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INTEGRATIVE REVIEW

# Challenges of nurses and family members of burn patients: Integrative review

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## Abstract

**Aims:** To identify the challenges facing burn care nurses and burn patients' family members and to explore the relationship between the above challenges.

**Design:** Whittemore and Knafl's integrative review.

**Methods:** Databases used for this review included Cochrane Library, Web of Science, PubMed and Embase. The original research published from January 2010 to November 2021 was selected. Studies reporting the challenges of family members or nurses of burn patients identified through extensive database search were considered for inclusion. The Mixed-Method Appraisal-Tool was applied for the evaluation of the quality of the literature. The analysis approach used was content analysis.

**Results:** Of the 2746 identified studies, 17 studies were included. Key findings related to the challenges facing nurses and family members of burn patients were extracted. The themes relating to burn care nurses included ethical and religious issues, clinical issues, work–life imbalance and limited support. The themes relating to family members included family's different views on prognosis and treatment, work–life imbalance, psychological issues and lack of multifaceted support. The challenges for the formal and informal caregivers are similar and there is existence of some shared concerns. If the above challenges are not resolved, support for the burn patients may be adversely affected. Corresponding measures should be taken to overcome such challenges.

KEYWORDS
burns, challenges, family members, integrative review, nursing staff

## 1 | INTRODUCTION

Burns have been reported as a type of damage to the skin or other organs and tissues primarily caused by flames, radiation, electricity, hot liquid or surface or contact with chemicals (Peck, 2012), which has become a global public health problem. As indicated by the statistics from the World Health Organization (WHO), the incidence of burns ranks fourth among all injuries, higher than the combined incidence of tuberculosis and human immunodeficiency virus (HIV) infection (Chen et al., 2013). Burns can cause serious damage (e.g. disability, scarring and joint problems), which may have long-term physical and psychological sequelae for the patients (Xie

et al., 2012). In severe cases, it can even cause multiple organ failure, sepsis and eventually death (Stoddard Jr et al., 2014). Therefore, burn treatment differs from other diseases in intensity, degree and time (Outwater et al., 2013; Taylor et al., 2014). Impacted by burn patients' need for long-term hospitalization, rehabilitation, wound care and scar treatment (Sánchez et al., 2007), family members and nurses who are caring for them face different challenges.

The burn unit has been reported as a department with high stress and challenges in the medical center (Andy et al., 2006). According to several studies, burn care staffs are generally under high workload with significant physical, emotional and mental pressures (Bayuo, 2018; Bijani & Mohammadi, 2021; Kornhaber & Wilson, 2011a, 2011b; Shivanpour et al., 2020). As nurses are at the frontline of caring for burned patients, they are indispensable in the multidisciplinary burn care team (Greenfield, 2010; Mays, 2012). In addition to carrying out routine care and specialized burn care for patients (e.g. drainage tube care, scar physiotherapy, wound care, etc.), nurses also need to pay attention to the daily activities and psychological health of patients (Bayuo, 2018; Lam et al., 2018), spending more time caring for patients as compared with any other member of the team. Several studies indicated that burn care staff face a wide range of challenges, including heavy workload, risk of infections and having to navigate through complex ethical issues (e.g. withdrawal of care and euthanasia), which lead to an increased care burden(Bayuo, 2018; Guo et al., 2018; Masoumy et al., 2016; Silva et al., 2016). Unpredictability of burn ward events can increase stress for nurses, thus resulting in physical, psychological and emotional problems (Alavi et al., 2012; Guest et al., 2018). Although several studies suggest that burn care nurses may face unique challenges and issues, challenges in this field have yet to be identified and explored in detail. Understanding the challenges faced by nurses in caring for burn patients can provide them with corresponding support according to these challenges (Bayuo, 2018; Bijani & Mohammadi, 2021). Accordingly, supporting burn care nurses and understanding their needs are of high importance since the nurses support the recovery of burn patients.

