

Psycho- Educational Program to Overcome Psychosocial Problems among Patients with Burn

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Abstract

Background: Burn injuries can be one of the most traumatic experiences of a family's life and may cause a number of psychosocial problems (including depression, anxiety, social difficulties, and appearance-related concerns). **The aim of study was to** develop psycho- educational program to overcome psychosocial problems among patients with burns. Implementing the psycho- educational program will be overcome psychosocial problems among patients with burns. **Methods:** A quasi - experimental design was utilized to achieve the aim of study. The study was conducted at Burn Unit of Benha Teaching Hospital in Benha city. The target of this study consisted of 50 patients with burn who were staying in the above mentioned setting. Three tools were used for data collection: -A Semi Structured Interview Questionnaire, Social Phobia and Burn Depression Checklist. **Results:** The main findings of the study were: nearly half of the studied patients have no social phobia post program and more than half of them have moderate degree of depression post program. There are highly statistically significant differences between total social phobia and burn degree post program and there are statistically significant differences between total depression and burn degree post program. **Conclusion** Based on the findings of the present study, it was concluded that the psycho-educational program had a positive effect to overcome psychosocial problems among patients with burn. **Recommendations:** Expand public awareness through mass media about stages of burn and the effect of being emotionally stable on mental health and all life aspects.

Keywords: Psycho- education, overcome, psychosocial problems, Patients, Burn.

Introduction

A burn is a type of injury to skin caused by heat from scalding from hot, boiling liquids, chemical burns, electrical burns, excessive sun exposure or fires, including flames from matches, candles, and lighters. There are four types of burns: first-, second-, and third-degree. Each degree is based on the severity of damage to the skin, with first-degree being the most minor and third-degree being the most severe. Damage includes: first-degree burns: red, no blistered skin, second-degree burns: blisters and some thickening of the skin, third-degree burns: widespread thickness with a white, leathery appearance .There is also a more serious fourth-degree burn. This type of burn includes all of the symptoms of a third-degree burn and also extends beyond the skin into tendons and bones (Herndon, 2017).

A major burn injury can impair skin integrity, sensation and may lead to hypertrophic scarring. In addition to changes in appearance and function brought about by scarring, deeper burns may result in damage to, or complete loss of, functionally or cosmetically important body parts. The physical and psychological consequences of a major burn injury can interfere significantly with social and occupational performance. The psychological well-being of patients seen in an adult burns clinic becomes an important consideration not only because of the recent disfigurement, functional losses and trauma, but also because of psychological components involved along with maintenance of compliance with the long treatment and recovery process (Avinash, 2015).

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Moreover, Burn victim might manifest Psychological symptoms as fear of situation in which they judged, worrying about embarrassing humiliating themselves, intense fear of interacting or talking with strangers, fear that other will notice him and anxious feeling. In social anxiety disorder fear and anxiety lead to avoidance that can disrupt life of burn survivors in their daily routine, work, school or other activities **(Leichhsenring & Leweke, 2017)**.

Social anxiety in burn survivors referred to as social phobia is an anxiety disorder characterized by, overwhelming anxiety and excessive self- consciousness in every day social situation **(Bergland, 2018)**. Researchers shows that there is a strong relationship between having social anxiety disorder and developing depression later in life if person diagnosed with social anxiety he is up to six times more likely to develop depression **(Cuncic, 2019)**.

Depression is an extremely common complication associated with severe burn injuries and frequently interferes with successful rehabilitation. Burn patients who exhibit injury-related depression typically display difficulty returning to daily activities and report a reduced quality of life **(Davydow et al., 2016)**. In addition to, visible scars in burn injury produce depressive disorder that characterized by sadness, loss of interest or pleasure, feeling of tiredness, disturbed sleep or appetite. Weight loss, diminished psychomotor activity, low self- worth and poor concentration, feeling of hopelessness and helplessness **(WHO, 2017)**.

