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Chronic Pain in Torture Victims

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Abstract Torture is widely practiced throughout the world. Recent studies indicate that 50% of all countries, including 79% of the G-20 countries, continue to practice systematic torture despite a universal ban. It is well known that torture has numerous physical, psychological, and pain-related sequelae that can inflict a devastating and enduring burden on its victims. Health care professionals, particularly those who specialize in the treatment of chronic pain, have an obligation to better understand the physical and psychological effects of torture. This review highlights the epidemiology, classification, pain sequelae, and clinical treatment guidelines of torture victims. In addition, the role of pharmacologic and psychologic interventions is explored in the context of rehabilitation.

Keywords Torture · Chronic pain · Pain sequelae · Refugee · Posttraumatic stress disorder · Psychological stress · Epidemiology · Rehabilitation · Treatment · Cognitive behavioral therapy

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Introduction and Epidemiology

Torture, despite how one feels about its justification, is one of the most brutal and perverse aspects of humanity. A common definition of torture, and one that is often used in the literature, is provided by the United Nations Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, which defines torture as ". . . any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for any act he committed, or intimidating or coercing him or a third person, or for any reason . . ." [1]. National and international legal prohibitions on torture derive from a consensus that torture and ill-treatment are immoral. Despite this general sentiment, torture is widely practiced throughout the world. For instance, according to the 2009 annual report by Amnesty International, which documents the state of human rights in 157 countries for the period of January to December 2008 (the most recent time period for which data is available), 50% of all countries continue to practice systematic torture [2]. Moreover, the same study indicates that 79% of the G-20 countries also continue to engage in torture despite a universal ban on this practice. Unfortunately, torture is not a new phenomenon, as exemplified by a long history of torture both within the United States and throughout the world, with antecedents dating from ancient Egyptians, Romans, and Jews [3]. In the United States, the subject of torture has recently come to the forefront of national discussion within the context of interrogation of suspected terrorist suspects.

Health care professionals are most likely to encounter torture survivors as refugees and asylum seekers [4••]. In 1999, 400,000 survivors of torture were estimated to reside

in the United States alone [5]. Based on more recent data and the fact that more refugees come to the United States every year, it is now believed that the number of torture survivors living in the United States is in excess of 500,000 [6]. It is well known that torture has numerous physical, psychological, and pain-related sequelae that can inflict a devastating and enduring burden on its victims [7–9]. Health care professionals, particularly those who specialize in the treatment of chronic pain, thus have an obligation to better understand the physical and psychological effects of torture. This article reviews the epidemiology, classification, pain sequelae, and clinical treatment guidelines of torture victims.

Scope of Problem

Most studies have examined the sequelae of torture as it relates to displaced and refugee populations. Primary caregivers are the points of first contact and important gatekeepers to recognizing victims and initiating or referring for treatment of specialized centers [10, 11]. However, specialists most often field these referrals and are responsible for initiating specialized treatment regimens.

The available data indicate that torture is fairly common in modern society. In general, the prevalence rates vary widely due to differences in the type of study conducted, the country of origin of the population studied, the gender of the participants, and the type of torture examined. A Danish study on adult Middle Eastern refugees concluded that 30% had been exposed to torture [12]. More striking in this study was the male to female predominance in that 55% of male refugees were exposed to torture compared with only 12% of female refugees. A more recent study from Denmark indicated that 45% of asylum-seeking immigrants, representing 33 different countries, had been subjected to torture in their countries of origin [13]. A cross-sectional, community-based, epidemiological study of Somali and Ethiopian refugees indicated torture prevalence ranged from 25% to 69% [14]. Crosby et al. [15] examined the prevalence of torture among foreign-born patients, representing 35 different countries, who presented to urban medical clinics [15]. The authors concluded that among foreign-born patients presenting to an urban primary care center (Boston), approximately one in nine reported a history of torture that was consistent with the United Nations' definition. Sexual torture has also been studied. For instance, Agger [16] found that 52% of male political prisoners who sought help after torture had been sexually abused, and a study by Peel et al. [17] indicated that 21% of Tamil refugees who had previously been imprisoned had experienced various forms of sexual torture. Moreover, a recent study by Norredam et al. [18] found that in a subset of male patients treated for torture, 28% were survivors of sexual trauma.

