

## Health Needs and Problems among Clients with Second-Degree Burn during Follow-Up

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### Abstract

**Background:** Second-degree burn represents an extremely stressful experience for both the burn client as well as their families, second-degree burn profoundly affects the client's physical, psychological, financial situation and family relations. **Aim:** Assess health needs and problems among clients with second-degree burn during follow-up. **Research design:** A descriptive design was used. **Setting:** The study was conducted at the Outpatient Burn & Plastic Clinic at Suez Canal University Hospital at Ismailia Governorate, Egypt. **Sample:** Purposive sample composed of 150 clients with second-degree burn who attended to the previously mentioned setting. **Tool:** Data were collected using one tool; A structured Interviewing questionnaire consists of 6 parts; (1) Socio-demographic characteristics of the participants, (2) Burn characteristics, (3) clients' knowledge, (4) clients' reported practices related to second-degree burn, (5) Health needs, and (6) Health problems among clients with second-degree burn. **Results:** The study revealed that 60.7% of clients with second-degree burn had unsatisfactory level of total knowledge regarding burn, and 65.3% of them had incorrect level of total reported practices towards care of burn. Furthermore, there were 71.3% of the studied clients their total physical, psychological, social and financial health needs were not achieved, while, 67.7% of them had physical, psychological, social and financial problems related to their second-degree burn. **Conclusion:** More than two-thirds of the studied clients their health needs were not achieved, and suffered from health problems related to second-degree burn. There was a highly statistically significant relation between clients' knowledge, reported practices regarding second-degree burn and their health needs. While, there was a statistically significant relation between clients' knowledge regarding second-degree burn and their health problems. Additionally, there was a highly statistically significant relation between clients' reported practices and their health problems. **Recommendations:** Establishing Health education programs for clients with second-degree burn to improve their level of knowledge and practices regarding burn. Further studies are needed to determine the health needs and problems of clients at different age stages with every degree of burn using large group size, and different settings.

**Key words:** Second-Degree Burn, Health Needs, Health Problems.

### Introduction

Burn is a catastrophe covering both the physical aspect of human body and the emotions of an individual and associated community. Burn is an injury to the skin or other organic tissue primarily caused by thermal or other acute trauma. Second-degree burns are a form of burn that primarily result from heat, radioactivity, electricity, friction, or contact

with chemicals and harm both the epidermis and dermis. (WHO, 2018).

Burns of the second degree can seriously harm a person's physical and mental health. Following discharge, patients with second-degree burns experienced a wide range of physical and psychological issues, including skin-related issues, pain, itching, anguish, low self-esteem, anxiety, despair, and posttraumatic stress disorder (PTSD). The altered physical

condition due to Second-degree burn is a barrier in way of interacting with other members of the society and causes feeling of inferiority. This situation often leads to psychological problems and loss of social network, such clients need social support (*Liliane et al., 2016*).

Second-degree burn Clients who experienced these issues required a variety of physical, psychological, and social health care services as well as the ability to adapt to a new situation, which included making modifications to one's lifestyle, returning to the community, and practising self-care at home. (*Jagnoor et al, 2018*).

The first two years following an accident are the most challenging for burn clients. Despite being released from the hospital, clients still require long-term rehabilitation therapy and outpatient follow-up. Making a follow-up plan, engaging in range-of-motion and strength training to enhance physical function, learning how to perform ADLs, managing scars, undergoing periodic assessments of functional status to modify treatment plans as necessary, and, if necessary, contemplating reconstructive surgery are among the health needs in this phase. (*Serghiou et al., 2018*).

Following discharge, community health nurses provide nursing care in an outpatient burn clinic setting. Follow-up during this phase is crucial since transitions from the hospital to the home can be challenging and complicated. Several years after the burn, there may still be a need for support and direction. After the burn wound has physically healed, nursing care must continue. The client with a second-degree burn must also experience complete recovery in their psychosocial and spiritual domains. The key to rehabilitation is assisting the client with a second-degree burn in coming to terms with the "new me." The burn victim can be taught to accept themselves and create a course for their lives through family support, professional counselling, and/or peer support, which can also aid in the process of reintegration. (*Moss, 2014*).