Psycho-education is a very important concept that considered a well-established form of treatment and rehabilitation for patient with burn. It is being defined as use of methods, techniques and educational programs in order to facilitate remission or reduce effects of the illness or disability. During the sessions therapeutic strategies that increase abilities and improve functioning of patients are being used. Psycho-educational sessions provide knowledge that is being related to individual course of illness and healing and in effect they engage patients on cognitive and emotional levels **(Chadzynska & charzynska, 2017)**.

Significance of study:-

Burn injuries are considered a world major public health problem with high mortality rates, burn injuries cause serious sequel such as significant functional, psychological and social limitation. In Egypt burn injuries estimated to be approximately one in every thousand, it was also reported that burn constitute 12.5% of all hospital admission with 48% of the admitted burn patient suffering from complication **(Fathy, 2014)**. In Benha Teaching Hospital documented the admitted number of burn patients in year 2016 was 245, in 2017 was 250 and in the year of 2018 was 346 patients **(Statistical Department of Burn, 2018)**.

According to **WHO (2018)**, added that, an estimated 180 000 deaths every year are caused by burns, the vast majority occur in low and middle- income countries, non-fatal burn injuries are a leading cause of morbidity, burns occur mainly in the home and work place and burns are preventable.

Aim of the Study

The aim of the study was to develop psycho- educational program to overcome psychosocial problems among patients with burn.

It will be achieved through:

1. Assessing the psychosocial problems among patients with burn.
2. Developing and implementing the psycho- educational program for patients with burn.
3. Evaluating the effect of the psycho- educational program to overcome psychosocial problems among patients with burn.

Research Hypothesis:-

Implementing the Psycho- educational program will be overcome psychosocial problems among patients with burn.

Subjects & Methods

Research design:

A quasi - experimental design (one group pre test- post test design) was utilized to achieve the aim of study.

Setting:

The study was conducted at Burn Unit of Benha Teaching Hospital in Benha City. It's the most common hospital specialized with the unit for burn. It is an educational hospital for training nursing and medical students.

The burn unit consists of six rooms. There are another two rooms for dressing wound. All beds occupied all the time. The burn unit receives patients from all over country in the level of Qalubia Governorate.

Subject:

Sample size:

The target of this study consists of 50 patients with burn who are staying in the Burn Unit at Benha Teaching Hospital in Benha city.

Sampling type

Purposive sampling of the present study. Patients who fulfilled the inclusion criteria were; Burn patients who able to talk and express themselves verbally, Patients with second and third degree of burn, all levels of education, and willing to participate in this study. Exclusion criteria: Any neurological disorder, mental retardation or any cognitive disorder.

Tools of Data Collection: The following tools were used for data collection. Arabic translation of all the tools by the researcher and retranslation into English and tested for their translation.

Tool (1):- A Semi Structured Interview Questionnaire: This tool developed by the researcher. It divided into two parts: -

Part (1): - to assess personal data as sex, age, level of education, marital status, occupation, income and number of family members.

Part (2):- to assess clinical data as cause of burn, degree of burn, the circumstances of the burn, places of the burn, Injuries associated with burn and an infection of the wound.

Social Phobia Inventory (SPIN) Tool (2):-Social Phobia Inventory (SPIN). It was designed by **Conner et al., (2000)** to measure social phobia disorder (fear- avoidance- physiological arousal) .It consisted of 17 items. Rating 0-4 where 0 indicate not at all, 1 little bit, 2 somewhat, 3 very much, 4 extremely. Scoring system of social phobia range from 0-68 where none= less than 20, mild= 21-30, moderate =31-40, sever= 41-50, very sever =51 or more.

Tool (3): Burn Depression Checklist (BDCL): Burn Depression Checklist (BDCL) was adopted by **David (1989)** .It was designed to measure depression of burn patient, it consists of 25 items. It was divided to four-subscale: - (Thoughts and feeling, activities and personal relationship, physical symptoms and suicidal urges). All subscale was rated from 0-4 where 0 indicate not at all, 1 sometimes, 2 moderately, 3 a lot, 4 extremely. Scoring system range from 0-100 where 0-5 no depression, 6-10 normal but unhappy, 11-25 mild depression, 26-50 moderate depression, 51-75 severe depression, 76-100 extreme depression.