The literature indicates a high prevalence of persistent pain among survivors of torture. A comprehensive review in 2007 by Williams and Amris [4••] indicated that estimates vary based on the country and type of torture studied. Headache ranged from 39% in Uganda [19] to 93% in Denmark [20]. Musculoskeletal pain, including back and neck pain, ranged from 60% in Turkey [21] to 87% in Uganda [19]. Chest or thoracic pain ranged from 19% [22] to 37% [23], joint pain from 17% [24] to 43% [25], foot pain from 28% [25] to 72% [26], and pelvic pain 17% [19].

In 2008, Masmas et al. [13] compared tortured to nontortured asylum seekers arriving in Denmark. The study demonstrated that physical symptoms were approximately twice as frequent and psychological symptoms were approximately two to three times as frequent among torture survivors compared with nontortured asylum seekers. Also, among the torture survivors, 63% fulfilled the criteria for posttraumatic stress disorder (PTSD), and 30% to 40% of the torture survivors were depressed, in anguish, anxious, and tearful in comparison to 5% to 10% of the nontortured asylum seekers. Lastly, the study noted that 42% of torture survivors had torture-related scars.

Specific Types of Torture and Their Pain Sequelae

The aim of torture is to obtain information or a confession to incriminate a third person, take revenge, or establish a reign of terror within a community. The classification of torture into physical, psychological, and sexual categories is somewhat academic because most victims often endure all of them simultaneously. However, the most common types of torture can be classified and summarized as indicated in Table 1 [27].

The most frequent physical torture method is blunt trauma or beating of all parts of the body with blunt instruments. Olsen et al. [28, 29] followed 139 previously tortured refugees for 10 years and showed that they all had persistent body pain even years later. The pain reported on follow-up closely related to the pain at baseline in terms of description, character, location, and severity. The most frequent physical torture method identified by Olsen was generalized beating. A similar interview conducted by the same researchers on 220 refugees showed that chronic pain in specific body parts was closely associated with specific torturing methods and frequency, For example, refugees with chronic foot pain had endured systematic application of blunt trauma to the soles of the feet or falanga torture. This might be of importance in managing torture survivors when early identification of certain kinds of torture methods could guide development of effective treatment programs

Table 1 Common methods of torture

Physical torture
Blunt trauma: crushing injuries, whipping, beatings
Penetrating injuries: gunshots, shrapnel, stab wounds, slash cuts
Suspension
Burns: chemical and thermal; cold and heat
Asphyxiation: wet, dry, chemical
Electric shocks
Forced human experimentation
Traumatic removal of tissue and appendages: via either direct avulsion or explosion
Extreme physical conditions: forced body positions (prolonged constraint) and extreme heat/cold conditions
Psychological torture
Direct threats, sensory deprivation, solitary confinement, mock execution, witnessing torture, uprooting
Sexual torture
Sexual humiliation, trauma to genitalia, rape

Data from the Boston Center for Refugee Health and Human Rights [27]

for these survivors. Moisander and Edston [25] compared 160 victims from six different nations and concluded that falanga was the most commonly used method of torture. Prip and Persson [30] studied 11 falanga torture victims and concluded they all had chronic heel pain, compensated gait, and impaired neurological sensations as compared with controls.

Another common method of torture involves suspension of the body. Victims are usually suspended above the ground by their wrists and ankles for hours or days [31–36]. In addition, they may also be released, suddenly causing various forms of blunt trauma upon contact with the ground. The "Palestinian suspension," for example, consists of suspending the victim with one hand facing forward and other facing backward. Common injuries after these suspensions involve various brachial plexus injuries resulting in chronic, often life-long, neurogenic pain [37]. Furthermore, suspension-type torture typically results in a stretch arthritis syndrome, a form of polyarthritis that affects the wrist and ankle joints in a characteristic pattern, often incapacitating the victim [38].

Knowledge of the type of torture employed can aid in evaluating injuries, scars, and other chronic sequelae. Thomsen et al. [26] studied common torture methods used on 18 Middle Eastern victims and concluded that each particular method of torture had an associated corresponding painful neuropathy. Such examples include Palestinian hanging associated with brachial plexus injury; falanga associated with peripheral neuropathy of feet; leg suspension associated with lumbosacral plexus injury; and positional torture associated with chronic low back pain.

Sexual torture includes sexual humiliation, genital trauma, castration, and rape. Norredam et al. [18] identified chronic genital and erectile pain, recurrent lower urinary tract infections, and chronic sexual dysfunction in survivors of sexual torture. Psychological torture involves direct threat to the victim or his/her relatives, sensory deprivation, mock executions, or witnessing torture. Sensory deprivations include detention in darkness, exposure to bright lights, and poor living conditions [39–41].