Likewise, the family members of burn patients face challenges. Depending on the severity of the injury, inpatient burns management can generally be protracted, thus indicating that family members may also stay longer with their relatives on admission. However, family members are generally uncertain about the extent of the patient's injury, its aftermath and treatment processes (Bowden & Feller, 1973; Brodland & Andreasen, 1974; Phillips et al., 2007; Shelby et al., 1992; Thompson et al., 1999). Studies have shown that due to the sudden nature of burns, most family members will suffer from psychological problems such as guilt and anxiety, even worse, will be at risk of PTSD (Bakker et al., 2013). In addition, the intensive treatment pathways required by severely burned patients (e.g. mechanical ventilation) may also be distressing to family members. Family members may not have been previously exposed to such events and yet, they may be required to take on an informal caregiving role. Thus, the American College of Critical Care Medicine has highlighted a need for families to be supported during the hospitalization of their relatives, particularly in intensive care units (Davidson et al., 2007). Despite the challenges experienced by family members, they have been found to play an essential role in the recovery process, suggesting that better support for family members can be translated to improved support for the burn survivor (Watkins et al., 1996). Although some studies have emphasized the importance of the challenges and needs of burn patients' families as informal caregivers, these challenges and needs vary among studies. Therefore, sorting out and summarizing these issues and challenges is necessary to provide appropriate support strategies (Goyatá & Rossi, 2009; Phillips et al., 2007).

Due to the specificity and complexity of burns, most previous studies focused on burn patients, which often ignore the needs and challenges of nurses and their families. These challenges also have a specific impact on the care of patients. Thus, it is essential to highlight the challenges facing burn care nurses and family members to elicit ways of supporting them in their roles. To this end, this review aimed to integrate existing studies to determine the challenges and needs of nurses and family members when caring for burn patients and to identify the relationship between the above challenges.

## 2 | MATERIALS AND METHODS

### 2.1 | Review design

In this review, the integrative review method proposed by Whittemore and Knafl was applied. The integrative review has been considered as a method that incorporates multiple methods, and it can potentially be of higher importance to the practice of evidence-based nursing, which is recognized to be critical to nursing science and nursing practice (Estabrooks, 1998; Evans & Pearson, 2001; Kirkevold, 1997). The review proceeded in five stages: (1) identification of problems, (2) search of literature, (3) evaluation of data, (4) analysis of data and (5) presentation. The above systematic process promotes the review to be more rigorous and improves the conclusions drawn (Whittemore & Knafl, 2005).

#### 2.1.1 | Problem identification

Since burn care is characterized by a multifaceted and unique nature, the challenges of family members and nurses of burn patients are likely to be different from those of the general ward population. Accordingly, to gain more insights into the above challenges, the guiding question proposed for the study is presented as what are the challenges facing nurses and family members of burn patients and what are the similarities and differences of the above challenges between the formal and informal caregivers.

### 2.1.2 | Literature search

In this review, a systematic search was undertaken using the databases below: Cochrane Library, Web of Science, PubMed and Embase. Since there has been a notable increase in original research in the field of burns care, the original research published from January 2010 to November 2021 was the limit of the search. Based on the search terms ('burns', 'scald', 'burn injury', 'burn trauma', 'burn wounds', 'family', 'relatives', 'family members', 'parents', 'caregiver', 'challenges', 'needs', 'demand', 'support', 'requirements', 'nurse' and 'nursing staff'), medical subheadings (MeSH), and keywords were integrated with Boolean operators AND, OR and NOT. The search strategy was adjusted in accordance with the specific database. Citations of the potential studies were hand-searched for other studies. The inclusion criteria were studies investigating the challenges of burn patients' family members or nurses from 2010 to 2021 and reported in English. Non-English articles and review articles were excluded (Figure 1).