## Significance of the Study

Burns cause an estimated 180,000 fatalities each year, making them a major public health concern worldwide. Globally, 31 million persons experienced burns serious enough to necessitate a hospital admission or outpatient presentation in 2018. (*WHO, 2018*).

About 250,000 Egyptians experience serious burns each year, making Egypt one of the countries with the highest incidence of burn-related mortality globally. About 40% of those who don't receive medical help within the first six hours of their injuries die as a result. (*Kandeel, 2019*).

Based on the above, in order to help burn clients and their families in the outpatient setting, from the researcher point of view it is important to conduct this study to assess health needs and problems of clients with Second-degree burn during follow-up in outpatient clinic to identify the factors relating to those needs and problems.

## Aim of the study

This study was aimed to assess health needs and problems among clients with second-degree burn during follow-up through:

1. Assessing health needs and problems of clients with second-degree burn.
2. Assessing clients' knowledge regarding second-degree burn.
3. Assessing clients' reported practices regarding second-degree burn.

## Research Questions:

1. What are health needs and problems of clients with second-degree burn?
2. Is there a relation between clients' sociodemographic data and their knowledge and practices regarding second-degree burn?

3. Is there a relation between clients' knowledge and practices and their health needs regarding second-degree burn?

4. Is there a relation between clients' knowledge and practices and their health problems regarding second-degree burn?

## Subjects and methods

### I. Technical design

The technical design used for the study includes: Research design, setting, sampling of the study and tools of data collection.

#### Research design

A descriptive design was used to conduct this study.

#### Study Setting

The study was conducted at Burn and Plastic Outpatient Clinic at Suez Canal University Hospital at Ismailia Governorate, Egypt, where it is the main hospital in burn management and follow-up in Ismailia governorate.

#### Subjects

A purposive sample composed of (150) clients with second-degree burn representing 5% of the total number of clients (2994) who attended to the previously mentioned setting in the last year 2019. With the following criteria: clients with second-degree burn after attending to Burn & Plastic Outpatient Clinic for follow-up from the first week of burn injury up to 1 year of follow-up, adults from age 20 to 40 years.

#### Tools of data collection

One tool was used for data collection in this study: **A structured interviewing questionnaire consists of six parts:**

**Part I:** Clients with second-degree burns' sociodemographic data, including their age, gender, marital status, number of children, and place of residence, educational level, occupation and monthly income; this section includes (8 questions).

**Part II:** Burn characteristics of clients with second-degree burn such as site and size of burn TBSA%, time since burn injury, causes of burn injury, place of occurrence of burn injury, complications, and severity of burn injury; this section includes (6 questions).

**Part III:** Assessment of knowledge of clients with second-degree burn regarding burn, suitable nutrition for burn client and second-degree burn. this section includes (22 questions).

#### ➤ Scoring system of knowledge:

According to the response obtained from the studied clients a scoring system was followed to assess clients' knowledge regarding second-degree burn injury, each question received a score of (2) for the correct response, (1) for the incomplete correct response, and a score of 0 for each don't know (0). These scores were converted into a percent as the following:

▪ Score <50% (1:<22) is considered unsatisfactory knowledge.

▪ Score from 50% : ≤100% (22:44) is considered satisfactory knowledge.

**Part IV:** Assessment of reported practices of clients with second-degree burn towards care of 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 of reported practices:

According to the response obtained from clients, a scoring system was followed to assess clients' reported practices regarding care of second-degree burn. Each item scored (2) for always done, (1) for sometimes done and each never done scored zero (0). These scores were converted into a percent as the following:

- Score <60% (1<51) is considered incorrect practices.

- Score from 60% : ≤100% (51≤86) is considered correct practices.

**Part V:** Assessment of health needs among clients with second-degree burn, such as physical, psychological, social and financial needs. It was adopted from (*Liang et al., 2012*), this section includes (35 items) and measures four domains:

- 1.Physical needs (11 items).
- 2.Psychological needs (13 items).
- 3.Social needs (7 items).
- 4.Financial needs (4 items).