Preparatory phase:

Review of current and past literature related to topic by the researchers using books, magazines periodicals and network. This was done to get a clear picture of all aspects related to psycho-educational program about the patients with burn.

Content Validity:

Before starting the data collection instruments were tested for its content validity by five of expertise to check the relevancy, clarity, comprehensiveness, and applicability of the questions. As a result of the jury, required modifications were done and the final form was developed.

Reliability of the tools

Reliability was applied by the researcher for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar conditions on one occasion. Answers from repeated testing were compared (Test-re-test reliability). The tools revealed (Cronbach's alpha = 0.90) for Social Phobia Inventory and (Cronbach's alpha=0.91) for Burn Depression Checklist.

Administrative approval:

Official permission was obtained from the Dean Faculty of Nursing Benha University to the Director of Benha Teaching Hospital to conduct the purposed study. A full explanation about the aim of the study was explained.

Ethical consideration:

All subjects will be informed that participation in the study is voluntary. Anonymity and confidentiality of each participant would be respected and protected. Confidentiality would be assured and subjects will be informed that the content of the tools will be used for research purpose only and they have the right to refuse to participate or they could withdraw at any time from the research. After full explanation about the aim of the study. Written consent was taken before participation in the study.

Pilot study:

After the tools have been designed, they were tested through a pilot study, which was done before embarking on the field work to check the clarity and applicability of designed tools and to estimate the time needed to complete its items. It was carried out on 5 patients of burns (10% of the sample size), who were excluded from the main study subjects. According to the result of the pilot study, no changes were required.

Fieldwork:-

- The study was carried out from the beginning of January 2019 to the end of March 2019.
- The aim and the nature of the study were explained to burn patients and assured that their personal data will be treated confidentiality and will be used only for research purpose, and then it was possible to carry out the study with minimum resistance.
- The researchers met each patient individually after introducing their selves and explained to them the purpose of the study to seek participants' cooperation and emphasizing that all collected information is strictly confidential.
- The researchers conducted the program on three months two visits/week (Sundays and Mondays), from 9.00 a.m. to 11.00 a.m. carried out in the Burn Unit at Benha Teaching Hospital in Benha city.

Psycho -educational program construction:

1-Preparatory phase: A review of recent, current, past, national and international literature by the researchers using books, magazines periodicals and network. This was done to get a clear picture of all aspects related to psycho-educational program about the patients with burn. The tools questionnaire was designed to assess psychosocial problems among patients with burn before and after implementing Psycho -educational program.

2-The assessment phase: The pre-test questionnaire was designed and develops the content of Psycho -educational program sessions and evaluation of the used tools and to identify the effects of Psycho -educational program to overcome psychosocial problems among patients with burn.

3-The planning and implementing phase: The general objective of the study was to develop Psycho -educational program to overcome psychosocial problems among patients with burn.

The content of the Psycho-educational program sessions was as follows:

Session 1: - Beginning with acquaintance between the researcher and patients, introduction and description of the program schedule and presentation of the program content.

Session 2: - Knowledge about (definition, classifications of burn and factors causing skin burn).

Session 3: - Identify complications of burns, Practical methods of treatment and prevention of burn.

Session 4: Apply practical ways to control social phobia.

Session5: Apply practical ways to improve the psychological state of burn patients.

Session 6: Apply an exercise to reduce negative emotions.

Session 7: Apply deep breathing exercise.

Session 8: Summary of the main points of the program content.

The Psycho-educational program/theoretical and practical training included 8 sessions (1 Introduction about of program, 2 Theoretical and 4 Practical sessions and the final session for patients to revising the program content and gaining overview about the all sessions and their objectives). Each session takes from 15-25 minutes for theory and 30-40 minutes for practical. The teaching methods used were small group discussions, role play, demonstration and re-demonstration. Booklets were distributed as teaching media at the work place.

4: Evaluating phase to evaluate the effect of Psycho -educational program to overcome psychosocial problems among patients with burn by using post-test that similar to the pre-test was applied.

