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Original Article

Coping Strategies Adopted by Patients Sustaining Major Burns

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ABSTRACT

Objective: To explore the various coping strategies used by patients sustaining major burns.
Study Design: Qualitative, exploratory study.
Place and Duration of Study: Department of Plastic and Reconstructive Surgery, Combined Military Hospital, Rawalpindi Pakistan, from Jan to Jun 2021.
Methodology: A total of 15 patients were selected who had been admitted to CMH Rawalpindi after sustaining 20-45% total body surface area deep dermal or full thickness burns requiring operative intervention. Semi-structured interviews comprising eleven questions were conducted, and the strategies which these patients used to cope with different psychological issues post-major burns were identified. Subthemes and themes were identified, and the data was analyzed by manual thematic analysis.
Results: Eight coping strategies were identified: help from religion, support from family and friends, use of recreational activities, getting out of the house, doing exercise, getting back into a routine, the role of doctors and the use of the internet.
Conclusion: Solace from religion and support from family and friends were the most widely used coping strategies in our setup. Getting back to routine helped them feel normal. Relaxation techniques and exercise were helpful but infrequently used. Social media and the internet were used as a diversion and recreational tool. None of our patients went for psychological counselling or group therapy sessions or used anxiolytics or antidepressants, which are an important part of treatment in the West.

Keywords: Burns, coping, Deep dermal burns, Exploratory study, Strategies,

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INTRODUCTION

According to WHO, burns are a global public health problem, accounting for an estimated 180,000 deaths annually. Despite a considerable decrease in the incidence of burns in the developed world, they remain one of the most common types of injury in the developing world, accounting for a significant proportion of trauma cases in hospital emergencies and continuing to cause devastating morbidity and mortality.[1]

Non-fatal burns are a source of major trauma for patients both physically as well as psychologically.[2] Physically, burns are extremely painful, can take a long time to heal, can cause many complications, and require frequent and painful dressing changes and, at times, multiple surgeries. With the increased survival of patients with large burns due to advancements in trauma care comes a new focus on the psychological challenges like stigmatization and rejection that such patients have to face. Physiological recovery of burn patients is seen as a continual process divided into three stages, which are resuscitative, acute, and long-term rehabilitation.[3] Studies have shown that greater periods of acute pain are associated with negative long-term psychological effects such as acute stress disorder, depression, suicidal ideas and post-traumatic stress disorder (PTSD) for as long as two years after the initial burn injury.[4]

Coping refers to a person's cognitive and behavioural effort to manage stressful situations and accompanying negative emotions. In response to a stressful situation, an individual often uses a variety of coping strategies. The combinations or patterns of coping strategies may vary across individuals or groups with certain personality characteristics. Coping strategies can be used in both acute and rehabilitation stages and could have an important role in managing burn survivors.[5]

Previous studies on post-burn coping have shown that coping strategies play an important part in psychosocial adaptation to burning, returning to normal life, and managing PTSD and depression after the burn.[6] The recovery from severe burns takes time, and for some patients, physical and psychological symptoms may remain for several years and even

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decades. Studies have correlated the use of coping strategies with PTSD and revealed that females usually use emotionally focused coping to deal with burn trauma.[7,8]

Burn patients in the developed world usually have social support systems in the community with active participation by rehabilitation services, psychiatrists and psychologists that help in developing effective coping mechanisms.[9] The limited literature on coping strategies employed by burn patients in our setup may differ from those used in the West. In Pakistan, burns are more prevalent in uneducated and low socioeconomic groups. They have limited access to psychological support and rehabilitation services and deal with burn trauma differently. The present study will explore the different coping techniques used by patients suffering from major burns in our setup and will compare them with those used by patients from developed countries.

METHODOLOGY

The qualitative, exploratory study was conducted at the Department of Plastic and Reconstructive Surgery, CMH Rawalpindi, Pakistan from January to June 2021 after obtaining approval from the Ethical Review Committee (Serial No 218).

Inclusion Criteria: Patients of either gender, aged 20-65 years admitted to CMH Rawalpindi after sustaining more than 20% total body surface area deep dermal or full thickness burns requiring operative intervention were interviewed.

Exclusion Criteria: Patients having less than 20% and more than 45% total body surface area (TBSA) burns and patients having first-degree burns that did not require surgery were excluded.

The sample size was reached after using the saturation technique. Informed written consent was obtained from all participants. The participants were assured of anonymity and confidentiality. The sampling technique adopted was purposive, as only those patients who had suffered major burns were selected. The patients were interviewed between 3 and 6 months after discharge from the hospital.

