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PSYCHOLOGICAL DISORDERS IN BURN PATIENTS: A META-ANALYSIS OF DISORDERS AND TREATMENTS

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ABSTRACT

The main subject of this paper is the psychological disorders experienced by burn patients, with a particular emphasis on the necessity of psychological intervention in their treatment. The research seeks to investigate prevalent mental health conditions, including post-traumatic stress disorder, depression, and anxiety, and assess the efficacy of various therapeutic approaches.

The method relied on a comprehensive review of prior literature and a thorough evaluation of the outcomes from relevant studies. The findings indicated that a significant portion of burn victims experience various psychological disorders. This includes post-traumatic stress disorder (PTSD), depression impacting, and anxiety affecting. The research also highlighted the significance of providing psychosocial support to enhance treatment results, as well as the effectiveness of Eye Movement Desensitization and Reprocessing (EMDR), Cognitive-Behavioral Therapy (CBT) and Virtual Reality (VR) techniques in addressing these conditions.

To ensure comprehensive and effective patient care, it is recommended to integrate psychological interventions into burn treatment protocols, as stated in the paper's conclusion.

KEYWORDS

Burn Injury, Psychological Disorders, PTSD, Depression, Anxiety, Psychotherapy, Social Support, Literature Review

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I. Introduction.

Clinical Psychology is a scientific field that explores the various dimensions of human mental, emotional, and behavioral experiences. It encompasses all aspects of life, including different environments and the impacts they have on individuals. Additionally, it studies the effects of moral, social, physical, and environmental factors on human well-being and behavior.

It is now widely acknowledged that psychological intervention and expertise are indispensable in conjunction with biomedical work and science, emphasizing the importance of providing psychological care and attention to patients and those who are injured.

Regarding burns, it is clear that psychology is indispensable in its different clinical and emotional domains, including therapies and the creation of programs for comprehension, diagnosis, and treatment, alongside medical, chemical, and physiological approaches.

According to Dalal, Saha, and Agarwal (2010), burn injuries can result in both physical and psychological consequences, including lasting conditions such as post-traumatic stress disorder and depression, etc.

Among injuries, burns stand out as one of the most excruciating and intricate ones due to their multifaceted impact. Beyond causing physical harm, burns also inflict psychological damage by permanently altering one's appearance, leading to significant changes in body image and self-confidence.

Moreover, the traumatic nature of the burn itself can induce significant stress and pave the way for the emergence of psychological disorders such as post-traumatic stress disorder (PTSD), depression, and anxiety, etc.

II. Method.

This article is part of an ongoing doctoral study that investigates a specific subject. Within this section, we have examined a selection of relevant studies without specifying time limits, instead focusing on a sample that supports our broader research. The article provides a summary and analysis of scientific data concerning psychological disorders in burn patients.

This study can be considered as an introductory analysis of existing literature, with the presentation and discussion serving as an exploratory methodological exploration to uncover potential epistemological investigations on the subject.

The objective of this review is to investigate the research on psychological disorders in burn victims caused by burn accidents. It underscores the importance of these studies in promoting a comprehensive approach to medical and therapeutic interventions for individuals in this category.

III. Literature Review and Discussion.

1. Psychological Disorders.

It is common for a large percentage of burn patients to have multiple psychiatric disorders, with PTSD, depression, and anxiety being the most prevalent among them. Wang et al. (2021) found in their research that around 30-45% of burn victims experience symptoms of post-traumatic stress disorder (PTSD) in the first year after their injuries.

Burns are intricate traumatic incidents that carry a significant risk of both immediate physical and psychological harm. As the rates of survival continue to rise, there is a growing interest among clinicians and researchers in exploring psychosocial recovery outcomes and the various risk factors associated with them. It is widely recognized that individuals who have experienced severe burns often develop post-traumatic stress disorder (PTSD) as a common and unfortunate consequence. Many survivors face challenges for accessing the most effective current treatments, particularly individuals living in rural and remote regions and those who have additional health conditions. In their research from 2017, McLean et al., emphasizes the significance of addressing vicarious trauma experienced by physicians, families, and caregivers, and highlights the ongoing international efforts to improve psychosocial screening and track outcomes. (McLean et.al, 2017)

These symptoms can include flashbacks, nightmares, and being excessively alert. However, a recent study by Martinez et al. (2022) proposes that depression is prevalent among 20-40% of burn patients, specifically in relation to the size, location, and extent of the burn-induced disfigurement. Moreover, the research conducted by Lee and his team (2023) discovered that anxiety is a common occurrence, affecting 25-35% of patients, especially due to the fear of pain or anxiety about their physical appearance.

In a study conducted by Wiechman and Patterson (2004), data was collected on the frequency of psychological disorders in burn patients, such as depression and anxiety. The findings revealed that depression was prevalent in 23-61% of cases, generalized anxiety in 13-47%, and post-traumatic stress disorder in 30% of cases.