Statistical Design:

The collected data were organized, coded, computerized, tabulated and analyzed by using the statistical package for social science (SPSS), version (20). Data analysis was accomplished by the use of number, percentage distribution for qualitative variables, mean and standard deviation for quantitative variables, independent "t" test was used to test the significance of some variance, and correlation coefficient was used to determine statistically significant relations significant $p < 0.05$.

Results

Table (1): Frequency distribution of the studied patients regarding socio-demographic characteristics (N=50).

Socio-demographic characteristics	No	%
Sex		
Male	15	30.0
Female	35	70.0
Age		
<18	28	56.0
18+	22	44.0
Mean \pm SD	16.40 \pm 2.06	
Level of education		
Read and write	14	28.0
Intermediate education	32	64.0
Higher education	4	8.0
Marital status		
Single	31	62.0
Married	19	38.0
Occupation		
Working	18	36.0
Not Working	32	64.0
Family income		
Enough	36	72.0
Not enough	14	28.0
Family Number		
From 3-4 persons	26	52.0
From 5-6 persons	24	48.0
Total	50	100.0

Table (2): Frequency distributions of the studied patients regarding to clinical data (N=50).

Clinical data	No	%
Cause of the burn		
Fire-flame	26	52.0
Liquid-Watermelon	18	36.0
Electricity	6	12.0
Circumstances of the burn		
Suicide	4	8.0
Crime	4	8.0
Accident	42	84.0
Degree of burn		
Second degree	44	88.0
Third degree	6	12.0
Total	50	100.0

Table (3) Frequency distributions of the studied patients according to places of the burn.

Places of the Burn.	No	%
Visible places		
Face	6	12.0
Neck	2	4.0
Hands	2	4.0
Shoulder	10	20.0
Legs under the knee	8	16.0
Face, hands and shoulder	16	32.0
Invisible places		
The chest	10	20.0
Upper shoulder	2	4.0
The thighs	4	8.0
Chest and abdomen	8	16.0
Chest , abdomen and thighs	6	12.0

Table (4):- Frequency distributions of the studied patients regarding to complication associated with burn.

Complication	No	%
Injuries associated with burn		
Yes	6	12.0
No	44	88.0
An infection of the wound		
Yes	8	16.0
No	42	84.0
Total	50	100.0

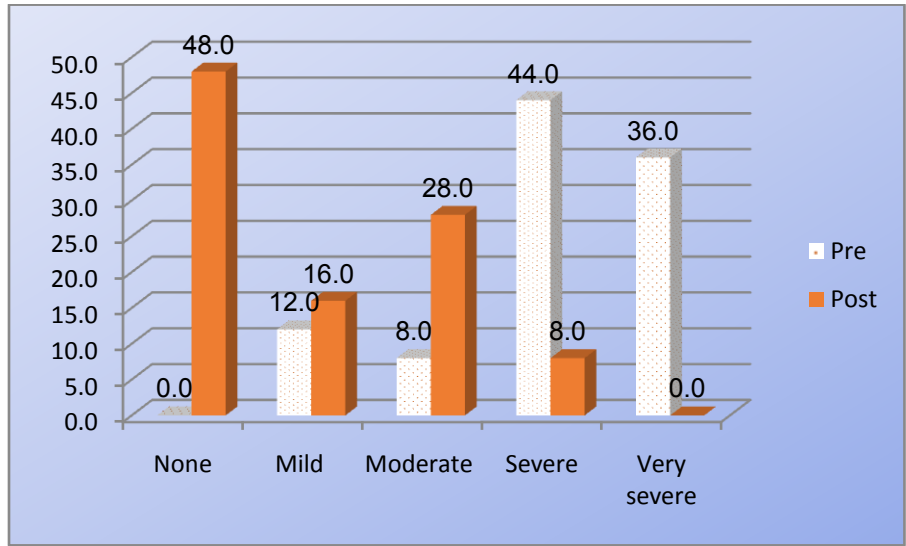


Figure (1): Frequency distribution of the studied patients regarding to social phobia pre and post program.

