

Impact of Psych-Educational Awareness Program on Emotional Status among Mothers Having Children with Second-Degree Burn

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Abstract

Background: Second-degree burn represents an extremely stressful experience for both the burned children as well as their mothers, second-degree burns profoundly affect the mother's status which can have several negative implications including increased stress and anxiety among mothers having children with 2nd-degree burns. **Aim:** To evaluate the impact of psych-educational awareness programs on emotional status among mothers having children with second-degree burns. **Design:** A quasi-experimental research design was used to accomplish this study. **Setting:** This study was applied to the Pediatric Burns Unit at Sohag University Hospital, Egypt. **Sample:** - A convenient sample of all 100 mothers having children with second-degree burns was included within six months. **Tools:** Three tools were utilized: Tool I: Mothers' knowledge regarding 2nd-degree burn, Tool II: Mothers' practice regarding second-degree burn, and Tool III: Future anxiety scale. **Results:** Mothers scored higher on knowledge and practical knowledge, according to the study's findings post-psych-educational awareness program intervention compared to pre-intervention regarding second-degree burn. There was a decrease in the studied mothers' anxiety levels post the psych-educational awareness program intervention. There was a positive correlation between mothers' total knowledge, practical knowledge, and anxiety scores at the 0.01 level of significance regarding second-degree burn post-intervention. **Conclusion:** The study concluded that psych-educational awareness program intervention regarding second-degree burns improves mothers' knowledge, practice, and anxiety levels favorably. **Recommendations:** Psychological adjustment must be supported and assisted by offering mothers a well-thought-out health education program that will enhance their knowledge of second-degree burns and reinforce potential interventions.

Keywords: Awareness program, Emotional status, Mothers, Psycho-educational, Second-degree burn.

Introduction:

Burn is a disaster that affects a person's physical body as well as their emotions and the emotions of their community. Burns are primarily produced by heat or other acute traumas to the skin or other organic tissue. According to **WHO (2023)**, a second-degree burn is a form of burn that mostly affects the epidermis and dermis and is brought on by heat, radiation, electricity, friction, or contact with chemicals.

Severe physical and psychological disability can result from second-degree burns. Many physical and psychological issues, including skin-related issues, discomfort, itching, anguish, low self-esteem, anxiety, melancholy, and posttraumatic stress disorder, emerged in second-degree burn children and their mothers following discharge. Second-degree burns change one's physical state, which makes it difficult to engage with others and can make one feel inferior. Among the numerous physical, psychological, and social health care demands that mothers of children with second-degree burns experienced were the need to adjust to a new environment by reintegrating their children into the community, changing their lifestyles, and practicing self-care at home (**Jagnoor et al., 2018**).

The most difficult time for burn children is 1-2 years post-injury. Although children have been discharged from the hospital, they still need long-term rehabilitation therapies and follow-up in the outpatient. Health needs in this phase include: Making a follow-up plan; ROM and strength training to improve physical function; ADLs training; Scar management; Periodical assessments of functional status and adjusting treatment plans; accordingly, and considering reconstructive surgery if needed (**Serghiou et al., 2018**).

Comparing pediatric burn injuries to other non-fatal injuries, they typically necessitate extended hospital stays and acute critical care (**Krasnoff et al., 2021**), which carries a significant financial burden, especially in low-income areas. Moreover, a global trend toward a rise in new cases has been seen, raising a variety of healthcare issues, especially in nations with weaker health systems (**Yakubu et al., 2022**).

In addition, **Santos et al. (2019)** stress the importance of more research to guide healthcare policies and services, save associated costs, and create a pediatric burn center with specialized, evidence-based care. In general, Pediatric patients and their families experience lower quality of life in the short and long term due to burn

injuries, which have health (delayed wound healing), physical (long-term disability and disfigurement from contractures and scarring), psychological (psychological morbidity and traumatic symptoms), and social (troubled social competence) related consequences. These effects extend beyond economic and epidemiological issues (Suman, 2020).

Nevertheless, an increasing amount of research has demonstrated that mothers of children who have suffered burn injuries go through a range of persistently maladaptive reactions, such as intense emotional distress (Lernevall et al., 2020), guilt, blame, and shame feelings, clinical symptoms of psychological morbidity like anxiety and depression, and traumatic reactions. A quarter or so of the mothers reported experiencing symptoms in the first month after the burn. These symptoms could be signs of worry in mothers (Bayuo & Wong, 2020).

But as the research has shown, most of these symptoms tend to go away with time. Hospital stays can also present a chance for early screening and prevention, which ought to be directed towards all (nuclear) family members. In order to attend to and understand mothers' mental health needs and subjective assessments of the child's burn injury during a hospital stay is expected to strengthen our knowledge of mothers' potentially maladaptive responses, which will help prevent mothers' emotional and psychosocial adjustment difficulties through the design of interventions tailored to the political, economic, and sociocultural context.

Mothers' anxiety is significantly higher during prolonged hospital stays (Karahan et al., 2023). Additionally, mothers' anxiety is made worse by the hospital setting, indicating that mothers—who are usually their child's primary caregiver during the hospital stay—seem to be a particularly vulnerable group because of the severity of the symptoms they present. This was mostly due to a deficiency of flexible internal coping mechanisms and expert assistance. Furthermore, a study that examined how caregivers of burn survivors fared within a year after the burn discovered that longer hospital stays were linked to a lower quality of life for the caretakers (Hsu et al., 2023).

Thus, anxiety poses a threat to mothers' ability to adjust and causes them to encounter additional challenges that could have a detrimental effect on providing care (such as attending to their child's requirements). The literature also demonstrates how the unanticipated demands of the hospital stay caused mothers to adjust significantly in their roles, such as being ever-vigilant to meet the needs of their children, which negatively impacted the mothers' physical health (e.g., poor sleep quality and weight loss) (Lernevall et al., 2021).

