Research Article ISSN: 3065-5641

Global Journal of Critical Care and Emergency Medicine

Comfort Measures in Patients with Traumatic Injuries: A Systematic Review

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Received: 09 Apr 2025; **Accepted:** 16 May 2025; **Published:** 27 May 2025

Citation: Kelvin Meh Kum Mary Bi Suh Atanga, Fongang Landis, et al. Comfort Measures in Patients with Traumatic Injuries: A Systematic Review. Glob J Emerg Crit Care Med. 2025; 3(1); 1-7.

ABSTRACT

Purpose: *To elaborate a contextualized comprehensive model to enhance comfort measures in traumatic post- operative patients.*

Data Sources: *Electronic search of PubMed, Google Scholar, CAS Google Scholar, Yahoo, Cochrane, ResearchGate websites and bibliographies of included articles and key journals.*

Study Selection: *English and French language studies published between January 2009 and April 2024 that appraises approaches to enhance comfort measures in traumatic post-operative patients.*

Data Extraction: *Data extraction and critical appraisal were conducted by three system-internal and one independent reviewer, the statistician, for ethical consideration. Study design, intervention, level of application, setting, study participants, measures, standards, guidelines, implementation and impact lessons were extracted from the included articles.*

Results of Data Synthesis: *Over 540 articles were screened for inclusion, of which 20 full-text articles were included in data synthesis comprising qualitative, retrospective, survey, systematic review, quasi-experimental and Randomized controlled trial studies.*

Conclusions: *Nursing is a multidimensional profession that offers holistic care to patients, families and communities. The goal of the care rendered to patients sick or well is aimed at meeting patient's needs or demands from the health care system, resolve disease related problems and bring satisfaction and a feeling of comfort to the patient. This is achieve by rendering holistic care to patients including patient and family education as a means of meeting their basic needs and ensuring patient safety and comfort. Traumatic patients in this prospect require particular attention and measures to enhance their comfort in the hospital setting, pre-requisite for their fast and effective recovery. Though models, standards and guidelines do exist, they have not been standardized to meet the requirements of diversified settings and problems, and are generally context or problem-specific. Governments and organisations are advised to consider this gap in their policy and endeavour serving their local context with standards while enhancing research for improvement, good practices and patient's safety culture.*

Keywords

Comfort, Traumatic, Post-operative, Patients, Hospital, Model.

Introduction

Nursing is a multidimensional profession that offers holistic care to patient, families and communities. The goal of the care rendered to patients sick or well is aimed at meeting patient's needs or demands

from the health care system, resolve disease related problems and bring satisfaction and a feeling of comfort to the patient [1]. This is achieve by rendering holistic care to patients including patient and family education as a means of meeting their basic needs and ensuring patient safety and comfort [1].

The concept of comfort is complex, dynamic, multidimensional and personalized and it's above the absence of pain or meeting nutritional needs [2,3]. Comfort is said to be inherent and forms an integral part of nursing. It is subjective and there is no consensual definition of comfort though it can be seen as a desired state of wellbeing, contentment and security characterized by physical or psychological ease or alleviation from pain, grief or distress in which the person feels relaxed, satisfied, strengthen and hopeful [1,4]. Each patient has different comfort needs that affects them either negatively or positively [5]. Comfort cannot be fully understood without exploring the perspective of the patient, the career and the health persons (nurses). It is only in exploring the meaning and understanding of comfort from such perspective that the unique nature of comfort can be explained and the patients' problems and concern resolve [1]. WHO, 2013 stated that to develop an assessment tool of patient comfort, and improve the quality of life of the patient, the patient experience in different health settings must be taking into consideration [6]. Therefore, to increase patient comfort positively, the views of patients, friends, relatives, family members and others close to the patients must be included in the environmental component of the comfort of the patient [7]. Comfort can be used as a diagnostic and/or assessment/evaluation tool on which medical decisions can be taking. When patients are in a state of discomfort, they can be admitted or hospitalized just to bring them to a state of comfort. The level of comfort of the patient can also determine what nursing interventions are needed. The level of patient comfort can be used as a criterion to determine if a patient can be discharged or not [8]. Patients comfort also determines patients satisfaction with the quality of care received and determines the used or non-use of a health facility. In a study carried out by Taber, Leyva and Persoskie as reported by Maria Clark, about 25% of patients refused going to the hospital because they feel uncomfortable. This discomfort (usually physical or emotional) is as a result of physical irritations of the illness or injury, hospital environment and lack of professional concern as to the patients comfort wellbeing [9]. Comfort care or measure have been shown to bring about encouragement, hope, feelings of control over life, and enhance decision-making skills especially in patient with end stage disease and traumatic injury [5]. In developing a comfort approach that will meet the patients' physical, psychospiritual, sociocultural and environmental needs, the effectiveness of such tool must be determine by looking at how long the patient takes before being discharge, the number of re-admissions and the patient satisfaction with care. Traumatic patients booked for surgery experience different levels of discomfort throughout the perioperative period and the care render to them determine the post-operative outcome. If proper comfort measures are not adequately considered and implemented, the post- operative period will be characterize by pain, dissatisfaction, post-operative complications, decrease quality of life of patients and an increase in post-operative mortality rate [5,6].