A study conducted by Van Loey NE and associates revealed that over 90% of individuals with burn injuries exhibit symptoms of stress within the initial week following their injury, while more than 45% displayed indications of chronic stress that may be categorized as post-traumatic stress disorder (PTSD) after one year. (Van Loey & Van Son, 2003).

As per their findings, it is common for individuals to experience symptoms of depression and anxiety during the initial phase of recovery. Acute stress disorder is typically observed within the first month, followed by post-traumatic stress disorder after one month.

These conditions are more prevalent among burn victims compared to individuals with other types of injuries. Individuals suffering from these disorders often have larger burn injuries, experience more intense pain, and feel a stronger sense of guilt regarding the incident that led to their injury. The severity of depression is connected to the patient's resting pain levels and the level of social support they have. (Wiechman & Patterson, 2004)

Furthermore, among the various potential complications that may arise after being burned, there is a psychological condition called psychological distress or mental fatigue.

According to a study conducted by Fauerbach et al. (2005) using the Burn Model System (BMS) dataset, it was found that approximately one-third of patients who suffered from severe burns experienced notable psychological distress upon being discharged from the hospital.

Furthermore, the level of psychological distress among the participants in the Burn Model System study was noticeably higher compared to the reported data from a standard sample.

According to the research carried out by Dalal et al., anxiety and depressive disorders were found in multiple international samples, and the prevalence of Acute Stress Disorder (ASD) ranged from 18% to 26% among participants from Greece, the United States, and the Netherlands.

The occurrence of post-traumatic stress disorder (PTSD) was noted in about one-third of the Japanese and American participants within 3 to 6 months of the burn injury. Conversely, at the one-year mark, the Dutch and Greek samples showed a lower prevalence of PTSD, with rates ranging from 15-20%. (Dalal, Saha, & Agarwal, 2010).

The risk of psychiatric disorders in burn patients is influenced by several factors, including the extent and location of the burns, chronic pain, limited social support, and a previous psychiatric history.

Rodriguez and his team (2023) found that severe burns on visible body parts can greatly elevate the chances of experiencing psychiatric disorders, particularly those related to body image. Moreover, there is a correlation between chronic pain and a higher susceptibility to depression and post-traumatic stress disorder (Kim et al., 2022). Chen and his colleagues' study (2021) emphasized the importance of social support in improving patients' psychological outcomes.

In a study conducted by Palmu and all in 2011, it was discovered that psychological symptoms in burn victims may not manifest right away but can surface weeks or even months following the injury. Among burn patients, the most prevalent psychological effects include depression, acute stress disorder, PTSD, and sleep disturbances such as insomnia and nightmares, frequently occurring alongside other mental health issues. Research carried out in two hospitals in Finland revealed that substance abuse was the leading psychological consequence, affecting 27.2% of burn patients, followed by anxiety and mood disorders at 21.7% and 15.2%, respectively, along with disorders linked to general medical conditions at 16.3%. The majority of patients experiencing PTSD were encountering it for the first time after the burn incident, although many had previously been diagnosed with some form of Axis I disorder prior to their injury. (Palmu R & All, 2001).

The emotional toll of a burn injury reveals a lot about how our feelings are shaped by the person we blame. (Van Loey et al, 2008, pp.1082-1085) When someone attributes¹ the cause of their burn to another person, negative emotions such as anger tend to take over. However, if the person views the injury as their own fault, forgiveness is more likely. This situation can get complicated, especially depending on the details of the burn. (Witvliet et al, 2004, pp 269-273)

Most burns occur at home or in the workplace. For example, if the accident involves someone familiar to the victim, feelings of anger may not be as strong because they may be more isolated. On the other hand, if the burn was caused intentionally, anger is usually greater and forgiveness is less likely.

2. Psychosocial Support.

Researchers believe that psychological and social support, particularly in terms of its importance, is a fundamental element in rehabilitation programs. It plays a vital role in helping survivors adapt to the emotional challenges they face.

The presence of social support has been linked to a range of protective effects, including a reduced risk of negative psychological outcomes like PTSD, depression, and self-harm. (Danielson et.al, 2017; Pietrzak et .al, 2009); and, enhances treatment effectiveness by promoting quicker reductions in PTSD symptoms and reducing the likelihood of symptom recurrence. (Fredette et.al, 2016; Price et.al, 2013)

In critical situations, such as resuscitation, timely intervention can make a big difference in patient outcomes, because at this stage, individuals have to face many psychological challenges, including coping with the stresses that arise in the intensive care environment, dealing with the uncertainty of the outcome, and fighting for survival. The length of stay in a hospital bed can put ICU patients in a paradoxical situation where they feel both overstimulated and under-stimulated. (Wiechman, & Patterson, 2004).