Because of this, mothers are crucial both during and after the inpatient phase. This is especially true given the child's age and developmental stage and the kind of therapy that is being planned (such as long-term rehabilitation). For this reason, it is crucial to include mothers in an integrated care plan that also encourages their involvement. Nonetheless, little is known about mothers' perspectives and experiences with hospital stays in the context of pediatric burn injuries (Egberts et al., 2018).

The definition of future anxiety is a condition of dread, worry, and uncertainty about potentially dangerous changes in one's future. Mothers naturally want their children to grow up to be the healthiest, happiest adults, therefore it makes sense for them to consider their children's future. Future Anxiety may result from a tendency to obsess over future events. Mothers feel more secure and optimistic about life than people at any other stage of their lives. Individuals experiencing future anxiety struggle with humor, experience more disagreeable psychological symptoms, and doubt their ability to cope with difficult situations in the future. As a result, mothers and society need to be aware of the issue of children with second-degree burns being anxious about defects in the future (Kaya & Avci, 2022).

Therefore, anxiety and psychological pain may be exacerbated by ignorance and misunderstandings. Given that moms may have specific information needs, evaluating mothers' knowledge is especially important for identifying gaps and strengthening current preventive measures. For mothers to manage their anxiety and cope with this new situation, they need to be given the right information, be able to talk to others about their fears "both real and imagined," learn to recognize and confront their negative thoughts and feel like they have some control over their child's risk of infection (National Association of School Psychologists, 2020).

"Evidence-based therapies for anxiety disorders include psychoeducation as a key component" (Cassie et al., 2020). Psychoeducation is one of the many components that make up this treatment. According to Hedman and Axelsson (2019), the goal of psychoeducation is to empower the client and assist them in creating healthy coping mechanisms.

Pediatric nurses have a vital role in educating service users and their caregivers, disseminating health education in the community, and fostering the professional development of other members of multidisciplinary teams as consultants and teachers. Community and pediatric health nurses play a significant role in preventing scald injury in children through health education for first-time

mothers on how to care for their child, improving mothers' knowledge regarding prevention of home injuries, particularly scales injury, and safety measures, and crucial to teach them the proper first aid after-for burn injury (WHO, 2023).

Post-discharge, nursing care is provided in an outpatient burn clinic setting staffed by pediatric nurses, followup during this phase is extremely important as the transitions from hospital to home can be difficult and complex. The need for support and guidance may continue for several years post-burn. Nursing care must continue past the physical healing of the burn wound (Moss, 2021). Complete healing must also include the psychosocial and spiritual domains of the Second-degree burn child. Helping the child with Second-degree burns to accept his/ her "new me" is paramount to recovery. Through family support, professional counseling, and/or peer support the burn survivor can be taught to accept him- or herself and set a path for life and also can help with the reintegration process (Chazi et al., 2019).

Significance of the study:

Around 111,300 people died from burn injuries worldwide in 2019 alone, the majority of them were young children (ages 1-4). Burn injuries are a concerning public health issue, especially in low- and middle-income nations. According to the World Health Organization (WHO), around two-thirds of instances occur in the African and Southeast Asian regions. In Bangladesh, Colombia, Egypt, and Pakistan, respectively, 17% and 18% of pediatric burn injuries result in temporary and permanent impairments (Yakubu et al., 2022). Egypt suffers from one of the highest numbers of burns-related deaths worldwide, with about 250,000 people suffering from severe burns every year. Of this figure, around 40% die due to their not being saved within the first six hours following the injury (Kandeel, 2019).

Furthermore, since burn injuries are a major preventable cause of mortality and morbidity in children globally, particularly in preschool age, with a peak prevalence during the first year of life, the introduction of accessible and effective services and prevention programs is imperative. According to Van Balen et al. (2023), burn injuries occur more frequently in children than in adults, and boys are more likely than girls to sustain them in their early years. One of the most common types of burn injuries are scratches and contact burns, which primarily affect children under five years old on the hands, arms, face, and upper torso (Wickens et al., 2023). Although advances in medicine and healthcare have contributed to improving overall clinical outcomes and, subsequently decreasing hospital stays and mortality rates, burns remain one of the most traumatic injuries that a child and

their family may experience (Yakubu et al., 2022). Based on the above, to help burn children and their mothers in the outpatient setting, from the researcher's point of view it is important to conduct this study to evaluate the impact of psych-educational awareness programs on emotional status among mothers having children with second-degree burns.

Aim of the study:

To evaluate the impact of the psych-educational awareness program on emotional status among mothers having children with second-degree burn through:

- Assessing the mothers' knowledge about second-degree burn pre and post-psych-educational awareness program.
- Assessing the mothers' reported practice regarding second-degree burn pre and post-psych-educational awareness program.
- Assessing the mothers' anxiety regarding second-degree burns pre and post-psych-educational awareness program.
- Determining the association between mothers' knowledge, practice, and their anxiety pre and post-psych-educational awareness program.

Research hypothesis:

H1: Psycho-educational awareness program will have a positive effect on improving mothers' knowledge mean scores regarding their children's second-degree burn.

H2: A psych-educational awareness program will have a positive effect on improving mothers' practice, regarding their children's second-degree burns.

H3: A psych-educational awareness program will have a positive effect on reducing their anxiety levels regarding their children's second-degree burns.

Subjects and Methods

Research design:

This study was conducted using a quasi-experimental research approach, including a pre-and post-test.

Research Setting:

This study was applied to the Pediatric Burns Unit at Sohag University Hospital, Egypt

Subjects:

A convenient sample of all 100 mothers having children with second-degree burns was included in the study within six months

Tool of the study:-

Three tools were used in the current study:

Tool I: Mothers' knowledge regarding second-degree burn which included two parts:

Part 1: Mothers' data: It included **personal data** of the studied mothers which consisted of 4 items related to age, educational level, occupation, and residence.