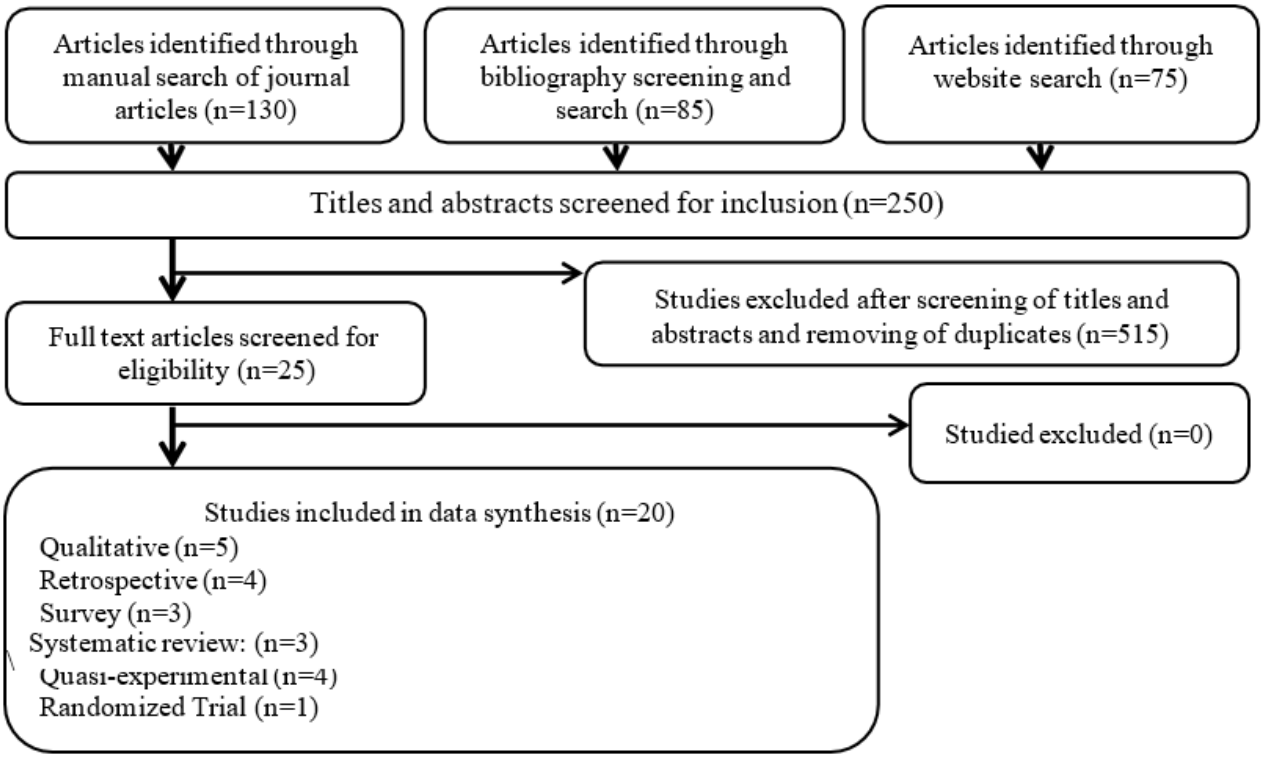

Figure 1: Flow chart of search result.

Methods

Data sources

An electronic search was conducted of the PubMed, Google Scholar, CAS Google Scholar, Yahoo, Cochrane and ResearchGate. Medical subjects heading search terms and keywords were used notably "comfort measures for traumatic patients" and "safety of traumatic patients". Additionally, bibliographies of included articles and key journals were hand searched. The search languages were English and French. In French, the main search keywords were "mesures de comfort pour les patients traumatiques", "sécurité des patients traumatiques". This was important and peculiar to this study context given that the official languages used in Cameroon are English and French as to give room for the exploitation of both English and French literatures.

Duration

The duration of the systematic review was 11 months [10], from October 2023 to August 2024.