➤ **Scoring system of health needs:**

Health needs items were rated in a three-point **likert scale** as: always achieved = 2, sometimes achieved = 1, and never achieved = zero. These scores were converted into a percent score which was classified as the following:

- Score from <50% (1<35); clients' health needs were considered not achieved.

- Score from 50-≤100% (35-≤70); clients' health needs were considered achieved.

**Part VI:** Assessment of health problems among clients with second-degree burn such as physical, psychological, social and financial problems. It was adopted from (*Goudarzian et al., 2017*). This section includes (45 items) and measures four domains:

- 1.physical problems (12 items).
- 2.psychological problems (19 items).
- 3.social problems (9 items).

- 4.financial problems (5 items).

➤ **Scoring system of health problems:**

Health problems items were rated in a three-point likert scale as; always present = 2, sometimes present = 1, and never present = zero. These scores were converted into a percent score which was classified as the following:

- Score from <50% (1<45); considered absence of health problems.

- Score from 50% : ≤100% (45≤90); considered presence of health problems.

## II. Operational design

The three phases of the operational design for this study were the preparatory phase, the pilot study, and the fieldwork.

### Preparatory phase

During this stage, literature on the needs and problems related to second-degree burn clients' health were reviewed. As a result, the data gathering tools for the study were developed. The researcher visited the chosen setting during this phase to get to know the personnel and the study environment. The tools were created under supervision, guidance, taking into account the advice of experts.

### Tool validity and reliability:

The tools were tested and evaluated for their face and content validity by a jury group consisted of 5 expertise from community health nursing in Ain Shams University to test the content validity and modifications of the tool done according to the panel judgment on the clarity of sentences, relevance, appropriateness of content, sequence of items and completeness of the tool. The reliability of the study tools assessed by measuring their internal consistency of Cronbach's Alpha coefficient test (0.82).

### Pilot study

A pilot study was carried out on 10% (15) clients with second-degree burn at the previously mentioned setting to test the applicability of the constructed tools and the clarity of the included questions related to health needs and problems for the studied clients. Minor changes were done in the tool based on the results of the pilot study, some corrections and omissions of items were performed as needed. The pilot participants were excluded from the main study sample.

### Fieldwork

- To carry out the study, Suez Canal University Hospital in Ismailia Governorate gave its permission. In order to get their approval and assistance, the Faculty of Nursing at Ain-Shams University issued them a letter outlining the aims of the study.

- The actual field work was carried out around six months from January 2020 up to June 2020; the investigator was available three days/week. This was done through the working hours (9 am to 1 pm). The investigator met about three to four clients per day who fulfilled the inclusion criteria of selection.

- The researcher initially met with clients in the mentioned settings, introduced herself, and then explained the goal and purpose of the study.

- The confidentiality of the data acquired and its exclusive use for study were assured to the clients. Then each client was interviewed individually after obtaining the client's verbal consent to participate.

- The researcher read and explained the study's processes to illiterate clients, who had their choices recorded, whereas educated clients read and completed the questionnaire on their own. The average amount of time needed to complete one questionnaire was between 25 and 35 minutes.

### III. Administrative design

Approval was obtained through an issued letter from the Dean of Faculty of Nursing, Ain Shams University to the director of Burn and Plastic Outpatient Clinic at Suez Canal University Hospital. The investigator then met the hospital director and explained the purpose and methods of data collection.

### Ethical consideration

The study was done with consideration for participant rights and ethical principles of research. Approval from ethics and research committee at Faculty of Nursing, Ain Shams University was obtained at 20/7/2016.

Before including the clients in the study, written consent was obtained from them. A concise explanation was given in accordance with their understanding level and level of physical and mental capability. They made sure that all the information collected was confidential and exclusively used for research.

### IV. Statistical analysis

Using a computer, the collected data were coded and tabulated. Version 22.0 of the Statistical Package for Social Science (SPSS) was utilized. Inferential and descriptive statistics were both used to provide answers to the study questions. At a p-value of 0.05, statistical significance was taken into account.