### 2.1.3 | Data evaluation

The Endnote X9 software was used for the classification of the identified studies. After the exclusion of duplicate articles, two researchers independently read the titles and abstracts of the literature, conducted preliminary screening in accordance with the inclusion and exclusion criteria, and then read the full text for further screening. For any disagreement, the inclusion literature would be determined through mutual discussion or third-party assistance. The Mixed Methods Appraisal Tool (MMAT), a tool designed for the evaluation of qualitative studies, quantitative studies and studies using mixed methods (Pluye et al., 2009), was applied for the evaluation of the quality of the data. The MMAT includes five specific sets with five quality criteria in terms of each type of research. Accordingly, the respective type of research is judged in its methodological domain. Ratings range from 0% (no quality criteria met) to 100% (all five quality criteria satisfied) (Pace et al., 2012; Pluye et al., 2009).

### 2.1.4 | Data analysis

In general, 17 studies were summarized and systematically synthesized. Descriptive information relating to the respective studies (author and study detail) was listed in a table. Since the qualitative research highlights exploration, and quantitative research places a focus on enumeration, data integration is complex. On that basis, qualitative studies, quantitative studies and studies based on mixed methods were investigated through content analysis. Independent reading and re-reading were conducted by two researchers to reveal the phrases that represented the challenges of the family members of burn patients and burn care nurses. Next, codes were merged with similar meanings and then categorized by the researchers, and the above categories were integrated into themes corresponding to the codes and categories. The aggregated codes, categories and themes of all qualitative studies, quantitative studies and studies based on mixed methods were tableted.

### 2.1.5 | Presentation

A synthesis of the analysis of the categories and subsequent interpretation of findings indicated that the integrative review process of five stages was completed.

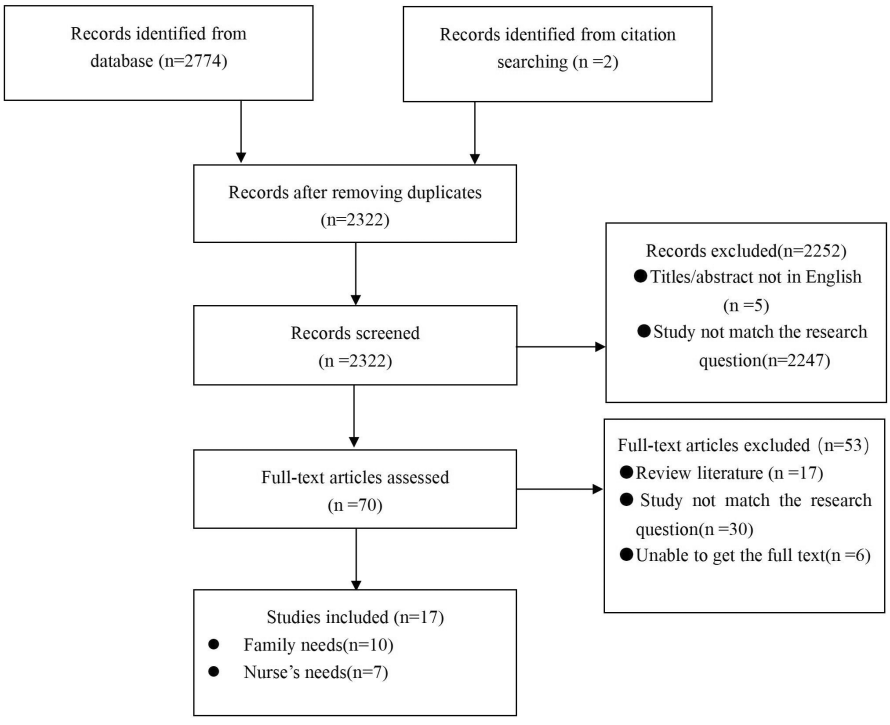


FIGURE 1 Flowchart of Study Selection.