Study Selection

Inclusion Criteria

English and French language studies published between January 2009 to August 2014 with particular reference to patients with traumatic injury were considered as to cover a period of 15 years [11]. Assessment of effectiveness was based on published standards, models and guidelines, qualitative, retrospective, survey, systematic review, quasi-experimental and Randomized controlled trial studies. Both quantitative and qualitative studies were considered [12]. Information were extracted from peer-reviewed journals, abstracts, websites, and cited authors within articles [13].

Exclusion Criteria

All studies not dealing with the management of traumatic patients in one way or another were excluded except inspirations from other systematic review works not dealing with the same topic but that were in the frame of health care for structural reasons and for comparing approaches of systematic review. All studies before 2009 were excluded.

Data Extraction and Analysis

Data extraction and critical appraisal of included studies were conducted by three system-internal reviewers (NNE, MBSA, FL), with disagreements settled by a fourth reviewer (NC), the statistician, this time around independent to the system. Implementation data and data from studies using mixed method evaluations were also extracted and reviewed. A meta-analysis was not possible due to insufficient homogeneity (populations, interventions, outcome measures and follow-up periods) of studies but where it could apply, it was done and reported. Consequently, analysis considered essentially common themes, conceptual and analytical trends and presented in a narrative format.

Results

Over 540 articles were screened for inclusion, of which 20 studies (20 publications) were included in data synthesis. Among them, 5 qualitative, 4 retrospective, 3 survey, 3 systematic review, 4 quasi-experimental and 1 Randomized controlled trial studies met the inclusion criteria (Figure 1) and cut-across the specific objectives of the study. Included studies were conducted in several countries, Portugal, New-Zealand, Cameroon, Botswana, Kenya, Turkey, China, Portugal, Netherland, Iran, and in multi-countries studies.

Summary and Discussion of Study Findings

Priority Issues

Surgery is often accompanied with the feelings of hoping for the best while planning for the worst. Most (about 90%) of post-operative patients experience different levels of pain and are at risk of post-operative complications that steals both their quality of health/life and satisfaction of care rendered. This contributes to anxiety, depression, despair, loss of self-efficacy, and interferes with medical decision-making. For some families, the last memory of their loved one may either be that of a "peaceful" and comfortable transition or that of a painful and agonizing end [14]. Patients booked for surgery experience different levels of discomfort throughout the perioperative period that is from the pre-operative, through the intra operative to the post-operative period (especially following a traumatic injury). The outcome of the care nurses render to such patients during this period is determined by the post-operative comfort levels of these patients. If proper comfort measures are not adequately considered and implemented, the post-operative period will be characterize by pain, dissatisfaction, post- operative complications, decrease quality of life of patients and even increase post- operative mortality rate [8]. This post-operative discomfort/pain can lead to further complications, such as decreased lung function, sleep disturbances, infection, delayed mobility, myocardial infarction, increased morbidity and mortality [15] and increased lengths of stay in the post-operative period and readmissions to hospital post- discharge [16]. Patients who experience discomfort during the post-operative period also experience anxiety and such distress causes the release of cortisol affecting both the nervous and immune systems enhancing delay in recovery and prolong hospital stay. In a study as reported by Maria Clark, it was seen that post-operative patients without comfort measures had about 17% and 20% higher chances of developing post-operative complications and being readmitted respectively [9]. Implementation of comfort measures ranges from physical to psychological measures. It has been established that, such measures prevent negative surgical outcomes post operatively [17], increase patients' satisfaction, improved on patients' turnout in hospitals, made patients more confident, improved quality of care rendered by nurses and relieved the nurses from pressure or worries from the patients [9]. Those who undergo surgery following traumatic events such as gun shots experience not just physical discomfort but discomfort in all aspects of their life [6]. In such patients, the factors contributing to discomfort are multifaceted relating to the design of the theatre/ward, the patient's condition, the type of care rendered and the state of the patient (anxiety, pain, thirst, and sleep disturbance). This may contribute to physical or psychological manifestations, such as depression and posttraumatic stress disorder

(PTSD), which can affect quality of life even after discharge [18]. Due to the decrease in the consistency of the application of comfort measures, the development of an adaptable approach can help facilitate its implementation by nurses and improve post-operative patients' quality of life [6]. As early as 1860, Nightingale identified comfort as a primary goal of nursing care, since then, the concept of comfort has been studied, explored and analyzed. The importance of comfort as a goal and core value of nursing has been well established; however, the comfort process and specifically the comfort measures employed to achieve an outcome of comfort has yet to be systematically explored [16]. Furthermore, the concept of comfort measures has yet to be clarified within the nursing discipline.