### Results

**Table (1)** Reveals that, 56.7% of the clients with second-degree burn were males, and 52.7% of them their age group were between 31-40 years old with mean age (33.4±2.1). Meanwhile, 58.7% of the studied clients lived in rural areas, 50% of them had basic education, 71.3% of them were working and 63.3% of the studied clients had insufficient monthly income.

**Table (2)** Illustrates that, 49.3% of the study sample had burn at the thigh, 31.4% of them had burn injury for two months. Regarding causes of burn, 64.0% of the studied clients had thermal burns, while, 49.3% of them

were burned at home. In relation to complications following the burn injury, 87.3%, 67.3% and 62% of the studied clients had psychological trauma, swelling of the affected part / body, and inflammation and infection of the burn wound, respectively. In addition, 59.4% of the studied clients had burn size from 10-20 TBSA %.

**Table (3)** Illustrates that, there was a highly statistically significant relation between clients' total health needs, total reported practices, and their total knowledge regarding second-degree burn ( $p<0.01$ ).

**Table (4)** Illustrates that, there was a statistically significant relation between clients' total knowledge regarding second-degree burn and their total health problems ( $p<0.05$ ). Meanwhile, there was a highly statistically significant relation between clients' total reported practices regarding second-degree burn and their total health problems ( $p<0.01$ ).

**Table (5)** Illustrates that, there was a positive correlation between clients' total knowledge and total.

reported practices regarding second-degree burn. Also, there was a positive correlation between clients' total health needs and problems regarding second-degree burn.

**Figure (1)** Reveals that, 60.7% of the studied clients had unsatisfactory level of total knowledge regarding burn, while 39.3% of them had satisfactory level.

**Figure (2)** shows that, 65.3% of the studied clients had incorrect level of total reported practices towards care of burn. While, 34.7% of them had correct level of total reported practices towards care of burn.

**Figure (3)** shows that, 71.3% of clients with second-degree burn their total health needs were not achieved. While, 28.7% of them their total health needs were achieved.

**Figure (4)** shows that, 67.7% of the studied clients had health problems related to their second-degree burn. While, 31.3% of them had mild problems or did not have health problems related to their second-degree burn.

**Table (1): Distribution of clients with second-degree burn according to their socio-demographic characteristics (n =150)**

Socio-demographic characteristics	No	%
<b>Age in years</b>		
20 - 30 years	71	47.3
31-40 years	79	52.7
<b>Mean <math>\pm</math>SD</b>		33.4 $\pm$ 2.1
<b>Gender</b>		
Male	85	56.7
Female	65	43.3
<b>Residence</b>		
Urban	62	41.3
Rural	88	58.7
<b>Educational level</b>		
Illiterate	46	30.7
Basic education	75	50.0
Secondary education	17	11.3
University education	12	8.0
<b>Occupation</b>		
Work	107	71.3
Doesn't work	43	28.7
<b>Monthly income</b>		
Sufficient	55	36.7
Insufficient	95	63.3

**Table (2): Distribution of clients with second-degree burn according to their burn characteristics (n =150)**

<b>Items</b>	<b>No</b>	<b>%</b>
<b>*Site of burn</b>		
Thigh	74	49.3
Leg	39	26.0
Palm of hand	35	23.3
Abdomen	35	23.3
Foot	32	21.3
Face	26	17.3
Back	21	14.0
Chest	18	12.0
Head	11	7.3
Perineal area	5	3.3
Neck	3	2.0
<b>Time since burn injury</b>		
Less than a week	18	12.0
Less than a month	44	29.3
Two months	47	31.4
Three months	26	17.3
Less than a year	15	10.0
<b>Causes of burn</b>		
Thermal	96	64.0
Scald	29	19.3
Electrical	14	9.3
Chemical	11	7.3
<b>Place of occurrence of burn injury</b>		
At home	74	49.3
At work	49	32.7
On the road	27	18.0
<b>* Complications following the burn injury</b>		
Psychological trauma	131	87.3
Swelling of the affected part / body	101	67.3
Inflammation and infection of the burn wound	93	62.0
Scar	86	57.3
Gastritis or stomach ulcers	62	41.3
Cyanosed fingers of hand & foot	40	26.7
Respiratory injury due to smoke inhalation	15	10.0
Bleeding	8	5.3
<b>Burn size TBSA% involved</b>		
Less than 10%	26	17.3
From 10 - 20%	89	59.4
More than 20%	35	23.3