Semi-structured interviews comprising eleven questions were conducted, and the strategies which these patients used to cope with different psychological issues post-major burns were identified. The in-depth interviews were audio recorded and transcribed. Data was coded to make sub-codes and, therefore, compared with each other to make axial codes. Axial codes were then merged to form subthemes and, finally, themes. Data analysis was done by manual thematic analysis.

RESULTS

Fifteen participants were interviewed by face-to-face interviews. Our study included ten males and five females (Table-I). TBSA burnt was from 20-45%, and the burns were either deep dermal or full thickness, requiring operative intervention. The mean hospitalization was 13±1.3 days. Patients were interviewed 3-6 months after their discharge from the hospital. Themes of coping strategies identified from the study are shown in the Figure.

The results of our study show that solace from religion and support from family and friends were the most commonly used coping strategies. Social media and the internet were used as a diversion and recreational tool. Relaxation techniques were only used by two patients belonging to the high socioeconomic group. None of our patients went for any psychological counselling or group therapy sessions or used anxiolytics or antidepressants.

Results showed that the number one coping strategy adopted by patients was religion. Religion played a vital role in making the patients stress-free. One of the patients said, ''Religion gave me immense peace. I felt close to ALLAH and kept praying to put myself at ease.''. It gave them immense satisfaction and inner peace, and it strengthened their willpower to fight and recover from burn trauma.

The second important strategy was support from family members, spouses, parents, siblings and kids. All contributed their affection and cared for the burnt patients, eased their stress, and gave them hope and strength. Patients could return to their old selves with their friends who used to visit them regularly and make them happy. Conversations with friends made the patients forget about their misery, and they would enjoy their meetings with them. A patient said ''my family was my biggest pillar of support. Without their love and care, I would not have made it.''.

Using recreational activities like reading books and newspapers also helped the patients divert their minds from the trauma inflicted on them due to burns. Patients indulged in watching TV and movies to entertain themselves and kill time while restricted to their houses. Listening to music was also a soothing and relaxing technique most patients adopted. One of the patients said, ''I used to feel relaxed and less anxious after listening to music of my choice''.

Getting out of the ward and house was another vital coping mechanism. Patients reported that they used to get out of the ward after they were able to move around, and their initial injuries were treated. After discharge from the hospital, getting out on their house lawn and occasionally going to the park freshened their mind. It made them feel optimistic and boosted their willpower to defeat stress due to burns and return to their original state soon. A patient told me, ''I used to look forward to going to the park. A walk in fresh air would make me feel less tense and more energetic''.

routine as early as I was able to because I felt bad being away from my kid's work.''

Support from doctors was extremely important for the patients. Patients told that the doctors were very kind and supportive. They treated them with expertise and guided them in caring for their wounds at home. All the surgeons, nurses, and paramedics played their roles in one way or another and made great contributions to easing the patients' pain. A patient said, ''I have immense respect for the surgeons who treated me, and I always keep them in my prayers as their care and guidance helped me a lot in my recovery.''

Table-I: Demographic Profile of Burnt Patients (n=15)

Patient	Gender	Age (Years)	Total Body Surface Area Burnt (Percentage)	Mechanism of Burn	Hospitalization days
Patient A	Male	23	20% (n=6)	Flame	14 days
Patient B	Female	45	25% (n=4)	Scald	17 days
Patient C	Male	33	30% (n=2)	Flame	21 days
Patient D	Male	64	35% (n=1)	Electric	29 days
Patient E	Female	40	20%(n=6)	Flame	12 days
Patient F	Male	55	20% (n=6)	Scald	10 days
Patient G	Male	48	25% (n=4)	Flame	22 days
Patient H	Female	20	20% (n=6)	Scald	13 days
Patient I	Male	58	40% (n=1)	Flame	26 days
Patient J	Male	41	25% (n=4)	Electric	19 days
Patient K	Male	35	30% (n=2)	Flame	17 days
Patient L	Female	28	45% (n=1)	Scald	22 days
Patient M	Male	55	20% (n=6)	Flame	9 days
Patient N	Male	32	25% (n=4)	Flame	18 days
Patient O	Female	38	20% (n=6)	Scald	11 days

Exercise was another coping strategy which doctors recommended. Slow walking and stretching exercises were helpful for the patients in making their limbs more flexible, and slowly, their muscles and skin became better because of these exercises. Two of our patients said they would do yoga because it is relaxing, and they also used deep breathing exercises to meditate. A patient reported ''yoga was very helpful in my recovery, and I used to practice it for half an hour daily''.