Although the concept of comfort measures is frequently used in practice, its use in the nursing literature has slowly begun to develop as an emerging but immature concept. Comfort measures as a concept is rarely defined suggesting that its meaning is universally understood; at other times, it is described exclusively as physical actions centered on relieving physical discomforts. Current conceptualizations of comfort have evolved from a mainly physical focus, to include a multidimensional, holistic definition [19]. Kolcaba states the concept of comfort as "instant experience of meeting basic human needs in order to freshen up, rest easy and overcome problems" in the "Comfort Theory" expressed in a holistic view and based on the comfort function which is one of the nursing discipline's functions [8]. Patients view comfort not only in the sense of relief from physical discomfort but as a sense of positivity and strength. It involves an integration of positive emotions that include feeling confident, competent, having a sense of personal control, feeling cared for, valued, safe (able to trust) and at ease. Patients view comfort as being elusive, dynamic, transient and experienced on a continuum. Being able to endure discomfort and distress is what brings us to comfort [20]. Patients' description and perspective of comfort varies depending on their condition, age amongst others. Patient with end stage diseases view comfort as being or feeling at ease or at peace, patients in emergency or in need of emergency care view comfort as a feeling of safe, being cared for and being able to relax. Children views are different from that of adults. Children view comfort as feeling better, safe and not sad [20].

One of the major benefits of comfort measures are improved quality of health outcome and practice. Studies have shown that when patients experience physical and psychological comfort, they turn to recover fasted, spend shorter time in the hospital and experience less complications. This is achieved as a result of a comfortable environment provided by the nurse. When the environment is not conducive, the healing deals. In a Gallup study, it was found that there is a relationship between the patient environment and the health outcome. A negative environment can affect the person's immune system hence decreases health outcome [9].

Another one is bringing satisfaction. When comfort measures are carried out in post-operative patients, both the patient and the nurse becomes satisfied. The patient becomes satisfied because their needs are met on time while the nurse is satisfied because the patient will not be a source of burden to them again. When patients are satisfied, they tend to refer others to the health facility and by so doing the facility grows [9]. Factors influencing patients' comfort and comfort measures are patients' personal strategies, influence of family, staff actions and behaviors, **techniques of comfort used in post-operative patients** [3,20]. From patients' perspective, comfort is multidimensional, characterized by relief from physical discomfort and feeling positive and strengthened in one's ability to cope with the challenges of illness, injury and disability. Different factors are important to different individuals [20]. Attributes of comfort in the end-of-life includes having peaceful home- life environment, trust and consolation, proximity and social-cultural support, alleviation of suffering, and a process of integrated intervention by nurses. It was therefore concluded that at the end-of-life patients commonly experience physical, psychological, social-cultural, and environmental discomfort. Patients' families also encounter significant challenges. However, their comfort needs are often secondary to that of the patient. Additionally, a lack of clarity exists regarding the holistic meaning of comfort at the end-of-life, which can largely be confined to understandings of physical comfort for the patient, with a limited understanding of addressing family/caregivers' needs [21]. According to theoretical assumptions of Kolcaba Theory, in the category of Comfort Needs this study categorized them as physical order, environmental, psycho-spiritual and of social order; as far as Comfort Measures are concerned the areas of expectation were suffering relieve, peaceful atmosphere and transcendence. It was then resolved that comfort needs concern essentially physical and psycho-spiritual context and the comfort measures more frequently adopted are aim to relieve suffering and promote a peaceful atmosphere [22]. Approximately 50% of persons with orthopedic injuries experience psychosocial distress (e.g., depression, anxiety), which can predict chronic pain and disability. Offering psychosocial services in orthopedic settings can promote patient recovery [23]. It was highlighted a significant relationship between comfort scores and communication by nurses and physicians [7], as well as the connection between hospital indoor environments and patient comfort [24]. Nociception is the pathophysiologic response to actual or potential tissue damage. Pain is the unpleasant thoughts, emotions, and behaviors that can accompany nociception, which is the nightmare of traumatic patients [25]. comfort needs concern essentially physical and psycho-spiritual context and the comfort measures more frequently adopted are aim to relieve suffering and promote a peaceful atmosphere [22]. Identifying organisational aspects stressed the importance of organisational embedding of improvement of pain management [26]. Comfort care effectively alleviates the pain of patients after pancreatectomy, reduces the incidence of complications, and improves their quality of life, psychological status, and satisfaction, so it is worthy of clinical application [12]. The need to enhance safe of traumatic patients cannot be over emphasized as trauma causes over 4 million annual deaths globally and accounts for over 10 % of the global burden of disease [27]. Optimizing comfort and it's environmental and

psychospiritual dimensions significantly increased the wellbeing of traumatic patients [1].