Part 2: Mothers' knowledge regarding second-degree burn:

It was developed by the researcher post-reviewing recent literature and consisted of 20 questions. Regarding general knowledge about second-degree burns such as the definition of burn and burn prevention, causes, risk factors, types of burn, suitable nutrition, first aid, and measures that should be given to the child complications (Chan et al., 2020; Baloran, 2020; Saravanan et al., 2020)

The scoring system

For both known and unknown responses, the percentages of mothers' overall knowledge were computed. Two marks were awarded for each fully accurate response; one mark was given for an incomplete response; zero marks were awarded for incorrect or unclear responses. A mean score for the knowledge was obtained for each area of knowledge by adding up the scores of the items and dividing the total answers by the number of things. Following that, a percentage score was created from these scores. If mothers' knowledge scored 60% or more on the percentage scale, it was deemed satisfactory; if it scored lower, it was deemed unsatisfactory.

Tool II: Mothers' practice regarding second-degree burn: It was adopted from (Jagnoor et al., 2018); this section includes (43 items) and measures five domains: 1. Wound dressing (16 items). 2. Pain management (3 items). 3. Scar care (4 items). 4. Care of healed skin (17 items) 5. Follow-up in the outpatient clinic (3 items).

Scoring system for mothers' reported practice:

Steps that were completed correctly received a score of 1, while unfinished things received a score of 0. The items' scores were added up for each region, and the total was divided by the number of items to determine the part's mean score. The percentage score for these scores was

computed. If the mother's performance was 60% or above on the percentage score, it was deemed adequate; if it was 60% or lower, it was deemed inadequate.

Tool III: Future anxiety scale

As shown in the accompanying table, it was created by Shekhair (2005) and changed by the researchers according to our culture. It consists of five domains (20 items): anxiety over one's health and mortality (3 things), worry about thinking about the future (5 pieces), dread and fears about the future (4 items), and future anxiety related to the problem (3 items).

Domain	Items number of a standardized tool	Items number of modified tool
Fear and worries about the future	1, 2, 5, 15, 27	1, 5, 15, 27
The despair of the future	4, 7, 8, 9, 12, 16	4, 8, 9, 12, 16
Worry thinking about the future	3, 6, 11, 13, 14, 23, 28	11, 13, 14, 23, 28
Health and death anxiety	10, 18, 19, 25, 26	19, 25, 26
Future anxiety related to the problem	17, 20, 21, 22, 24	17, 21, 24
Total future anxiety	1 – 28	1 – 20

The Scoring system:

On a five-point Likert scale, four is considered to be never, three is maybe, two is moderate, one is a lot, and zero is always. On the other hand, the reverse statement had scores of zero for never, one for maybe, two for moderate, three for a lot, and four for always. Total scores fell into four categories: low (0–15), mild (16–31), moderate (32–48), high (49–64), and very high (65–80). The scores ranged from 0 to 80.

The procedure of data collection:

Preparatory phase:

To create the data-gathering tools and get ready for the psych-educational awareness program, the researchers looked through both recent and older published works, including textbooks, journals, periodicals, and online searches. Before initiating the study, the directors of Sohag University Hospital received an official letter from the dean of the nursing faculty asking for their cooperation and agreement in collecting data from the chosen site.

Validity of the tools:

A board of five expert professors, comprising two professors in psychiatry health nursing and three professors in pediatric nursing, evaluated the tools' face and content validity for clarity, comprehensiveness, appropriateness, and relevance. The board members had more than ten years of experience in the fields in question. The tool's content validity index (CVI) was 89%.

Reliability of the tools:

Cronbach's alpha reliability test was used to measure reliability. Results showed that the first tool had reasonably homogeneous items, as indicated by high reliability ($\alpha = 89\%$), the second tool's reliability ($\alpha = 87\%$), and the third tool's reliability ($\alpha = 914$). By comparing variables, the Pearson correlation coefficient test was used to determine the reliability of the instruments. There was a statistically significant positive connection between the participants' variables, as demonstrated by the Pearson correlation coefficient, which varied between $P < 0.5$ and $P < 0.001$.

A pilot study

A pilot research was carried out on 10 mothers, or 10% of the total number of mothers, after tool development. The entire sample was omitted from it. The purpose of the exercise was to identify any areas of uncertainty in the instruments, guarantee the transparency of the components, and ascertain the amount of time spent gathering data. Based on the pilot study's findings, no changes were made to the tools' final design.

Ethical considerations:

This study was conducted with official approval, granted by a letter from the Dean of the Faculty of Nursing at Sohag University. In the first section of the study, the mothers were explained its purpose. Before commencing the questionnaire, the researcher provided them with information about their rights to withdraw from the study at any time and without cause, as well as their ability to refuse to participate. Additionally, participants received guarantees that the information they provided would be kept private and utilized exclusively for the study.

- The Implementation of the study was carried out in three phases (assessment phase, implementation phase, and evaluation phase).

I-Assessment phase:

The actual fieldwork was carried out starting from **March 2023 to August 2023**. The mothers were informed about the background, objectives, and expected outcomes of the study. The tools and the future anxiety scale were used twice. The first time, these were used as a pretest for the assessment of mothers' knowledge about **second-degree burns**, their reported practice, and their level of anxiety. Then, these tools were used another time as a follow-up after two weeks to evaluate the impact of psych-educational awareness programs on emotional status among mothers having children with second-degree burns. Approximately 25 to 35 minutes were spent on average by mothers finishing the tools and the future anxiety scale. The goal of the study, the instruments' components, how to complete them, and the scale were all explained to each mother who took part in the research. The psych-educational awareness program contents were distributed by the researchers to the participant mothers after clarifying the purpose of the study.

II-Implementation Phase:

The mothers were first given an introduction to the researchers along with a description of the nature and purpose of the study. Tools that had been prepared were given to the participants to complete. The purpose of the study, its anticipated results, and the contents of the tools were explained to the mothers. Sessions, which comprised six theoretical and practical sessions, were conducted in Arabic to guarantee that all study themes were comprehended. Sessions for both theory and practice lasted between fifty and sixty minutes on two days a week. The pre-test participants who were women received the pamphlet. To aid moms in their understanding of second-degree burns, the researchers produced posters, PowerPoint slides, and movies. Moreover, to improve moms' understanding and skills regarding second-degree burns.