Whether the torture method is physical, psychological, or sexual, psychological sequelae are nearly universally present in victims, even in situations in which physical sequelae may be absent. For example, PTSD has been well described in almost all torture survivors [10, 42]. A full spectrum of psychogenic manifestations from generalized anxiety to major depression has been described [43]. Suicidal tendencies can be more common with associated sexual torture methods, and sequelae such as unwanted infections, pregnancy, and social stigma often ensue [44]. Previous torture, trauma, lower educational status, fewer social contacts, and unemployment represent some of the predictors of chronic distress in torture victims [45].

Treatment, Clinical Management, and Rehabilitation

A major barrier in managing chronic pain following torture is the comorbid presence of somatic, psychiatric, and social problems often present in the victim. This triad, not surprisingly, leads to severe impairment in many aspects of the victim's life [43]. Many of the sequelae of chronic pain in torture survivors, such as loss of social activities and pervasive distress, result from fear and confusion rather than from the pain itself. Confusion often stems from a lack of understanding as to why they continue to have ongoing pain despite injuries that may have occurred years earlier. Hence, it becomes tantamount to design management programs that focus on addressing emotions and quality of life. A multimodal, interdisciplinary approach is therefore required for comprehensive rehabilitation. This modality is often referred to as the biopsychosocial model of rehabilitation.

Some authors suggest that emotional conflicts need to be addressed before physical goals when designing a rehabilitation program [46]. Similarly, many investigators have posited that chronic pain following torture reflects such an amalgamation of many variables that each management program should address quality of life and pain management simultaneously [47–49]. Further, Keller [50] described an integrated model for rehabilitative care for torture victims emphasizing the interrelationship between the physical, mental, and social dimensions. Moreover, it has been stressed both in the literature and in many

international conferences that persistent pain in torture survivors is effectively treated using psychologically based rehabilitation to improve the quality of life [51]. Such programs incorporate psychologists, physiotherapists, physicians, and other clinicians in active treatment and educational roles. Critical reviews of these types of programs have shown consistently good outcomes, reduced disability, reduced distress, and diminished pain following treatment [52–54]. Interestingly, studies examining treatments that use predominantly physical exercise and training for rehabilitation, as opposed to addressing mental and emotional needs as well, demonstrated disappointing outcomes [55]. In summary, the biopsychosocial model of pain management and rehabilitation should include improving pain control, creating a realistic understanding of problems, graded steps to achieve short- and long-term goals for function, and increased participation and focus on quality of life.

PTSD is the most common mental health condition observed among survivors of torture [56]. PTSD typically has three clusters of symptoms: hypervigilance, intrusions, and arousal. However, victims frequently report a full range of mental complaints, and generalized anxiety or depression almost always is associated with this disorder. A new diagnostic classification was introduced to represent this constellation of symptoms: DESNOS (Disorder after extreme stress not otherwise specified). The inclusion criteria focus on an alteration in regulation of various cognitive processes, including affect and impulse, attention and consciousness, self-perception, relation with others, somatization, and systems of meaning [57–59] (Table 2).

Treatments for PTSD or DESNOS are multimodal and interdisciplinary and include pharmacologic, psychologic, and internet-based therapies. In the pharmacologic realm, Ipser and colleagues [60, 61] have focused on the strength of the evidence for pharmacotherapy in PTSD. Selective serotonin reuptake inhibitors (SSRIs) alone or in combination with venflaxine have been recommended as first-line agents in many expert consensus guidelines such as the National Institute for Health and Clinical Excellence (NICE) guidelines discussed below. These agents should be continued for at least a year before considering any gradual withdrawal to determine optimum efficacy and to mitigate the risk of symptom recurrence. The most recent (NICE) guidelines [62], however, recommend that medications should not be the routine first line of management for these patients except when they display comorbid depression or severe hyperarousal that significantly impacts a sufferer's ability to benefit from psychological treatment or for those not wanting to engage in trauma-focused psychological interventions. Several concerns about pharmacologic management exist, including lack of an ideal drug class for treatment, limited response demonstrated in most trials, fairly high remission rates, and development of drug tolerance. Further research in this area is clearly needed to determine an optimal pharmacologic regimen.