According to Kellezi et al. (2016), the presence of specific psychosocial predictive factors has a significant impact on psychological outcomes even after one year following the accident. This emphasizes the importance of conducting comprehensive assessments during the treatment period.

¹ In this context, "attribution" refers to how people attribute their burn injury to others (external factors) or to themselves (internal factors). Such attributions play a critical role in shaping emotional responses: external attributions tend to lead to negative emotions, while internal attributions tend to open the door to forgiveness. Understanding attribution is important to understanding the psychological process of burn recovery.

Due to the higher chances of survival from burns, there is now a stronger emphasis on addressing the potential psychological problems that can affect burn survivors. An all-encompassing treatment plan for these individuals should concentrate on enabling them to recover both mentally and physically, thus facilitating their complete integration into society.

The progress in surgical and medical technology has reached a stage where healthcare providers can reasonably expect patients to survive in the majority of cases. Hence, it is vital for them to have a comprehensive understanding of the determinant aspects that will impact the patient's well-being throughout the treatment process.

Given that research indicates that shortly after being burned, a significant number of patients develop PTSD and depression, and the development and recovery of post-burn psychopathology are influenced by social and cognitive factors (Su, 2023). So, it is necessary to provide them with thoughtful care and psychological intervention plans.

Pediatric burn survivors, including those with significant injuries and physical deformities, are often able to adapt well (Patel et.al, 2022). This can be attributed to the early and consistent attention given to addressing the psychosocial aspects of their cases, which supports their positive psychological adjustment.

3. Treatment and Intervention.

The effectiveness of Cognitive Behavioral Therapy (CBT) in alleviating symptoms of PTSD and depression was demonstrated in a study by Moreno and colleagues (2022). Additionally, Brown et al. (2023) found that Virtual Reality (VR) therapy techniques have been effectively employed to improve body image and reduce social anxiety.

Research conducted by Johnson et al. (Johnson, 2024) indicates that medications such as antidepressants and anti-anxiety drugs are effective in reducing psychological symptoms.

When it comes to the holistic treatment of burn survivors, EMDR therapy plays a vital role in providing essential psychological intervention. Francine Shapiro developed this type of psychotherapeutic intervention in 1987.

Francine Shapiro's Manual offers a clear explanation of her groundbreaking discovery: by engaging attention through physical mechanisms and exploring spontaneous associations in memory, it is possible to stimulate the reprocessing of dysfunctional memories. (Shapiro, F, 2017)

According to Medjahdi Oussama and Moutassem-Mimouni Badra, the support for this method is growing and it has been implemented in various countries and on different populations.

They say EMDR is a psychotherapy particularly indicated to treat the consequences of trauma, different pathologies including PTSD/Depression... In the fourth phase of desensitization, the patient focuses on the traumatic image and the negative idea while the therapist invites him to follow a finger in bilateral stimulations or other sensory stimuli, such as alternating tactile stimulations. These exercises aim to bring forgotten events back to consciousness and to treat the mental associations that result. Distress is assessed until reaching a score of zero on the SUD scale which means the adaptation of traumatic information. This highlights the effectiveness of EMDR in the management of trauma. (Medjahdi and Moutassem-Mimouni, 2020, p.557-559).

EMDR offers a transitional therapeutic experience, especially for individuals with severe burn injuries, and has shown remarkable success in alleviating symptoms of post-traumatic stress disorder (PTSD) as well as associated anxiety and depression.

Psychological tensions can be significantly alleviated and quality of life can be improved through psychotherapy programs, especially EMDR, which effectively processes traumatic memories and reduces emotional turmoil. This can also facilitate faster rehabilitation for patients.

By integrating psychological programs into burn care protocols, a transformative shift towards comprehensive and efficient treatment methods is observed. This is particularly decisive when these programs are introduced in the initial stages of burn recovery, as evidenced by various scientific literature highlighting the intricate interplay between physical and mental health. This demonstrates the undeniable clarity in the value of psychological interventions.

IV. Conclusions.

The examination of existing literature demonstrates notable differences in the frequency of psychiatric disorders among burn patients, underscoring the necessity of implementing diverse strategies that incorporate pharmacological, psychological, physical, and social interventions.

The analysis of data reveals that PTSD, anxiety, and depression are prevalent disorders, and their prevalence is determined by several factors such as burn severity, chronic pain, social support, and the patient's psychiatric background.

The diverse range of psychological therapies has proven to be effective in relieving and even curing these disorders, enabling patients and individuals to resume their social activities.

Healthcare systems need to acknowledge the significance of psychological therapies in burn care and incorporate them into their practices. This should include training and educational processes to ensure that professionals have the necessary skills, considering that burn risks are present in everyday life situations like homes, the external environment, and institutions. This approach will ensure better medical, psychological, and even social care for those who have been injured and exposed to these accidents.

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