\*All items not mutual

Figure (1): Distribution of clients with second-degree burn according to their total knowledge regarding burn (n =150)



Figure (2): Distribution of clients with second-degree burn according to their total reported practices (n=150)

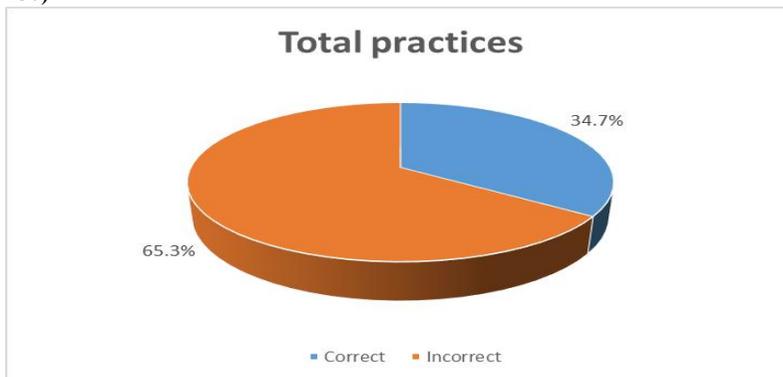


Figure (3): Distribution of clients with second-degree burn according to their total physical, psychological, and social health needs (n=150)

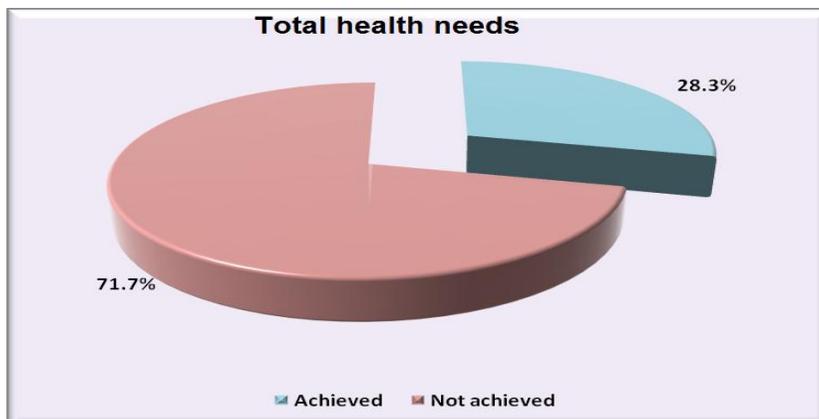


Figure (4): Distribution of clients with second-degree burn according to their total physical, psychological, and social health problems (n=150)

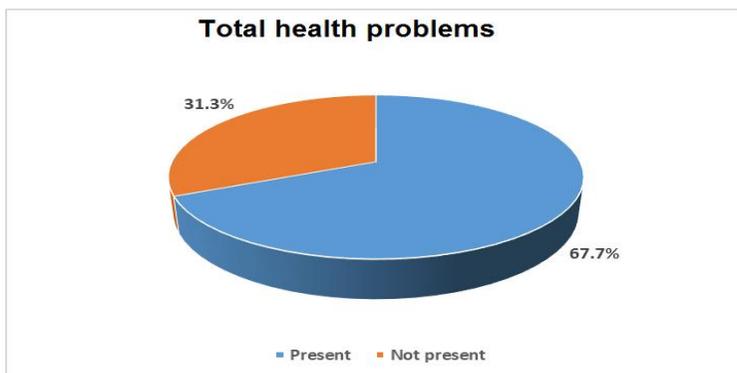


Table (3): Relation between total health needs of clients with second-degree burn, their total knowledge, and their total reported practices (n=150).