Gaps in Practice

Traumatic injuries pose a significant and increasing challenge to healthcare systems worldwide [28]. Paediatric trauma remains a leading cause of morbidity and mortality of children in the United States and entails exorbitant costs. Understanding the patterns in which traumatic injuries occur in children is paramount to establishing effective injury prevention, as well as adapting treatment to optimize outcomes [29]. Tertiary hospitals in resource-limited countries treat patients referred but in most cases are the first level of care for the vast majority of patients. As a result, the tertiary facility effectively functions as a primary health care facility [30]. Patients' families also encounter significant challenges. However, their comfort needs are often secondary to that of the patient. Additionally, a lack of clarity exists regarding the holistic meaning of comfort at the end-of-life, which can largely be confined to understandings of physical comfort for the patient, with a limited understanding of addressing family/caregivers' needs [21].

Optimizing Comfort Measures for Truamatic Patients

Lack of comprehensives guidelines and standards to enhance comfort measure for traumatic patients as well as contextual specificities have urged studies aimed at locally developing frameworks to serve this need. Multidimensional framework representing patients' perspectives on comfort to guide practice and quality initiatives aimed at improving patients' experiences of care was developed based on empirical data but to serve a specific cultural setting [31]. Also, if such guideline or standards do exist, it is framed for a particular problem. For instance, The National Clinical Programme in Surgery has developed and published models of care for planned and acute surgery, and the standards set out in these documents have had a significant impact on how surgical care is delivered [32]. The models are termed 'The Productive Operating Theatre (TPOT) programme' which is a working nationally to improve the patient's peri-operative journey, resulting in improved efficiencies and cost savings. The main tenet of this model of care is that equity must apply across healthcare. Comfort nursing can relieve their negative emotions, improve their quality of life and nursing satisfaction, reduce postoperative pain, and thus promote postoperative rehabilitation. Hence, it is worthy of clinical promotion [33]. In this very perspective, The Irish National Joint Registry (INOR) will define the epidemiology of joint replacement surgery in Ireland and will provide timely information on the outcomes of joint replacements in addition to identifying risk factors for a poor outcome while promoting integrated care. The development of a National Integrated Care Pathway for patients who sustain a neck of femur fracture [34] is an example of how the clinical programmes, working collaboratively, can improve the provision of integrated care responds to the same specifity-oriented model. In the same vein, the Irish Institute of Trauma and Orthopaedic Surgery (IITOS) has published safe clinic guidelines [35]. Comfort nursing based on the CCM improves CHD patients' health knowledge, regulates their psychological status, and improves their compliance, self-care ability, and comfort [36]. Katharine theory of nursing is an excellent way to design and assess the effects of integrative comfort care interventions [37]. The Trauma Audit and Research Network (TARN) is a vital component of a trauma system, as it provides a tool for auditing patient care at the individual hospital level [32]. This aligns with the recommendations of American College of Surgeons as depicted in their recommendation of best practices in the management of orthopaedic trauma [38]. It was recommended the virtues of occupational therapy for chronic patients as they emphasized the recognition of people as occupational beings [39].

Research Gaps

Patients during the peri-operative period look up to the nurse to maximize their comfort throughout this period. Unfortunately, it has been reported that there is inadequate measurement of patient comfort by nurses [40]. Also, many nurses lack the capacity to offer comfort care measures to patients who are dying or during the post-operative period due to limited knowledge on comfort measures use, lack of an adaptable approach of comfort care and a tool to facilitate such interventions [41]. Though there is the development of frameworks, models and theories such as that of Kolcaba, there is limited evidence and understanding on how such can be adapted to promote comfort in post-operative patients worldwide [4] as they are generally context or problem-specific. Although many studies stress the significance of patient comfort, few have drawn conclusions from a variety of disciplines, including medicine, engineering, immunology, microbiology, and environmental science; the most crucial issue of thoroughly researching the improvement of patient comfort has not been addressed Yu.

Conclusion

This systematic review highlighted critical points that should be considered to enhance the comfort of traumatic patients, challenges and opportunities. Identification of risk factors and optimized methods to enhance the comfort of traumatic patients is one of the most important duties of healthcare systems. Devising plans to minimize these risk factors and familiarizing people with them is prudent and highly recommendable. Gaps in practice and performance to be filled as to give equal chance to traumatic patients, and the need to optimizing the safety of traumatic patients were highlighted. Though models, standards and guidelines do exist, they have not been standardized to meet the requirements of diversified settings and problems, and are generally context or problem-specific. Governments and organisations are advised to consider this gap in their policy and endeavour serving their local context with standards while enhancing research for improvement, good practices and patient's safety culture.

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