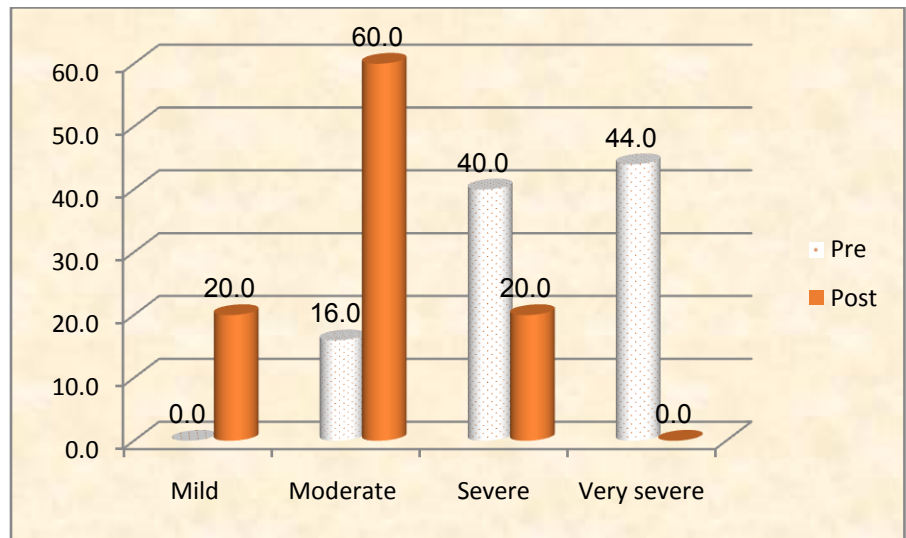


Figure (2): Frequency distribution of the studied patients regarding to depression pre and post program.

Table (5): Relation between total social phobia and degree of burn pre and post program.

Total social phobia	Burn degree							
	Pre program				Post program			
	Second degree		Third degree		Second degree		Third degree	
Non	No	%	No	%	No	%	No	%
	0	0.0	0	0.0	22	50.0	2	33.3
Mild	6	13.6	0	0.0	8	18.2	0	0.0
Moderate	4	9.1	0	0.0	14	31.8	0	0.0
Severe	20	45.5	2	33.3	0	0.0	4	66.7
Very severe	14	31.8	4	66.7	0	0.0	0	0.0
	X ² =3.32		p-value = 0.34 n.s		X ² =32.6		p-value = <0.001**	

(n.s) Not Statistically Significant (**) Highly Statistically Significant at ≤0.001

Table (6): Relation between total depression and degree of burn pre and post program

Total depression	Burn degree							
	Pre program				Post program			
	Second degree		Third degree		Second degree		Third degree	
Mild	No	%	No	%	No	%	No	%
	0	0.0	0	0.0	8	18.2	2	33.3
Moderate	8	18.2	0	0.0	30	68.2	0	0.0
Severe	18	40.9	2	33.3	6	13.6	4	66.7
Very severe	18	40.9	4	66.7	0	0.0	0	0.0
	X ² =1.96		p-value = 0.37 n.s		X ² =12.1		p-value = 0.002*	