Items	Total health needs				X <sup>2</sup>	P-value
	Achieved (n=43)		Not achieved (n=107)			
	No	%	No	%		
<b>Total knowledge</b>						
Satisfactory	27	62.8	32	29.9	13.9	<b>0.0001**</b>
Unsatisfactory	16	37.2	75	70.1		
<b>Total reported Practices</b>						
Correct	27	62.8	25	23.4	21.05	<b>0.0001**</b>
Incorrect	16	37.2	82	76.6		

(\*\*) High statistically significant at  $p < 0.01$

Table (4): Relation between total health problems of clients with second-degree burn, total knowledge, and their total reported practices (n=150).

Items	Total health Problems				X <sup>2</sup>	P-value
	Not present (n=47)		Present (n=103)			
	No	%	No	%		
<b>Total knowledge</b>						
Satisfactory	25	53.2	34	33.0	5.51	<b>0.02*</b>
Unsatisfactory	22	46.8	69	67.0		
<b>Total reported Practices</b>						
Correct	24	51.1	18	17.5	8.12	<b>0.004**</b>
Incorrect	23	48.9	75	72.8		

(\*) Statistically significant at  $p < 0.05$

(\*\*) High statistically significant at  $p < 0.01$

Table (5): Correlation between clients' knowledge and reported practices regarding second-degree burn (n=150).

Item	Total knowledge		Total health needs	
	r	P-value	r	P-value
<b>Total reported practices</b>	0.71	<b>0.01*</b>	---	---
<b>Total health problems</b>	---	---	0.56	<b>0.0001**</b>

(\*) Statistically significant at  $p < 0.05$

(\*\*) High statistically significant at  $p < 0.01$

## Discussion

Due to their severe physical, functional, and emotional effects, burn injuries are regarded as one of the most serious public health problems. Burns of the second degree can seriously harm a person's physical and mental health. After being discharged, patients with second-degree burns experience a wide range of physical and emotional issues, leading to a high demand for physical, psychological, and social healthcare. (Serghiou *et al.*, 2018).

According to the socio-demographic characteristics of clients with second-degree burn, the current study revealed that, more than half of them were males with mean age of  $33.4 \pm 2.1$ . Also, more than half of them were living in rural areas and had basic education. Meanwhile, two thirds of them were working and had insufficient monthly income. (Table 1).

These current study findings disagreed with Liang *et al.*, (2012) who studied "Predictors of health-care needs in discharged burn patients", conducted in Taiwan reported that 47.3% of the participants were males, 52.7% of them were females. Most patients 76.3% were aged 21–50 years; and 77.4% were unemployed. Meanwhile, it was in agreement with this study findings as 63.4% of the participants experienced expenditure over income.

These findings agreed with the study performed by Yilmaz & Andsoy, (2020) who studied "Traditional and modern practices in wounds and burn injuries in a population of North Western Turkey", conducted in Turkey who found that 50.1% of the participants were between 30–40 years of age, 41.0% were graduates of primary school, 61.1% of the participants lived in rural areas.

According to burn characteristics of clients with second-degree burn, the current study revealed that, half of the studied clients had burn at the thigh, about one third of them suffered from burn injury for two months duration, the cause of burn in more than two thirds of them was thermal burns, and half of

them were burned at home. In relation to complications following burn injury, more than three quarters of the studied clients suffered from psychological trauma, more than half of them had swelling of the affected body part, and inflammation and infection of the burn wound. In addition, half of them had burn size from 10–20% of TBSA (Table 2).

These current study findings disagreed with Liang *et al.*, (2012) who studied "Predictors of health-care needs in discharged burn patients", conducted in Taiwan found that 64.5% were discharged from the hospital in less than 1 year, the mean of TBSA% burned was 44.5%, and 30.1% of them had psychiatric complications after burn.

These findings agreed with Yohannan, *et al.*, (2012) who studied "Burn survivors' perceptions of rehabilitation", conducted in united states who found that 65% of the participants had burn at the thigh and leg.

Moreover, these current study findings agreed with Ahmad, *et al.*, (2013) who studied "Aspects of Sexual Life in Patients After Burn: The Most Neglected Part of Postburn Rehabilitation in the Developing World", conducted in India, who found that 60% of the participants had thermal burns and the most common place of occurrence of burn injury was at the patient's home 83%.