## 3 | RESULTS

### 3.1 | Study characteristics

Among the 17 studies included, 7 studies (Bayuo, 2018; Bijani & Mohammadi, 2021; Hilliard & O'Neill, 2010; Kornhaber & Wilson, 2011a, 2011b; Shaarbafchizadeh et al., 2021; Shivanpour et al., 2020; Suurmond et al., 2012) were concerned with the challenges facing burn care nurses, and 10 studies (Bäckström et al., 2018; Boersma-van Dam et al., 2021; Bond et al., 2017; Bonsu et al., 2019; de Oliveira et al., 2015; Heath et al., 2018; Lernevall et al., 2021; Rimmer et al., 2015; Suurmond et al., 2020; Willebrand & Sveen, 2016) focused on the challenges and needs of patients' family members. The studies were conducted in 11 nations: Iran (Bijani & Mohammadi, 2021; Shaarbafchizadeh et al., 2021; Shivanpour et al., 2020), Ghana (Bayuo, 2018; Bonsu et al., 2019), the United States (Rimmer et al., 2015), Australia (Kornhaber & Wilson, 2011a, 2011b), Ireland (Hilliard & O'Neill, 2010), Norway (Lernevall et al., 2021), the Netherlands (Boersma-van Dam et al., 2021; Suurmond et al., 2020, 2012), Sweden (Bäckström et al., 2018; Willebrand & Sveen, 2016), the United Kingdom (Heath et al., 2018), Canada (Bond et al., 2017) and Brazil (de Oliveira et al., 2015). The above comprised 11 qualitative studies (Bäckström et al., 2018; Bayuo, 2018; Bijani & Mohammadi, 2021; de Oliveira et al., 2015; Heath et al., 2018; Hilliard & O'Neill, 2010; Kornhaber & Wilson, 2011a, 2011b; Lernevall et al., 2021; Shaarbafchizadeh et al., 2021; Shivanpour et al., 2020; Suurmond et al., 2012), one mixed-method (Suurmond et al., 2020), and 5 quantitative studies (Boersma-van Dam et al., 2021; Bond et al., 2017; Bonsu et al., 2019; Rimmer et al., 2015; Willebrand & Sveen, 2016). MMAT was used to evaluate the quality of the included studies, with ratings of 100% (two studies), 80% (six studies), 60% (six studies) and 40% (three studies). Table 1 lists the study characteristics.

### 3.2 | Themes related to the challenges among burn care nurses and family members

This section presents the synthesis of challenges among burn care nurses, including ethical and religious issues, clinical issues, work–life imbalance and limited support (Table 2). The challenges among family members consist of family's different views on prognosis and treatment, work–life imbalance, psychological issues and lack of multifaceted support (Table 3).