(*) Statistically Significant at ≤0.05

(n.s.) Not Statistically Significant

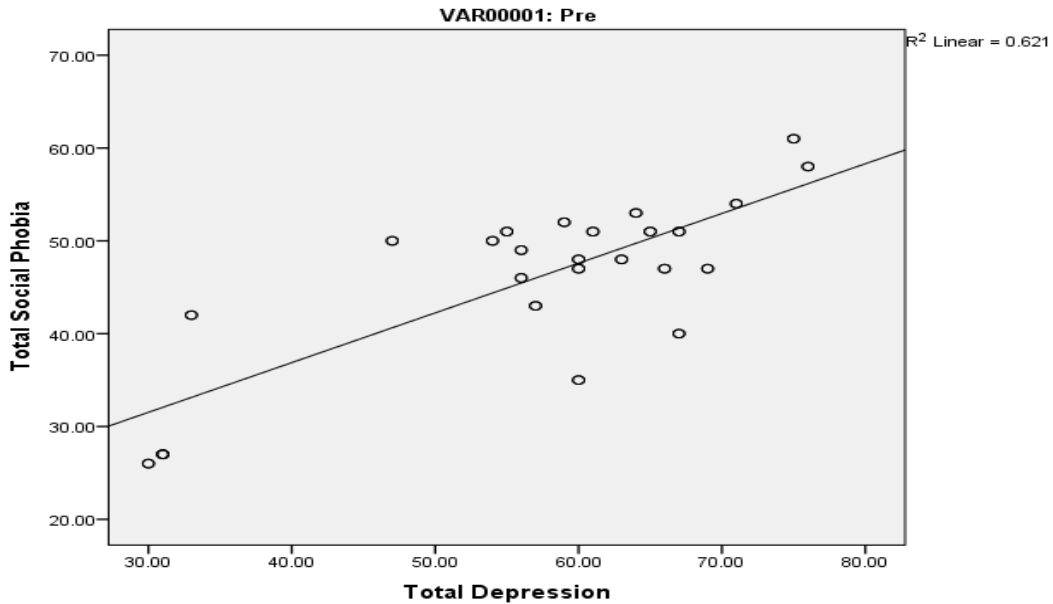


Figure (3): Correlation between total social phobia and total depression pre the program.

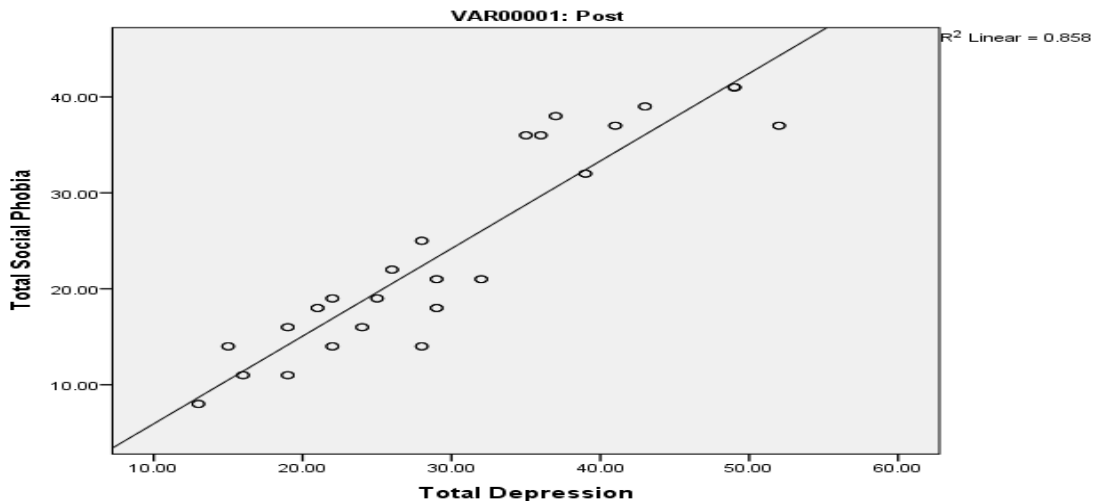


Figure (4): Correlation between total social phobia and depression post the program.

Table (1): Shows that, majority (70.0%) of the studied patients are female and more than half (56.0 %) are less than 18 years old with a mean age of 16.40 ± 2.06 years, majority are intermediate education, single and not working (64.0%, 62.0% and 64.0% respectively), more than two thirds (72.0 %) were enough income and more than half (52.0%) of them family numbers are from 3-4 persons.

Table (2): Reveals that, more than half (%52.0) of the studied patients cause of the burn are from fire- flame and more than two thirds (84.0%) the circumstance of the burn are accidents, majority (88.0 %) of the studied patients have second degree of burn.

Table (3): Illustrates that nearly one third (32.0%) of visible burn site at Face, hands and shoulder and Less than one quarter (20.0%) of invisible site of the burn lies at the chest.