The content of the psych-educational awareness program is presented in the following table

Session NO	Subject content	Teaching methods
1	An introduction to the program that focused on building relationships between the researchers and the mothers being examined and outlining its goals	<ul style="list-style-type: none"> • Discussion
2	Education about second-degree burns definition of burn and burns prevention, causes, risk factors of burn, types of burn, suitable nutrition, first aid, and measures that should be given to the child complications.	<ul style="list-style-type: none"> • Powerpoint presentation • Discussion
3	Education about ways of protection from complications of second-degree burn.	<ul style="list-style-type: none"> • Teaching videos
4	Education of future fear (including its definition and symptoms in the case of a second-degree burn). Having a healthy daily routine, managing negative thoughts, communicating effectively with others, and accepting and providing support from friends, family, and others to increase one's sense of security are all helpful strategies for coping with anxiety.	<ul style="list-style-type: none"> • Powerpoint presentation • Discussion
5	In addition to teaching the mothers under study about the definition and practice of meditation, it included strategies for handling anxiety attacks in the future and stressed the value of engaging in physical activities like yoga, deep breathing, and muscle relaxation.	<ul style="list-style-type: none"> • Powerpoint presentation • Teaching videos
6	Summary of the program and the studied mothers were asked to answer the tools post psych-educational awareness program .	<ul style="list-style-type: none"> • Discussion

Evaluating the psych-educational awareness program:

The psych-educational awareness program was evaluated by five expert professors, three professors in pediatric nursing, and two professors in psychiatry and health nursing. The research experts in the fields ensured clarity and appropriateness by reviewing the psych-educational awareness program and contents regarding **second-degree** burns.

The general objectives of the psych-educational awareness program were to improve mothers' knowledge, practice, and anxiety regarding their children's having **second-degree** burns.

Specific objectives: At the end of the psych-educational awareness program the studied mothers were able to:

- 1- Define second-degree burns.
- 3- List the degree of second-degree burn.

- 4- Enumerate causes of second-degree burns.
- 5- Risk factors of second-degree burn
- 6- Discuss burns prevention.
- 7- Discuss suitable nutrition for children having second-degree burn
- 8- List complications of second-degree burn.
- 9- Identify first aid and measures that should be given to the child having a second-degree burn
- 10- Define future anxiety.
- 11- List symptoms of future anxiety resulting from burn
- 12- Apply and discuss techniques to cope with future anxiety.

III. Evaluation phase:

The tools were re-evaluated by the participants for collection after one month of sending the booklet as (a

post-test) using the same pre-test tools (tool I (part 2), II, and III) to evaluate the impact of the psych-educational awareness program on emotional status among mothers having children with second-degree burn.

Statistical analysis:

Data entry and statistical analysis were performed using SPSS for Windows, version 20. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables and mean and SDs for quantitative variables. Differences between two means tests (t-test) were used. Statistical significance was considered at P-value <0.05.

Results

Table 1 reveals that, with a mean age of 25.3 ± 2.5 years, (52%) of the mothers under study were between the ages of 20 and 30. In terms of education, 75% of them were housewives, 32% had completed secondary school, and 80% of them resided in urban areas.

Figure (1) shows that 72% of the mothers in the study stated that doctors were the primary source of information on second-degree burns.

Table (2) demonstrates that, in the pre/post-psych-educational awareness program, there were highly statistically significant variations in the mothers' general knowledge regarding second-degree burns (P-value: 0.001). Before and after the psych-educational awareness program intervention, the mean score of the women who were assessed for their knowledge of second-degree burns was 8.7 ± 3.6 and 19.7 ± 1.4 , respectively. These changes were highly statistically significant (P-value: 0.001). The total knowledge scores in this table likewise revealed a difference that was highly statistically significant.

According to **Figure (2)**, in the pre-post psych-educational awareness program intervention, the majority of mothers (93%) had an unsatisfactory level of knowledge regarding second-degree burns, but in the post-intervention, 90% of them had a satisfactory level of knowledge.

Table (3) showed that most of the mothers had lower reported practice scores for the pre-psych-educational awareness program intervention for second-degree burns. Following the implementation of a psych-educational awareness program, mothers' stated practices about second-degree burns showed highly statistically significant changes in every examined area ($P < 0.001$).

Figure (3) shows that, before the psych-educational awareness program intervention, 87% of the mothers who were tested had inadequate total practice scores about second-degree burns. One month later, this percentage dropped to 10%. In contrast, 90% of them had adequate practices for second-degree burns one month after the psych-educational awareness program intervention, while only 13% of them did so before.

According to **Table 4**, which provides clarification on total future anxiety, there was a significant statistical difference ($P < 0.001$) in the mean score of total future anxiety between the pre-and post-psych-educational awareness program intervention.

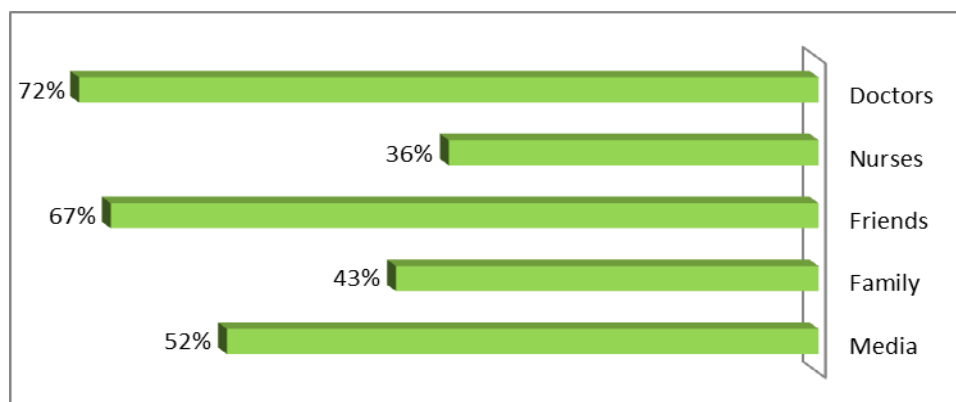
Following the psych-educational awareness program intervention, **Figure (4)** shows a decrease in the moms under study's total degree of future anxiety. The results showed that, before the psych-educational awareness program intervention, 40% of the mothers in the study had severe future anxiety levels, whereas 10% had the same levels after the program.