Returning to routine and resuming duty was another key phenomenon in most patients' recovery. Males reported that after two or three months, they could join their place of duty, which helped them greatly as their mind was diverted from thinking about burns all the time. Females said that they started their house chores as soon as possible; this way, they felt happy as they could look after their kids and house. Getting back into their routine improved their morale. A female patient said, ''I tried to get back to my

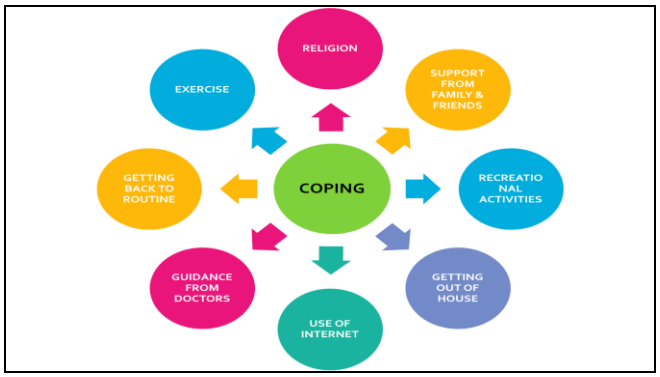

Figure: Themes of Coping strategies identified from the study

The role of the internet is also vital today. Patients used social media and chatted on WhatsApp and Instagram with their family and friends to keep them busy and prevent them from getting bored. Some patients also used to play games and watch videos on YouTube to keep their minds occupied. A patient said ''internet was an integral part of my coping with burns

as it diverted my mind away from my injury and also kept me entertained.'' Themes and subthemes generated from interviews are shown in the Table-II.

Table-II: Themes and Subthemes Generated from Interviews

S. No	THEMES	SUB THEMES	CODES	REPRESENTATIVE QUOTE
1	**Religion**	Regular prayers Reading Quran Zikar Dua	Namaz Talawat/Tasbeehaat Recitation of Darood shareef	"Zikar of Allah Almighty gave me internal peace and the strength to bear the tremendous pain inflicted by burns"
2	**Support from family and friends**	Support from family Support from relatives Support from friends	Spouse Parents Siblings Children In-laws	"My family support in this tough time was extremely helpful and played a vital role in my recovery process"
3	**Recreational activities**	Reading newspapers Reading magazines Reading books Watching television Watching movies Listening to music	Newspaper Magazines Books Television Movies Music	"Newspaper and books were extremely beneficial for me as they diverted my mind away from pain due to burns"
4	**Getting out of house**	Going to the park Meeting relatives Talking a Walk	Park Relative Freshen up	"I used to go to a park daily to sit in open air and fresh environment. It would elevate my mood and freshen up my mind"
5	**Relaxation techniques**	Doing yoga Doing deep breathing exercises Stretching exercises	Yoga Deep breathing Stretching	"Yoga was a great contributor in making my body get back to its original condition and I used to indulge in it for an hour every day"
6	**Getting back into routine**	Joining back to job Resuming duty Doing house chores	Job House work Routine Restart	"I tried to get back to my routine as early as possible because I felt my kids are being neglected and I need to look after them so I tried to resume my housework step by step"
7	**Support of doctors**	Support of surgeons Support of nursing staff Support of paramedics	Surgeons Nurses Paramedics Guidance Counsel	"Surgeons who treated me were extremely nice and empathetic in their treatment and guidance"
8	**Internet use**	Net surfing Playing games Using Social media Chatting on Whatsapp Youtube / facebook	Internet Games Whatsapp Chatting Instagram Youtube	"By using Whatsapp and Facebook I was able to remain connected with my friends and distant relatives that way I wasn't bored lying all day in bed"

DISCUSSION

Results showed that certain positive coping strategies were adopted by patients who had sustained major burn injuries. Previously, in studies, it was shown that patients used negative coping strategies such as denial and avoidance to cope with the trauma inflicted by severe burn injury.[10-12] Burns not only affect a person's physical health and appearance but also inflict emotional scars on his soul and badly affect his or her mental health.[13]

Literature review showed that burn patients in the developed world were mostly dependent on social support group therapies and counselling with professional counsellors to help them cope with their burn trauma.[3,14] Counselling sessions and psychotherapy were identified as key points which improved a patient's mood and made him get back to life and take the treatment of burns regularly. Patients were gradually able to cope better with the trauma and were able to look after themselves. Many patients joined rehabilitation centres, and these proved fruitful in their recovery.[9,15] It also made them more aware of their condition and suggested ways to improve their morale and physical condition.[16] In Pakistan, there is no trend of going to rehabilitation centres, and counsellors and patients discuss their mental issues and anxieties mostly with their families and friends.