Table (4): Shows that most of the studied patients (88.0%, 84.0% respectively) have no complications associated with burn such as injuries and infection of the wound.

Figure (1): Shows that nearly half (48.0%) of the studied patients have no social phobia post program implementation.

Figure (2): Illustrates that more than half (60.0%) of the studied patients has moderate degree of depression post program implementation.

Table (5): Displays that there are highly statistically significant differences between total social phobia and burn degree post program.

Table (6): Clarifies that there are statistically significant differences between total depression and burn degree post program.

Figure (3): Indicates that there are positive correlation between total social phobia and total depression preprogram.

Figure (4): Portrays that there are positive correlation between total social phobia and total depression post program.

Discussion

Burn injuries are dangerous and devastating from of trauma with negative consequences ranging from physical, occupational and psychological damage related contractures, scarring, thermoregulation, weakness, pain, itching, body appearance changes, sleep disorders and cognitive and behavioral changes (**Moi et al., 2016**).

The most common psychological problems faced by burn injury patients are pain, anxiety, depression, post-traumatic stress disorder, concern about bodily disfigurement, social isolation and financial burden due to the prolonged duration of hospitalization and treatment required. Resolving the psychological problems that affect burn injury patients leads to a greater enhancement of their quality of life and wellbeing (**Xie et al., 2018**). Therefore, the current study conducted with a view to develop psycho educational program to overcome psychosocial problems among patients with burn.

The current study results showed that majority of the studied patients were females. This may be due to the higher risk for females is associated with open fire cooking, or inherently unsafe cook stoves, which can ignite loose clothing. Open flames used for heating and lighting also pose risks, and self-directed or interpersonal violence are also factors. This result was consistent with **Mithelesh et al., (2018)** who clarifies that female with burn injuries more predominance than males.

The results of the present study revealed that more than half of the studied patients were less than 18 years old. This might be due to lack of knowledge regarding risk factor of burn and its prevention. These findings were agreement with **El sayed et al., (2018)** who found that the majority of patient's age with traumatic burn injury ranged between 14-18 years old.

The present study documents that, regarding level of education majority of the studied patients was intermediate education. This may be due to most of the studied patients lived in rural area and their ages less than 18 years old. This result was in the same line with **Shahid et al., (2018)** who found that above half of patient was secondary school education. On the contrary, this finding was disagreement with **Panda et al ., (2018)** who reported that one third of patient read and write.

The current study results indicated that majority of the studied patients were not working. This may be due to most of the patient's was females and intermediate education with low opportunities to find a job. This finding was agreement with **Singh, (2017)** who identified that more than two third of burn patients were not working.

The results of the present study revealed that more than half of the studied patient's cause of the burn was from fire-flame. This might be due to the fire is the most things used in our homes for purpose of cooking. This result was in the same line with **Shankar et al.,(2014)** who found that the majority of the cause of burn was fire-flame.

The present study showed that more than two thirds of the studied patients regarding to the circumstances of burn were accident. This might be due to lack of knowledge and awareness about accident of burn and ways of protection .This result was consistent with **Dries & Marini, (2017)** who clarified that the majority of burn injuries were accidents. On the other hand, this finding was disagreement with **Tiwari et al., (2018)** who showed that the majority of burn injuries were suicidal.

The present study revealed that the majority of patients had second degree of burn. This might be due to the majority of burn injury were from fire-flame accidents that lead to destruction of the skin. This result was consistent with study done by **Kamboj et al., (2014)** who found that more than two third of burn injuries were second degree of burn. On the other hand, this result was disagreement with **Wissman et al., (2017)** who found that majority of the burn injuries were third degree of burn.

The current study illustrated that nearly one third of patients have visible site of burn was at Face, hands and shoulders. This might be due to majority of the cause of burn was due to fire-flame that mostly affected this parts. According to invisible site of burn the current study revealed that less than one quarter was the chest. This might be due to lose clothes and the chest was highly probability to be affected. This study was consistent with **Yuce et al., (2017)** who found that the majority of burn site in the body at Face, hands and upper shoulders.