The present study findings concluded that, more than half of the studied clients had unsatisfactory total level of knowledge regarding burn, while one third of them had satisfactory total level of knowledge. (Fig. 1).

This current study finding is inconsistent with Yohannan, *et al.*, (2012) who studied "Burn survivors' perceptions of rehabilitation", conducted in united states, found that 53.2% of the participants had satisfactory total level of knowledge regarding burn, while 46.8% had unsatisfactory total level of knowledge regarding burn.

In relation to the total reported practices of clients with second-degree burn, the present

study findings revealed that, more than two thirds of the studied clients had incorrect total level of reported practices regarding care of burn, while one third of them had correct total level of reported practices (Fig. 2).

These findings are inconsistent with *Yilmaz & Andsoy, (2020)* who studied “Traditional and modern practices in wounds and burn injuries in a population of North Western Turkey”, conducted in *Turkey* found that 58.8% of the participants had correct total level of practices regarding care of burn, while 41.2% of them had incorrect total level of practices.

As regards the total health needs of the studied clients, the current study concluded that, the physical, psychological, and social health needs of more than two thirds of them were not achieved, while the health needs of less than one third of them were achieved. (Fig. 3).

These findings agreed with *Liang et al., (2012)* who studied “Predictors of health-care needs in discharged burn patients”, conducted in *Taiwan* found that 52% of the participants their health-care needs were not achieved.

Regarding the total health problems of the studied clients, the current study stated that more than two thirds of the studied clients had physical, psychological, and social health problems related to their second-degree burn, while one third of them did not have health problems. (Fig. 4).

These study findings are supported by *Spronk, et al., (2019)* who studied “Health related quality of life 5–7 years after minor and severe burn injuries”, conducted in *Netherlands* reported that 58.6% of the studied clients had health problems related to their burn, while 41.4% of them did not have health problems.

The current study reveals that there was a highly statistically significant relation between the studied clients’ total knowledge, reported practices and their total health needs. (Table 3).

This current study finding agreed with *Cox, et al., (2016)* who studied “Parent knowledge on paediatric burn prevention related to the home environment”, conducted in *South Africa*, who found that a positive relationship was identified between health needs of the participants and their knowledge regarding burn.

This current study finding agreed with *Liang et al., (2012)* who studied “Predictors of health-care needs in discharged burn patients”, conducted in *Taiwan*, found that in terms of overall health-care needs, there was a significantly positive correlation between the total score of overall health needs and total practices of the participants.

The current study finding revealed that, there was a statistically significant relation between client’s total knowledge regarding second-degree burn and their total health problems. While, there was a highly statistically significant relation between client’s total reported practices regarding second-degree burn and their total health problems. (Table 4).

This current study finding agreed with *Tang, et al., (2015)* who studied “Functional outcomes of burn patients with or without rehabilitation”, conducted in *China*, found that there was a highly statistically significant relation between health problems of the participants and their practices regarding burn.

These findings also agreed with *Spronk, et al., (2019)* who studied “Health related quality of life 5–7 years after minor and severe burn injuries”, conducted in *Netherlands* reported that, found that that there was a highly statistically significant relation between health problems of the participants and their total knowledge regarding burn.

Regarding the correlation between clients’ knowledge and reported practices about second-degree burn, the current study findings clarified that, there was a positive correlation between clients’ total knowledge and total reported practices regarding second-degree burn. Also, there was a positive correlation between clients’ total health needs and problems related to second-degree burn (Table 5).

These findings supported by *Yilmaz & Andsoy, (2020)* who studied “Traditional and modern practices in wounds and burn injuries in a population of North Western Turkey”, conducted in *Turkey*, stated that there was a positive correlation between the knowledge of the study sample and their practices regarding burn.

## Conclusion

**The current study findings concluded as the following:**

More than two-thirds of the studied clients their physical, psychological, and social health needs were not achieved, and suffered from physical, psychological, and social health problems related to second-degree burn. Furthermore, there were highly statistically significant variation between client’s total level of knowledge, reported practices regarding second-degree burn, and their socio-demographic data.

Moreover, there was a highly statistically significant relation between clients’ knowledge, reported practices regarding second-degree burn, and their health needs.