Table 2 Common signs of posttraumatic stress disorder in victims of torture

Re-experiencing the traumatic event
Intrusive, upsetting memories of the event
Flashbacks (acting or feeling like the event is happening again)
Nightmares (either of the event or of other frightening things)
Feelings of intense distress when reminded of the trauma
Intense physical reactions to reminders of the event (eg, pounding heart, rapid breathing, nausea, muscle tension, sweating)
PTSD symptoms of avoidance and emotional numbing
Avoiding activities, places, thoughts, or feelings that remind the individual of the trauma
Inability to remember important aspects of the trauma
Loss of interest in activities and life in general
Feeling detached from others and emotionally numb
Sense of a limited future (the individual does not expect to live a normal life span, get married, have a career)
PTSD symptoms of increased arousal
Difficulty falling or staying asleep
Irritability or outbursts of anger
Difficulty concentrating
Hypervigilance
Feeling jumpy and easily startled
Other common symptoms of PTSD
Anger and irritability
Guilt, shame, or self-blame
Substance abuse
Depression and hopelessness
Suicidal thoughts and feelings
Feeling alienated and alone
Feelings of mistrust and betrayal
Headaches, stomach problems, chest pain

Data from the Help Guide [58] and Survivors International [59]

Multiple lines of evidence from research, systematic reviews, meta-analyses, and the NICE guidelines indicate that the effects of psychotherapy programs are efficacious [62, 63]. Two such structured treatments are strongly supported: 1) cognitive behavioral therapy (CBT) and 2) eye movement desensitization and reprocessing (EMDR). The duration of trauma-focused CBT should normally extend from 8 to 12 sessions, although fewer sessions may be sufficient depending upon how soon active treatment is begun following the traumatic event. A number of controlled studies support the efficacy of EMDR, including one by van der Kolk and colleagues [64••], which showed that a significant majority of adult trauma subjects receiving EDMR achieved baseline functioning compared with controls who were treated with antidepressants. The authors assert that EDMR creates networks

between distressing memories and more adaptive information contained in other memory networks in which learning takes place. A new experience is therefore stored with positive associated emotions. Lastly, another form of psychotherapy known as narrative exposure therapy, which combines CBT and testimonial therapy, has also been beneficial for the treatment of torture victims [65]. In testimonial therapy, trained community workers and human right activists provide community and psychotherapeutic support to torture survivors.

Randomized control trials have shown that internet-based self-managed CBT may be an efficacious way of delivering treatment [66]. This method of treatment helps break social stigma, a major barrier to care of these patients by focusing more on the training aspects of care [67, 68]. Knaevelsrud and Maercker [69], in their randomized control trial of an internet-based treatment for PTSD, have demonstrated promising improvements in PTSD/DESNOS symptoms over an 18-month follow-up.

Torture victims are a subset of patients that demonstrate PTSD. The numerous psychological consequences of torture contribute to the maintenance of symptoms and often interfere with treatment. There is good evidence of a dose-response relationship between cumulative torture and development and maintenance of PTSD [70]. However, further research is necessary in order to clarify the role of predictive factors in the development and maintenance of posttraumatic stress following torture.

There is a substantial evidence base for the psychological treatment of PTSD across diverse trauma types, as a multitude of controlled studies have demonstrated positive outcomes for exposure-based treatment in which patients are gradually and systematically exposed to cues likely to elicit memories of the traumatic event [71, 72]. The overall goal of treatment for torture victims with PTSD is rehabilitation and return to function, and to reintegrate these patients back into their environment so that they can reconnect with family and colleagues and return to life rather than retreat from it. Treatments that have shown success in PTSD such as pharmacotherapy, CBT, EMDR, and internet-based treatments have also show promise in facilitating the rehabilitation of torture survivors.

Conclusions

Torture is a brutal aspect of humanity. It represents the purposeful infliction of pain and suffering on another human being. The practice of torture is not confined to any one ethnic, national, or geographic group; rather, it is widely practiced throughout the world. Torture can assume many forms, including physical, psychological, and sexual. Irrespective of the type of torture employed, victims are often left with debilitating physical, psychological, and pain-related sequelae that can persist many years after the initial event and often lead to severe impairment in many aspects of life. A multimodal, interdisciplinary approach or "biopsychosocial model" addresses both the physical and psychological consequences and is crucial for comprehensive rehabilitation. The recognition that PTSD and DESNOS often coexist with pain-related symptoms further reinforces the need for multimodal, multispecialty treatment and rehabilitation programs. Such programs incorporate psychologists, physiotherapists, physicians, and other clinicians in active treatment and educational roles and have demonstrated significant promise. Despite the recent advances in the treatment of chronic pain in torture victims, unmet needs persist and further research into new and adaptive pharmacological and psychological interventions are critical for more effective healing.

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