The present study identified religion as one of the most commonly adopted coping mechanisms. Patients strengthened their relationship with ALLAH Almighty and asked him for forgiveness and help. They found solace and internal calmness, which improved their condition. Regular prayers were extremely helpful in their recovery process. Previous studies also give evidence that people use the help of religion to aid in their process of recovery.[17,18] In our setup, people are more inclined towards religion and incorporate it in every aspect of their lives. A study conducted in Indonesia showed that religious coping can reduce stress in burnt patients and has an impact on relational deprivation, but did not give the details of the religious strategies which were used.[19] Another study done in Lahore highlighted the important role of spiritual transcendence in the recovery process following a burn trauma.[7] Their results indicated that patients' personality traits, such as high levels of extraversion and low levels of neuroticism interacting with high spiritually transcendent beliefs, result in better psychological adjustment in terms of low psychological distress and more positive adaptation to change.[20]

Ours is a joint family system culture, and bonding with family and friends is very important. The current study revealed that the support, love, optimum care and sincere prayers from parents, spouses, in-laws, children and companions helped the patients overcome the grief associated with their injury. Past studies have some evidence that family support is there, but due to the nuclear family system in the West, often, the patients do not get the desired amount of love and care.[21]

Getting out of the house and changing the surroundings also contributed to the patient's betterment. The Current study has shown that patients looked forward to going to parks and houses of their friends and relatives to change their current environment and brighten their mood. Their joy after

getting out of the same monotonous routine made them fresh and happy. Physical exercise was another great coping mechanism adopted by most of the patients. The present study showed that when patients recovered from the initial acute burns, they indulged in light exercise to improve their muscles and joint condition. Patients felt better, more energetic, and more flexible. This study showed that people noticed an improvement in their stamina, skin condition, and texture after regular exercise. Previously, a study done in Texas showed that patients with burns reported improvement in their quality of life and psychological measures after an exercise intervention.[12]

This study showed that getting back into the routine and joining their jobs, whether at the office or home in the case of females, helped the patients. They felt extremely satisfied and contented when they could work like they used to. Patients tried slowly increasing their tasks and doing more work according to their stamina and strength. Females reported that looking after the house and kids made them joyful and satisfied. No studies in the past have revealed that returning to a job as early as possible made the patients cope with the trauma associated with severe burns.

The current study showed doctors, especially surgeons, were like angels for the burnt patients. They treated their burns with extreme expertise, counselled the patients, and guided them in every possible way to take better care of themselves and recover fully as soon as possible. Patients were extremely thankful to the surgeons, and all praised them. They contacted the doctors, consulted them whenever they had any queries about their treatment, and got satisfactory advice regarding their burn management. The present study negated the use of drugs, and no patient admitted that he or she resorted to any sedative, anxiolytic or anti-depressant drugs to cope with stress due to burns.

Lastly, the study showed that everyone has access to the internet and social media in the current scenario. The net also serves as an entertainment tool; patients use it to chat with friends and family and play video games to feel happy and diverted.

With the changing social fabric in our country, social support services should be developed to help patients who lack the support of family or friends. Group therapy sessions or Burn survivor support groups should be created and propagated at all centres managing burns using the help of social media or WhatsApp. Relaxing techniques like yoga, stretching and deep breathing exercises should be taught to every burn patient. Treating physicians should refer every burn patient for psychological support and rehabilitation. With increasing access to social media, patients should be taught to use the internet as an educational and awareness tool. Lastly, the treating surgeons' encouraging and friendly attitude will help their patients cope better with life-changing injuries.

LIMITATION OF STUDY

Limitation of the study was that only patients admitted to CMH Rawalpindi were interviewed.

CONCLUSION

We can conclude that coping strategies adopted by patients in Pakistan are different from those in the West. The literature search revealed the important role of social support systems, psychological support, rehabilitation services, group therapy sessions, vocational training and the use of anxiolytics or antidepressants in burn survivors from the developed world. In our setup, patients used religion to strengthen their willpower. They relied on their family and friends, which improved their morale and made them fight against depression inflicted on them due to burns, whereas in the West because the patients do not have a strong family support system, they relied on rehabilitation centres, went to counsellors for counselling sessions and joined social support system to improve their morale.

Conflict of Interest: None.

Authors Contribution

Following authors have made substantial contributions to the manuscript as under:

MWUB & SH: Data acquisition, data analysis, drafting the manuscript, critical review, approval of the final version to be published.

MT & MAN: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

FM & KA: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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