The findings presented in **Table (5)** indicate a moderate negative association ($r = -0.542$, P value < 0.001) between the educational level and knowledge of the mothers under study. The degree of future anxiety and mothers' residency also showed a moderately negative correlation ($r = -0.503$, P value < 0.001).

Table (6): After participating in a psych-educational awareness program intervention, there was a negative correlation ($r = -0.544$, P value < 0.014; $r = -0.659$, P value < 0.016) between the mothers' knowledge, practices, and their future anxiety.

Table (1): Personal data distribution of the Studied Mothers (n=100)

Demographic characteristics	NO.	%
-Age(years):		
20 < 30	52	52.0
30 - 35	38	38.0
35 ≥40	10	10.0
Mean and SD (25.3±2.5)		
-Educational level:		
Postgraduate	10	10.00
Bachelor's degree	30	30.00
Technical Institute	28	28.00
Secondary school diploma	32	32.00
occupation		
Housewives	75	75.00
Working	25	25.00
- Residence		
Urban	80	80.00
Rural	20	20.00

**Figure (1): Source of Knowledge regarding second-degree burn among the Studied Mothers (n=100)****Table (2): Mean Scores differences in Knowledge about second-degree burn among the Studied mothers Pre and Post psych-educational awareness program (n=100)**

Items	Pre-psych-educational awareness program	Post-psych-educational awareness program	t-test	P-value
Definition of second-degree burn	2.5 ± 0.7	4.9 ± 0.4	18.34	0.001**
Causes of second-degree burn	3.6 ± 2.2	9.3 ± 1.1	19.32	0.001**
Risk factors of second-degree burn	3.1 ± 1.8	6.9 ± 0.6	17.62	0.001**
Types of second-degree burn	2.4 ± 0.7	4.9 ± 0.4	16.18	0.001**
Burns prevention among children	3.3 ± 2.1	9.3 ± 1.2	19.53	0.001**
Suitable nutrition for children with second-degree burn	3.2 ± 1.7	6.7 ± 0.3	15.27	0.001**
First aid and measures that should be given for the child's complications	2.7 ± 0.9	4.7 ± 0.6	16.83	0.001**
Total knowledge scores	8.7 ± 3.6	19.7 ± 1.4	23.42	0.001**

(**) highly statistical significance at $p < 0.001$

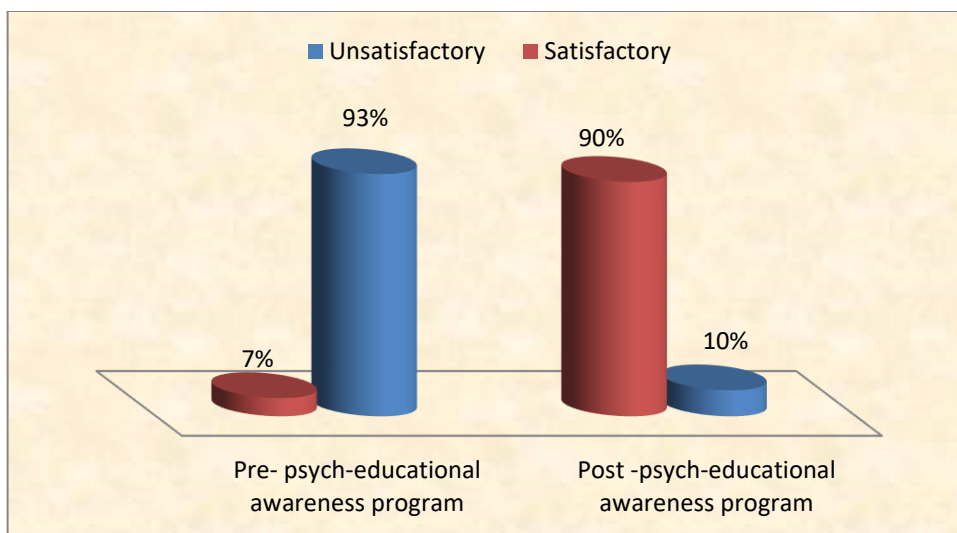


Figure (2): Total Mothers' Knowledge Level regarding second-degree burn pre and post psych-educational awareness program

Table (3): Mothers' practice scores distribution regarding second-degree burn Pre and Post psych-educational awareness program (n=100)

Preventive measures	Pre-psych-educational awareness program	Post-psych-educational awareness program	t-test	P-value
Wound dressing	30 (30.0)	90 (90.0)	29.4	<0.001*
Pain management	17 (17.0)	70 (70.0)	39.3	<0.001*
Scar care	10 (10.0)	66 (66.0)	48.8	<0.001*
Care of healed skin	19 (19.0)	78 (78.0)	37.6	<0.001*
Follow-up in the outpatient clinic	20 (20.0)	91(91.0)	24.7	<0.001*