### 3.3 | Challenges related to burn care nurses

#### 3.3.1 | Ethical and religious issues

A plethora of ethical and religious issues were noted in the included studies. Respecting patients' privacy was deemed significant in this study. Due to the culture (e.g. Muslims), people are so sensitive about keeping their bodies uncovered and avoiding any physical contact with the opposite sexes, so it is necessary to respect the privacy of burn patients (e.g. providing the same gender care to patients) (Bijani & Mohammadi, 2021). However, it is not always practicable to supply patients with nurses of the same gender for nursing because the existing nurse population is still dominated by women. Secondly, studies have shown that in some developing countries such as Iran, people sometimes commit self-immolation to express their protest relate to tremendous social, economic and cultural pressure (Rezaeinasab et al., 2018; Safiri & Rezaeinasab, 2016). Nurses caring for patients with burns from self-immolation generally faced challenges due to the unique socio-cultural and religious context that frowns on the act of burning oneself. In this context, nurses are prone to struggle to maintain a religious identity that does not accept the act, and a professional identity that cares for patients regardless of the cause of injury (Bijani & Mohammadi, 2021). Furthermore, people who self-immolate may have a history of personality disorders or childhood trauma, which can lead to a wide range of physical and psychological issues, including aggressive behaviour, that nurses should be aware of and work to address (Bijani & Mohammadi, 2021; Suurmond et al., 2012). Nurses in such situations are obligated to respect patients' privacy, avoid stigmatizing them and give them the same care as patients with accidental burns. Nonetheless, these patients' disrespectful treatment of nurses presents an additional ethical difficulty for those working in burn care (Ebrahimi et al., 2012). In addition, the religious beliefs and values of burn patients should be respected, but certain religious beliefs or rituals can exacerbate the infection of the wound. For example, some Muslims believe that placing a green cloth to a patient's large burn wounds may aid in the patient's recovery in accordance with their religion. However, for nurses, these factors not only accelerate the spread of infection but may also jeopardize the health of patients (Bijani & Mohammadi, 2021). And for some patients, especially critically ill patients, some sympathetic behaviour or expression of the nursing staff can exacerbate their tension and affect their self-esteem. As a result, on the premise of not threatening the safety of patients, nurses should respect the religious identity of patients, maintain the dignity of patients (e.g. keep the patient's medical history confidential, avoid excessive sympathy for patients) (Bijani & Mohammadi, 2021) and avoid discrimination against patients. Moreover, intensive care therapies can pose particularly difficult ethical issues. Some nursing staff stated that some severely burned patients lost their confidence to live because of extreme pain, disfigurement and physical dysfunction. Some will ask the nurses to stop treatment or even euthanize them. Considering that euthanasia is illegal in several countries at the present time, nurses face a significant ethical dilemma when faced with this decision (Tuffrey-Wijne et al., 2018; van der Heide et al., 2007). Lastly, the language and culture barriers may affect burn care for patients of ethnic minorities, since it may be difficult to give instructions or communicate with the family members

**TABLE 1** Study Characteristics.

| Authors,year and country | Objective | Study design | Study population | Data collection | MMAT |
|---|---|---|---|---|---|
| Nurse's challenges | | | | | |
| Bijani and Mohammadi (2021), Iran | Ethical challenges of caring for burn patients | Qualitative study | 22 caregivers (F/M:13/9, aged 26–46 years) | Semi-structural interview | 80% of the criteria met |
| Shaarbafchizadeh et al. (2021), Iran | Resource generation challenges for burn care in Iran | Qualitative study | 21 participants | Semi-structured interview | 60% of the criteria met |
| Shivanpour et al. (2020), Iran | Nurses' experiences in the burn unit | Qualitative study | 16 participants (F/M:3/13, aged 25–40 years old) | Semi-structured interview | 60% of the criteria met |
| Bayuo (2018), Ghana | Nurses' experiences of caring for severely burned patients | Qualitative study | 7 nurses (F/M:4/3, aged 20–40 years) | Semi-structured interview | 80% of the criteria met |
| Suurmond et al. (2012), Netherlands | Potential challenges of burn care for minority children. | Qualitative study | 17 healthcare staff | Semi-structured interview | 80% of the criteria met |
| Kornhaber & Wilson, 2011a, 2011b, (Australia) | Psychosocial needs of burns nurses | Qualitative study | 7 participants (7 women, aged 25–58) | Semi-structured interview | 40% of the criteria met |
| Hilliard and O'Neill (2010), Ireland) | Nurses' emotional experience of caring for children with burns | Qualitative study | 10 nurses | Unstructured interview | 80% of the criteria met |
| Family members' challenges | | | | | |
| Boersma-van Dam et al. (2021), Netherlands | Prevalence and course of posttraumatic stress disorder symptoms in partners of burn survivors | Quantitative study | 111 participants | ①The Impact of Event Scale-Revised(IES-R)<br>②The rumination scale of the Cognitive Emotion Regulation Questionnaire (CERQ) | 80% of the criteria met |
| Lernevall et al. (2021), Norway | Parents' lived experiences of parental needs for support at a burn center | Qualitative study | Parents (n = 22) of children (4 girls and 9 boys) | Face-to-face interviews | 100% of the criteria met |
| Suurmond et al. (2020), Netherlands | Psychological distress in ethnic minority parents of preschool children with burns | Mixed-method study | ①Quantitative study:120 mothers and 106 fathers<br>②Qualitative study: 46 parents | ①Hospital Anxiety and Depression Scale (HADS) Impact of Event Scale (IES)<br>②Open-ended interview | 40% of the criteria met |
| Bonsu et al. (2019), Ghana | To investigate whether depression and anxiety mediate the relationship between social support and quality of life in severely burned patients | Quantitative study | 100 caregivers of persons with severe burns injury | ①World Health Organization Quality of Life Assessment—Bref<br>②Beck Depression Inventory<br>③Beck Anxiety Inventory<br>④The multidimensional scale of perceived social support | 80% of the criteria met |
| Heath et al. (2018), UK | Parent-perceived isolation and barriers to psychosocial support | Qualitative study | 12 parents (11 mothers) and one grandfather | Semi-structured interview | 60% of the criteria met |