Additionally, there was a statistically significant relation between clients’ knowledge regarding second-degree burn and their health problems. Meanwhile, there was a highly statistically significant relation between clients’ reported practices and their health problems. Finally, there was a positive correlation between clients’ health needs and problems related to second-degree burn.

## Recommendations

**1) The following recommendations were made based on the findings of the current study:**

2) Establishing Health education programs for clients with second-degree burn to improve their level of knowledge and practices regarding burn.

3) Raise awareness of clients with second-degree burn about the physical, psychological, social and financial health problems and the available resources in the outpatient clinic to achieve the needs arising from these problems through various educational means such as posters, brochures, websites and social networking sites.

4) Screening burn patients during follow-up is useful to find those who need more rehabilitative therapy.

5) Additional researches are required to identify the health requirements and issues of clients with various degrees of burn injuries at various ages and in various settings.

## References

- Ahmad, I., Masoodi, Z., Akhter, S., and Khurram, F. (2013):** “Aspects of Sexual Life in Patients After Burn: The Most Neglected Part of Postburn Rehabilitation in the Developing World. *Journal of Burn Care & Research: e333-e341.*
- Cox, S., Burahee, A., Albertyn, R., Makahabane, J., and Rode, H. (2016):** “Parent knowledge on paediatric burn prevention related to the home environment”. *Burns J (42): 1854 – 1860.*
- Goudarzian, A., Taebei, M., Soleimani, A., Tahmasbi, M., Ahmadi, M., and Madani, M. (2017):** Burn Specific Health Scale-Brief in Pregnant Burned Women: Translation and Psychometric Evaluation of the Persian version. *Int J Pediatr; Vol.5, N.7: 5391-5400. DOI:10.22038/ijp.2017.24227.2041.*
- Jagnoor, J., Lukaszuk, C., Fraser, S., Chamania, S., Harvey, L., Potokar, T. and Ivers, R. (2018):** Rehabilitation practices for burn survivors in low- and middle-income countries. *Burns J (44): 1052 – 1064.*
- Kandeel, F. (2019):** A study of Some Medico-Legal Aspects of Fatal Burn Cases. *Ain*

- shams J of Forensic Medicine and Clinical Toxicology. Vol. (32), Issue (1), Article (7).
- Liang, C., Wang, H., Yao, K., Pan, H., and Wang, K. (2012):** burns. journal of scienceDirect. Predictors of health-care needs in discharged burn patients; Vol.38, p.172-179.
- Liliane, M., Amara, R., and Leila, N. (2016):** Health-related Quality of Life and Self-esteem Among Burn Patients. Wounds A Compendium of Clinical Research & Practice. 28(1): 27-34.
- Moss, LS. (2014):** Outpatient management of the burn patient. Crit Care Nurs Clin North Am. 2014; 16: 109-117.
- Serghiou, M., Ott, S., Cowan, A., Kemp-Offenberg, J. (2018):** Burn Rehabilitation Along the Continuum of Care. In: Total Burn Care 5<sup>th</sup> ed. 47:476–508. Elsevier.
- Spronk, I., Polinder, S., Loey, N., Vlies, C., f,g, Pijp, A., et al. (2019):** “Health related quality of life 5–7 years after minor and severe burn injuries”. Burns J (45) 1291 – 1299.
- Tang, D., Li-Tsang C., Au R., Li K., Yi X., and Liao L. (2015):** Functional outcomes of burn patients with or without rehabilitation in mainland China. Hong Kong J Occup Ther, 2015;26:15–23.
- WHO. (2018): World health organization.** Violence and Injury Prevention.
- WHO.(2018).**<https://www.who.int/newsroom/factsheets/detail/burns>.
- Yilmaz, E., and Andsoy, I. (2020):** Traditional and modern practices in wounds and burn injuries in a population of North Western Turkey. Burns J (4 6):1436 -1443.
- Yohannan, S., Ronda-Velez, Y., Henriquez, D., Hunter, H., Tufaro, P., Marren, M., and Sher, M. (2012):** “Burn survivors’ perceptions of rehabilitation”. Burns J (38): 1151 – 1156.