(**) highly statistical significance at $p < 0.001$

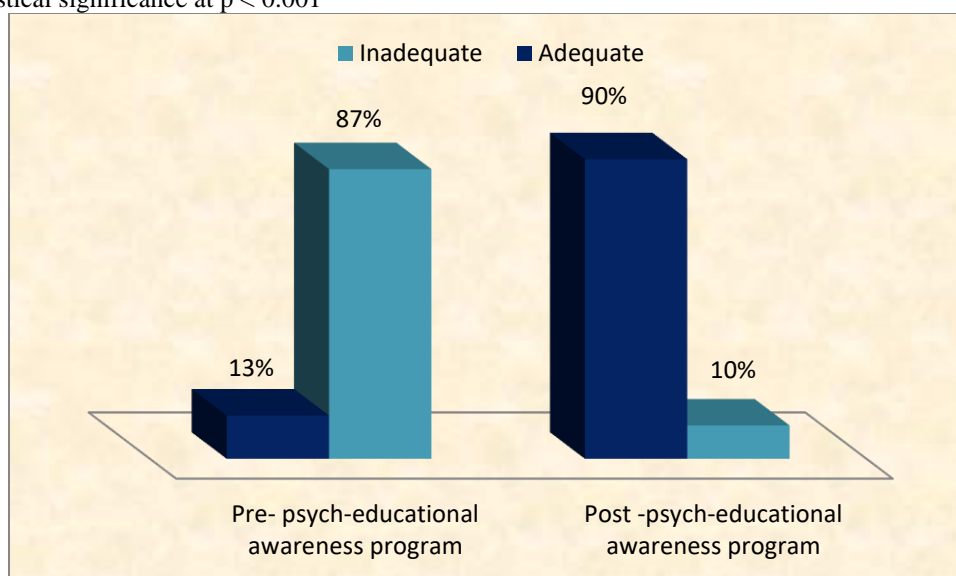
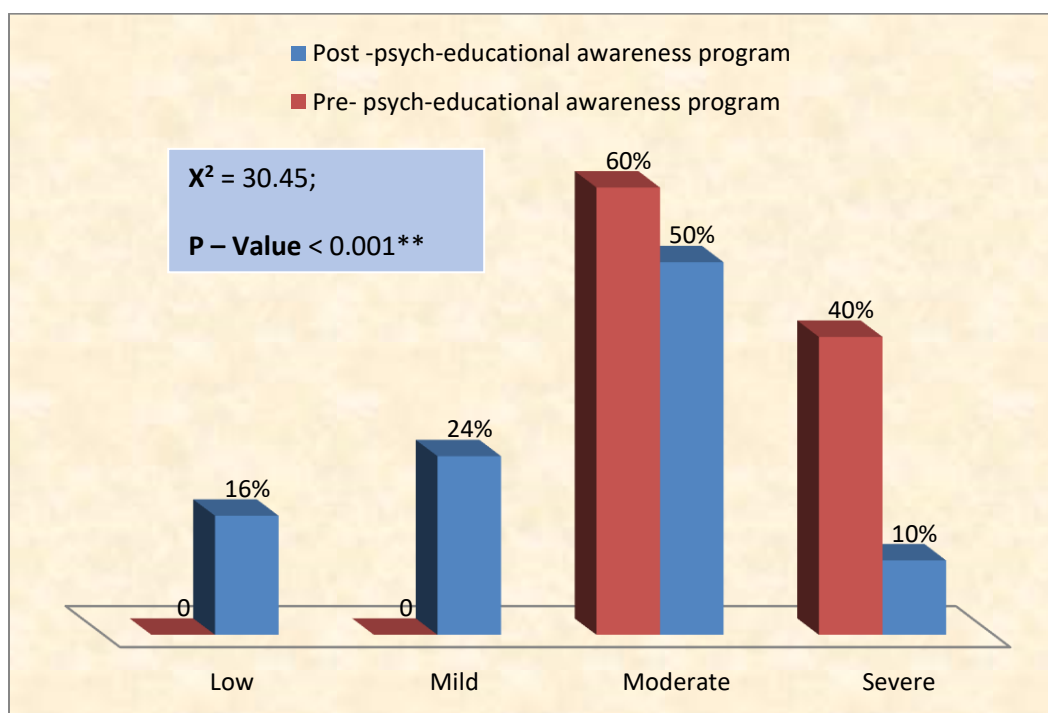


Figure (3): Total Mothers' Practice Level regarding second-degree burn pre and post-psych-educational awareness program (n= 400).

Table (4): Mean Scores Differences of Future Anxiety among the Studied Mothers Pre/ Post psych-educational awareness program (n=100)

Future Anxiety items	Pre-psych-educational awareness program	Post-psych-educational awareness program	t-test	P-value
Fear and worries about the future	7.5 ± 2.4	4.1 ± 2.0	7.44	0.001**
The despair of the future	10.6 ± 3.1	4.7 ± 2.2	11.22	0.001**
Worry thinking about the future	9.5 ± 3.0	7.5 ± 1.2	3.46	0.001**
Health and death anxiety	6.4 ± 3.1	3.8 ± 2.1	6.57	0.001**
Future anxiety related to the problem	6.1 ± 2.6	3.6 ± 2.2	6.39	0.001**
Total future anxiety	40.01 ± 9.2	24.2 ± 9.1	8.77	0.001**

(**) highly statistical significance at $p < 0.001$

**Figure (4): Total Future Anxiety among the Studied Mothers Pre and Post psych-educational awareness program regarding second-degree burn (n=100)****Table (5): Correlation coefficient between Total Knowledge, Practice, and Future Anxiety among the Studied Mothers and their Selected Personal Data Pre-psych-educational awareness program (n= 100).**

Items		Knowledge	Practice	Future anxiety
Mothers' age	R	-.130-	-.102-	.179
	P – value	.350	.449	.186
Mothers' educational level	R	-.542	.027	-.045-
	P – value	.0001**	.839	.765
Mothers' occupation	R	.072	-.329	-.369
	P – value	.601	.016*	.007**
Mothers' residence	R	.045	-.269	-.503
	P – value	.732	.032*	.0001**

** . Correlation is significant at the 0.01 level*. Correlation is significant at the 0.05 level

Table (6): Correlation between Total Knowledge, practice, and Future Anxiety among the Studied Mothers Pre and Post psych-educational awareness program (n= 100).