(Continues)

TABLE 1 (Continued)

| Authors,year and country | Objective | Study design | Study population | Data collection | MMAT |
|---|---|---|---|---|---|
| Bäckström et al. (2018), Sweden | Family members' experiences and needs during hospitalization and after discharge | Qualitative study | 10 family members as participants (F/M:9/1) | Semi-structured interview | 100% of the criteria met |
| Family Members' Challenges | | | | | |
| Bond et al. (2017), Canada | Anxiety, depression and PTSD-related symptoms in spouses and close relatives of burn survivors | Quantitative study | 56 close relatives of adult burn survivors (31 were spouses or unmarried partners and 25 were close relatives) | ①The Hospital Anxiety and Depression Scale (HADS)<br>②The Modified PTSD Symptom Scale (MPSS) | 60% of the criteria met |
| Willebrand and Sveen (2016), Sweden | Perceived support in parents of children with burns | Quantitative study | Parents (n = 101) of children aged 0.4–17.8 years | ①The Impact of Event Scale-Revised (IES-R)<br>②Hospital Anxiety and Depression Scale (HADS)<br>③The Swedish adaptations of the Burn Outcomes Questionnaire (BOQ)<br>④The Swedish version of the Strengths and Difficulties Questionnaire (SDQ) | 60% of the criteria met |
| Rimmer et al. (2015), USA | Measuring the burden of paediatric burn injury for parents and caregivers | Quantitative study | 76 parents/caregivers of burn-injured youth | An 11-item Likert scale | 40% of the criteria met |
| de Oliveira et al. (2015), Brazil | Parents' experience confronting child burning situation | Qualitative study | Six mothers and a father | Semi-structured interviews | 60% of the criteria met |

Abbreviation: MMAT: mixed-method appraisal tool.

**TABLE 2** Challenges related to burn care nurses.

| Themes | Categories | Codes | Participant |
|---|---|---|---|
| Ethical and religious issues | Respect patients' privacy | -Provide same gender care to patients | BCN |
| | | -Protect confidentiality | BCN |
| | Respect patients' rights | -Protect patients' right to treatment | BCN |
| | | -Protect patients' right to having own values and beliefs | BCN |
| | Support patients' religious coping dilemma | -Religious beliefs enhance positive coping | BCN |
| | Cultural differences between families and nurses | -Linguistic and cultural barriers to communication | BCN |
| | Euthanasia | - | BCN |
| Clinical issues | High workload | -Uncertainty of the patient's condition | BCN |
| | Unpleasant work environment | -Smelly work environment | BCN |
| | Unfavourable working relationship | -Lack of teamwork and motivation | BCN |
| | Lack of resources | -Lack of clinical staff | BCN |
| | | -Non-compliance with the human resource to the burn bed ratio | BCN |
| Work-life imbalance | Work-life imbalance | -Physically tired at work and unmanageable housework after work | BCN |
| | | -Emotionally drained at work and nightmares while sleeping | BCN |
| | | - Heavy pressure of work | BCN |
| Limited support | Burn team support | -Peer support | BCN |
| | | -Cooperation among team members | BCN |
| | Educational support | -New skills and equipment | BCN |
| | | -Limited burn care training | BCN |
| | Psychological support | -Feeling helpless or powerless | BCN |
| | | -Feeling of anxiety | BCN |
| | | -Dealing with the emotional response | BCN |

Abbreviation: BCN: burn care nurses.