The present study revealed that most of the studied patients have no complications associated with burn such as injuries and infection of the wound. This may be due to the nature of septic technique which used in wound care and due to high qualified staff who more awareness by infection control to keep these patients free from injuries and infection. This result consistent with the study done by **Cen et al., (2015)** who found that majority of patients had no injuries or infection associated with burn.

An important finding from the current study revealed that nearly half of the studied patients have no social phobia post program implementation. This indicates the effectiveness of the program content such as application of sessions about how to control social phobia and training the patients on deep breathing exercise which lead to increase sociality of the patients and decrease fear from society. This result consistent with **Nader et al., (2018)** who showed that a significant decrease in scores from pre- to post-assessment on the degree of social phobia.

In addition to, the finding of the present study reported that, more than half of the studied patients have moderate degree of depression post program implementation. This may be due to response the patients to apply the practical ways which improve the psychological state of burn patients and apply an exercise to reduce negative emotions of them.

This finding was in corroborated with **Mohammed & Ramprasad , (2013)** who found that there was mild to moderate depression was recorded in half of cases and severe symptoms in one quarter of cases in our study group, whereas works done by **Thombs et al ., (2017)** in their consecutive year series' have reported mild depression in half of patients, moderate depression in one quarter and one fifth cases with severe depression. However, moderate to severe symptoms of depression have been found in 18–45% of burn survivors, years after their physical injuries have healed. Additionally, the finding of the current study pointed out that, there are highly statistically significant differences between total social phobia and burn degree post program. It could be due to as the severe, the burn the more affected skin the more disfigurement and that might lead to more distress that is psychological, more avoidance and social phobia among patients with burn but after program decrease social phobia, decrease feeling of shame, guilt and stigma. Also decrease fears of future through increase self-esteem and increase social interaction.

This result was consistent with the study done by **Farag et al., (2018)** who found that there was a highly statistically significant difference between degree of burn and levels of social phobia. In addition to, this finding supported by **De Oliveira et al., (2018)** and **Hughes, (2019)** who found that there was a highly statistically significant difference between social phobia and degree of burn. On the other hand, this result was inconsistent with **Jain et al., (2017)** who found that no statistically significant differences between social phobia and degree of burn.

The present study illustrated that, there are statistically significant differences between total depression and burn degree post program. Where the levels of depression were higher according to the severity of the degree of burn. This might be due to increasing severity of burn degree lead to more pain, sleep disorder, impaired body image leading to psychological distress among patients with burn as depression. As a result of program interventions and psychological support such as reassurance and relaxation techniques lead to decrease level of depression among patients with burns. This finding was corroborated with **Ruth & Vimala, (2017)** who found that there was positive significant correlation between depression and degree of burn. Also this result consistent with **Muthoni, (2015)** who found that there was highly statistically significant relationship between level of depression and degree of burn.

The findings of the present study showed that, there are positive correlation between total social phobia and total depression pre and post program. This meant when social phobia increased depression increased pre program but after program intervention development of skills through social interaction, further exposure and habituation with prediction of further coping, increased self-efficacy and confidence lead to social integration. All of this leads to decrease depression symptoms. This result was agreement with **Jain et al., (2017)** who found that there was positive significant correlation between social phobia and depression.

Conclusion

Based on the finding of the current study, it can be concluded that, the above mentioned findings proved and reinforced the research hypothesis that the psycho educational program had a positive effect to overcome psychosocial problems among patients with burn.

Recommendations

In light of the study findings, the following recommendations were proposed:-

- *Developing the role of psychiatric mental health nursing for the patients with burn in nursing curricula.
- * Psycho- educational program for family to facilitate an increased understanding of the illness as well as to suggest strategies that may be useful in dealing with difficult behavior.
- * Expand public awareness through mass media about stages of burn and the effect of being emotionally stable on mental health and all life aspects.

Further study:

*Evaluate the effect of psycho-educational program on psychosocial problems among patients with burns with long term follow up and longer sample size with different ages.

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