Items	Variables		Pre-psych-educational awareness program	Post-psych-educational awareness program
			Knowledge	Knowledge
Pre-psych-educational awareness program	Practice	R	-0.100	0.013
		P – value	0.483	0.924
	Future anxiety	R	-0.087	0.149
		P – value	0.529	0.219
Post-psych-educational awareness program	Practice	R	0.148	-0.525
		P – value	0.544	0.014*
	Future anxiety	R	0.828	-0.659
		P – value	0.185	0.016*

*. Correlation is significant at the 0.05 level

Discussion:

Numerous implications for clinical practice and healthcare research arise from a better knowledge of how parents and their kids adapted to the inpatient phase from the parents' point of view. Dealing with the hospital experience is the secondary stressor that precedes the primary stressor, which is the burn event, putting parents in a very bad situation. A youngster who is even more dependent on them because of their age, developmental stage, and (serious) medical condition is also under their care. Due to these factors, parents find themselves in a crisis that poses multiple risks to their ability to adjust psychologically (Yakubu et al., 2022).

According to the findings, more than half of the studied mothers were between the ages of 20 and 30, the majority of them were living in urban areas, and their educational level was a secondary school. Because they were not old enough and did not have adequate knowledge, this could be the cause of greater psychological disturbances such as anxiety among the studied mothers.

The findings of the current study revealed that less than three-quarters of the mothers in the study stated that doctors were the primary source of information on second-degree burns. From the researchers' point of view, it reflected that mothers were directed to the right way in their children's care.

The findings of the current study revealed that in pre/post-psych-educational awareness programs, there were highly statistically significant variations in the mothers' general knowledge regarding second-degree burns. From the researchers' point of view, it confirmed the positive effects of psych-educational awareness program application. This finding shows the necessity for mothers of children to raise their awareness.

The current study's findings demonstrated that most mothers had inadequate understanding of second-degree burns, but that most of them had satisfactory knowledge following the intervention. According to the study, this demonstrated how crucial it is to provide a psych-educational awareness program intervention for moms in order to enhance their understanding. Furthermore, the current study reveals that mothers' understanding of second-degree burns improves in a highly statistically significant way following the implementation of a psych-educational awareness program. According to the study, this might be because during the program, the mothers were given current, clear information. This result is consistent with the findings of (Matsuda & Kohno, 2019), who found that psycho-education improves participants' understanding of the illness under study (Ekhtiari et al., 2019).

The "theory of KAP," proposed by Fan et al. (2020), states that health behavior changes when people acquire the necessary information and put it into practice. This finding corroborated that idea. Furthermore, adequate personal knowledge is associated with successful illness promotion, management, and prevention, according to a recent study by Rana et al. (2020). A study by Ricardo et al., (2018) found a connection between a lack of knowledge and maladaptive disease prevention behavior and poor health.

The current study's findings showed that the majority of the mothers reported having poorer practice scores for the pre-psych-educational awareness program intervention intended for second-degree burns. Mothers' reported behaviors about second-degree burns demonstrated highly statistically significant changes in every area studied with the introduction of a psych-educational awareness program. As far as the researcher was concerned, it verified that the psych-educational

awareness program intervention was successful in enhancing knowledge that is linked to improved practices.

According to the current study's findings, most women who were assessed had insufficient overall practice scores for second-degree burns prior to the implementation of the psych-educational awareness program. After a month, the majority of them had sufficient experience treating second-degree burns, indicating an improvement in their understanding. According to the study, it demonstrated how well the psych-educational awareness program intervention changed mothers' behaviors.

With respect to the overall future anxiety, the mothers' mean score decreased with respect to the total future anxiety following the psych-educational awareness program intervention as opposed to prior to the program's highly statistically significant differences. The researchers speculate that moms' concerns about their children's health and potential difficulties may be the reason for this. The advantage of implementing the awareness program, which satisfied the moms' requirements and gave them enough information to manage this illness, is demonstrated by this outcome. Also demonstrated the accomplishment of the study's goal.

According to these replies, which were also documented by **McGarry et al. (2019)**, parents often repress their feelings after the initial shock of seeing a burn occurrence, despite the fact that it may be a terrible experience. According to a qualitative study conducted in 2019 by Ravindran et al., all participants rated the hospital stay as traumatic, and there was a direct correlation between the experience of witnessing their child suffer and the parents' mental and physical pain.

Online or internet-based psychological psychotherapy has demonstrated potential in treating and reducing anxiety in mothers, both with and without the support of a therapist (**Jolstedt et al., 2018**). A decreased risk of anxiety has also been associated with yoga, meditation-based programs, online friend chats, and online psychology courses (**Fenfen et al., 2020**). In a similar vein, research by **Jolstedt et al. (2018)** and **Melnyk et al. (2019)** discovered that therapist-led internet therapy, skill training programs based on cognitive-behavioral therapy, relaxation techniques, art-based programs, support services, clinician-led mental health, and psychosocial services all successfully lower anxiety and mental health problems in mothers.

These results may suggest that mothers experienced significant stress in many facets of their lives as a result of the burn, including concerns for the health of their children, which was extremely upsetting for them.

After obtaining adequate information on second-degree burns through a psych-educational awareness program intervention, some parents who were experiencing anxiety or worry about their children developing abnormalities and having a negative body image became less concerned. This might be connected to the way that educational interventions and greater understanding reduce stress.

These findings demonstrated that, compared to pre-interventions, the moms under study had lower overall levels of future anxiety following the psych-educational awareness program intervention. The results of this study may be explained by mothers' worries about their kids getting sick, the challenge of managing the wound, and the dearth of healthcare services in the nation. Mothers who are at home with their children may feel distressed emotionally, especially if they become sick (**CDC, 2020**). These findings provided an explanation for a knowledge gap that raises emotional disturbance levels and can spread to other kids.

The results of a recent study by **Mo'ashi & Muhamed (2019)**, which indicated a considerable level of future concern among students in a previous study concerning "Future anxiety of the people" done in Egypt, corroborate the conclusions of this study. Over 61% of respondents to a Mental Health Association (MHA) poll conducted in Turkey expressed increased fear about their future (**MHA, 2020**).

