
Peer stress		
• pre	57.750±9.808	
• Immediate post-test	26.917±2.205	
• 2months post-test	27.083±2.653	
F-ratio	209.947	**
Family stress		
• pre	43.667±9.300	
• Immediate post-test	22.208±1.865	
• 2months post-test	22.917±3.063	
F-ratio	107.679	**
Responsibility stress		
• pre	52.750±5.929	
• Immediate post-test	29.625±4.985	
• 2months post-test	29.917±5.73	
F-ratio	147.830	**
Physiological stress		
• pre	50.125±7.537	
• Immediate post-test	26.708±4.349	
• 2months post-test	27.292±4.563	
F-ratio	133.000	**
Coping stress		
• pre	47.500±5.437	
• Immediate post-test	27.542±4.978	
• 2months post-test	27.875±5.059	
F-ratio	117.629	**
Emotional stress		
• pre	42.667±6.445	
• Immediate post-test	21.333±3.046	
• 2months post-test	21.917±3.243	
F-ratio	173.371	**
Total scores		
• pre	358.958±37.605	
• Immediate post-test	184.250±14.423	
• 2months post-test	186.083±15.410	
F-ratio	389.835	**

**P < 0.01

Table (2). Types and Ranks of Psychological Stress Exhibited By The Study Sample (N=24).

Scope	No. of items	Sum	Mean	Std. Deviation	% weight	rank
Amputation stress	25	1548	64.500	6.372	86.00	3
Peer stress	23	1386	57.750	9.808	83.70	4
Family stress	20	1048	43.667	9.300	72.78	7
Responsibility stress	20	1266	52.750	5.929	87.92	2
Physiological stress	20	1203	50.125	7.537	83.54	5
Coping stress	18	1140	47.500	5.437	87.96	1
Emotional stress	18	1024	42.667	6.445	79.01	6
Total degree of the stress	144	8615	358.958	37.605	83.09	

4. Discussion

From the factor analysis of 144 items, and based on the results of the present study, the most frequent types and ranks of stresses were: Coping stress which occupied the first rank, Responsibility stress which occupied the second rank, Physiological stress which occupied the third rank, Amputation stress which occupied the fourth rank, Peer stress which occupied the fifth rank, Emotional stress which occupied the sixth rank and family stress which occupied the seventh rank.

This result might be attributed to the fact that amputation poses challenges on many levels: physical, emotional, social, spiritual, and financial and may affect one's ability to think clearly and solve problems. Emotional responses to amputation are different for every individual and their family. It is common, however, to feel a sense of grief and loss. How people respond to their amputation depends upon their unique make-up (personality, values, and attitudes), previous life experiences, their support systems, and the meaning they give to their amputation. In addition to amputation the Palestinian amputees suffering from the displacement and destruction of home and the Siege of the Zionist occupation, which increases their stress level and burden and increases the challenge of rehabilitation in this population.

So readjusting to life after amputation is likely to be challenging for most people. Difficulties in adjustment are typically associated with reports of depression, feelings of hopelessness, low self-esteem, fatigue, anxiety, and sometimes suicidal ideation. A multitude of related problems, including maladaptive coping behaviors, greater disability, poorer social functioning, and loss of functional independence, may result from difficulties in psychological adjustment. No prior literature was identified that had studied these variables in one study. In this respect, Almás, (2002) & Gallagher, Allen & MacLachlan, (2001), reported that the physical and psychological consequences of amputation are dramatic and lifelong, and this reality can have a profound impact on the amputee's adjustment to their disability, and it is generally accepted that the traumatic loss of limb(s) is considered equal to castration, the loss of a spouse, or death by those who have experienced any one of these events.

In the same line, Andersson & Deighan (2006) in their study entitled as "Coping Strategies in Conjunction with Amputation -a literature study" mentioned that Every patient, regardless of their gender, age, social class or reason for amputation must adopt their own approach to deal with this new situation. The term commonly used today by

healthcare professions to describe their patients many different means of managing their disability is coping.

Findings of the current study showed that, two third of the sample were males and one third were females, and there was no statistically significant difference between male and female in the level of psychological stress in pre, post and follow up tests. This result might be attributed to the fact that, all segments of the Palestinian people (women and men) targeted and exposed to the same aggression by the Israeli occupation, and the similarity of the conditions suffered by both sexes, as the suffering and harsh conditions, and the resulting suffering from these disorders and physical changes of both sexes are similar. Both had undergone amputation and the loss of part of the body and thus the emergence of the body in a new form of distorted and incomplete. This situation is capable of deepening the level of psychological stress and therefore, no differences depending on sex (male - female).