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The results of the current study show that there was a somewhat unfavorable link between the mothers' educational level and the information they had. Mothers' occupation, residence, and degree of future fear all showed a somewhat negative association. The residency of the mothers under investigation, especially in rural areas, is associated with high mean scores of their future fear in the pre-psych-educational awareness program intervention. This may help to explain why mothers in rural and urban areas experience higher levels of stress as a result of inadequate access to medical supplies, low awareness, and challenges in reaching an urban health center or hospital when their children exhibit symptoms of infection.

.. A high degree of anxiety may also result from working women leaving their young children alone for

extended periods of time while they are at work, which makes them more anxious about their children.

According to the current study, following a psych-educational awareness program intervention, there was a moderately negative association established between the mothers' knowledge and practice and future anxiety. According to the researchers, a lack of understanding results in subpar actions which raises anxiety about the future and the unknown.

The parents' journey can be divided into three parts, as described by a previous qualitative study that was carried out six months after the burn: experiencing the accident, the inpatient phase, and returning to the community. Parental anguish was greatest during the inpatient phase, especially when it came to seeing the invasive and traumatic medical procedures, which were deemed the "worst aspect" of the entire experience (McGarry et al., 2019). Brown et al. (2020) also discovered that parents frequently displayed several signs of emotional distress (such as fear, uncertainty, and worries about the possibility of permanent scarring) and traumatic reactions (such as fleeing the room while dressings were being changed) during the child's medical procedures. In contrast, a recent qualitative study that examined the recollections and assessments of burn victims' children found that parents' highly emotional memories related to the inpatient phase (e.g., children's procedural pain) were not perceived as potentially intrusive (Egberts et al., 2019).

These results are supported by another qualitative research on parents' presence or absence from their children during wound treatment, which argues that parental involvement in medical procedures creates a "sense of control" that can lessen the underlying trauma itself. Additionally, a more recent qualitative study noted that maximizing parents' contribution to the child's recovery and the maintenance of effective care during the hospital stay involves attending to their support needs (e.g., feeling taken care of and having time for self-care) (Egberts et al., 2018).

In an effort to demonstrate that they are "still strong" and capable of advancing their children's physical and mental wellbeing, parents also appear to downplay and hide their emotions. Similar findings were reported by Karahan et al. (2023) in a qualitative study that was limited to the experiences of mothers in a pediatric burn critical care unit. The study stressed the significance of utilizing adaptive coping methods during this time. These parents struggle with controlling and expressing their emotions, and they are also plagued by intrusive flashbacks of the burn event that could interfere with their ability to adjust psychologically.

The mother who had also suffered a burn injury as a child experienced reactivation of her painful memories, which was an unexpected finding in our study. Therefore, parents' prior traumatic experiences should be taken into account in future research. According to this study, undergoing medical procedures—mostly clothes changes—was extremely upsetting and frightening for both parents and kids. The parental distress stemmed from witnessing the child's agony and suffering during the procedure. According to McGarry et al. (2019), who also emphasized that the traumatic procedural reactions can last for up to six months after a burn, some parents may have to go through the ordeal again because post-discharge care (such as taking off dressings in the bathtub) must be continued. While Egberts et al. (2019) observed comparable outcomes, they also noted a decrease in these reactions throughout wound care. In addition, a quantitative study found that invasive medical procedures were a significant predictor of parental stress over time (De Young et al., 2021).

Parental emotional states prior to surgery seems to play a significant role in their involvement in the child's wound care, according to a qualitative study on the experiences of the parents (Egberts et al., 2018). It is important to take into account the emotional responses of the parents, since new research indicates that the psychological adjustment of the parents—such as acute symptoms of distress—during the initial dressing change affects the child's prognosis and clinical outcomes—like delayed re-epithelialization (Brown et al., 2019).

Concerns about the child's mobility, eating, complexion, and sleep patterns were among the noticeable functional abnormalities that were discovered. According to Stewart et al. (2019), a quantitative study revealed a positive correlation between parental distress and health-related issues in children under four years old. Specifically, the study indicated that higher levels of parental concern were linked to a greater number of health-related issues, including sleep disorders and persistent burn pain. According to Bakker et al. (2020), alterations in children's functioning (like their mobility) and appearance have been linked to later social problems (like bullying episodes and low social competence). Most parents were able to identify these particular burn-related outcomes when they relived their hospital stay, for example, by speaking with researchers (Egberts et al., 2019). It implies that this is a crucial intervention target. The parents' primary worry about the future is influenced by this anxiety, especially if they believe their child may suffer physical or psychological effects from the burn injury. These results were in line with earlier qualitative investigations (Lernevall et al., 2023; Brown et al., 2020).

For instance, **McGarry et al. (2019)** found that parents found it difficult to deal with the stigma associated with visible scars when their child returned to the community, and **Brown et al. (2020)** found that parents expressed serious concerns about possible physical sequelae (such as permanent scarring). The majority of parents, regardless of the age of the kid, were worried about scars and what they might mean (such social issues) (**Lernevall et al., 2023**). Parents feel powerless because scars form in an unanticipated and uncontrollable way (**Brown et al., 2020**). Furthermore, parents of children who survived burn injuries and had visible scars found it more difficult to deal with the physical aftereffects of their injuries than parents of children who did not. This study examined the burden of pediatric burns with hidden scars (**Rimmer et al., 2019**).

Conclusion:

Depending on the results of the current study, the study concluded that psych-educational awareness program intervention regarding second-degree burn has a positive effect on improving mothers' knowledge, and practice, and reducing their anxiety levels.

Recommendations:

The following recommendations were suggested based on the results of the present study:

- Providing mothers with a well-planned health education program to improve their knowledge and practice regarding second-degree burn
- reinforce possible interventions is essential to support and help in psychological adjustment
- Brochures and booklets with sufficient information about second-degree burns and their prevention should be printed and distributed to all mothers and caregivers of children in clinics and schools.
- Future studies and repeating this study on a large sample size for generalization.

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