In this respect, WHO, (2009) carried out a Survey ten weeks after the end of the recent Gaza war crisis, to measure the prevalence of psychological distress among 500 adult patients visiting five Primary Health Care (PHC) centers in Gaza Strip, which revealed that no differences have been detected between males and females. As well, Unwin et al (2009), who conducted study entitled as "A prospective study of positive adjustment to lower limb amputation" reported that age, gender, level and cause of amputation did not make a significant contribution to the outcome for lower limb amputees in relation to psychological adjustment outcome in their study.

Based on the result of the present study, the stress level for the study sample as pre test results revealed that, the highest stress level score was (432) and the lowest stress level score was (306). As mentioned previously the high stress level of the psychological stress scale was range from (289-432). Accordingly, all the stress level scores of the study group were within the high stress level range. And the stress level for the study sample in post test results revealed that, the highest stress level score was (198) versus (432) in pre test results, and the lowest stress level score was (147) versus (306) in pre test. This revealed that the results of the current study confirmed the effectiveness of the training counseling program in reducing stress in wounded amputees after implementing the program. In addition the result of eta square (η^2) test showed large effect of the training counseling program in reducing stress in all the scopes and the total degree

of the scale.

The technique of self-control or self-disclosure of their feelings and behavior, in particular the ideas that caused mental disorders have been modified in a positive direction. As well as the homework technique which required from the experimental group as part of the therapy program, and one of the homework assignments, the amputees were asked to write the various positions that have occurred to them and the content of ideas, where the researcher discussed these ideas with them, were they rational or irrational, the irrational ideas were refuted with the participation of members of the group and accessed to appropriate rational ideas.

The findings stated above supported the study hypothesis 1, which indicated that "Total mean pre-test stress scores of the study group subjects will be higher than those of the post-test" Research studies examining the effect of training counseling program among individuals with limb amputation are limited in number. Only one study (Rosalyn, & Luxie 1995) was located during the literature search that entitled as "Effects of short-term group treatment on rehabilitation outcome of adults with amputations" which explored outcome following a preventive psycho educational group intervention for patients with amputations using a quasi-experimental design to compare experimental treatment and comparison groups on physical activities and psychological characteristics at 8 months post discharge. The treatment group (N=20) participated in a minimum of two of three group sessions focused on (a) providing information, (b) anticipating and normalizing future stressors, and (c) building coping strategies. Comparison group participants (N=21) consisted of patients entering the Amputee Program prior to initiation of the group intervention. Treatment group participants showed significantly lower distress levels than comparison group participants.

The present study showed that there was no statistical significant difference between post and follow-up effect tests, in the level of psychological stress among amputees in Gaza governorates Palestine during Gaza war attributed to counseling program application in post and follow-up effect after 2 months, that's mean the effect of training counseling program in reducing the psychological stress among the subjects was stable in all the stress scopes. Thus, these findings supported the study hypothesis 2, which indicated that "Total mean stress scores of the study group subjects after two months will be the same as those of the post-test.

This result might be attributed to the fact that, amputees feeling of satisfaction and happiness when they exercise what they have learned in the meetings

of the methods and suitable solutions to their problems, in fact, has been touched, and improvement in their feelings and thoughts and their behavior was a motivation for them to more and redundancy of these methods and styles. Thus, these results also revealed to us the continuity of the effectiveness of the counseling program in reducing stress to the amputees in the follow-up period. As well, the continued effectiveness of the counseling program because clients learned skills that gave them the tools to identify and dispute irrational beliefs that have been acquired and are now maintained by self indoctrination and because they were formed as a result of the full conviction and a strong desire of uncovering irrational beliefs which may lead to unhealthy negative emotions and replace them with more productive rational alternatives to reduce the stress to a manageable level.

Based on the analysis discussed above, one can conclude that counseling services for people with amputation is still in the early stages of development, and group counseling based on Rational Emotive Behavior Therapy was found to be effective in changing the subject's belief irrational to a rational belief system. The rational belief system was able to adjust total feeling and behavior of the subject mainly, help develop future objective which is more realistic and clear, and develop positive emotion such as reducing psychological stress, having a more constructive behavioral expectation and did not cause harm to self and others and being able to accept reality whereby the subject was guided to make a right and positive expectation towards the event that took place. Finally the subject developed a more logical way of assessing her/him self, others and the world around him.

Conclusion and Recommendations:

Conclusion:

The amputees exhibited high stress scores and they had challenges on many levels; the most frequent types of stresses exhibited by them were Coping stress, Responsibility stress, Physiology stress, Amputation stress Peer stress, Emotional stress and Family stress. The training counseling program showed a positive effect in reducing the level of their stresses.

Recommendations:

- Teaching the amputees how to examine and modify their irrational perceptions and beliefs to maximize coping skills. Provide female counselor for amputated women
- More researches are needed about psychological stress of the battle and non-battle amputees.

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