(Suurmond et al., 2012). All of the above issues are common challenges facing nurses in the ethical and religious aspects of care (Bijani & Mohammadi, 2021; Suurmond et al., 2012).

### 3.3.2 | Clinical issues

Challenges related to clinical issues describe the problems that nurses have in caring for burn patients. Nurses in burn wards generally considered that caring for them is an exhausting and time-consuming task, both physically and mentally, due to the complexity of burn patients' condition (e.g. extensive wounds) (Bayuo, 2018; Bijani & Mohammadi, 2021). Moreover, unpleasant odours may arise from burn tissue, infection or drug, complicated with a high risk of infection pose further challenges to nurses (Shivanpour et al., 2020). For those patients relying totally on nursing care in the BICU will exhaust nurses' physically and mentally while providing 24-hour monitoring, specialized care of airway, scar, positioning (Bayuo, 2018), hygiene and other burn-related care and also psychological care. Furthermore, for patients

TABLE 3 Challenges related to family members.

| Themes | Categories | Codes | Participant |
|---|---|---|---|
| Family's different views on prognosis and treatment | Patients' religious coping dilemma | -Fate-nothing can be done | FM |
| | | -Religious beliefs overrule doctors' comments | FM |
| Work-life imbalance | Work-life imbalance | -Difficulties in balancing work–family- additional medical appointments and home care | FM |
| | | -Difficulty in finding time just to "be myself" | FM |
| | Daily life problems and difficulties | -Financial difficulties | FM |
| | | -Accommodation and traffic issues | FM |
| Psychological issues | Emotional disturbance | -Guilt and anxiety feelings: the Swedish version of the Strengths and Difficulties Questionnaire (SDQ) | FM |
| | | -Physical and psychological isolation: Threatening Experiences Questionnaire (LTE-Q); Injury-specific fear-avoidance | FM |
| | | -Symptoms of depression: the Hospital Anxiety and Depression Scale (HADS) | FM |
| | | -Posttraumatic stress symptoms: the Impact of Event Scale (IES) | FM |
| | | -Modified PTSD Symptom Scale—self-report | FM |
| Lack of multifaceted support | Psychosocial support | -Professional support | FM |
| | | -Support from someone who shares the same experience | FM |
| | | -Support from society | FM |
| | Information needs | -About the patient's condition | FM |
| | | -About ways to handle patients' situations after discharge | FM |

Abbreviation: FM, family members of burn patients.

who are dying, besides meeting the patients' needs, nurses also should respond to the needs of the family (Bayuo, 2018). However, many nurses, preoccupied with their own work, fail to communicate with them immediately, which might exacerbate family members' preconceived notions about nurses (e.g. feeling that appropriate care is not provided). In addition, Shaarbafchizadeh et al. discovered that some nurses were forced to work in the burn department, resulting in a lack of motivation during work. And other nurses decided to leave due to the intense workload, lack of financial support and uneven ratio of beds and nursing staff. Nurses in the burn unit experienced higher rates of burnout when staffing levels were inadequate and there was a mismatch between the number of nurses and the number of available beds (Bijani & Mohammadi, 2021). Moreover, the challenge for clinical care is augmented when there is the lack of burn team coordination among the treatment activities offered by different members of the team (Shivanpour et al., 2020). The above issues may have an effect on the nurse's work motivation and bring physical and psychological stress to nurses.

### 3.3.3 | Work–life imbalance

Work–life imbalance has been reported to be common among nurses, whereas it is more significant among burn nurses. Burn care nurses have been noted to undergo work–life imbalances arising from the intense care they deliver and the resulting emotional and physical exhaustion, which often trickled to other areas of their lives. The included studies show that nurses are generally between the ages of 20 and 50. Nurses in this age group will face the problem of taking care of children and the elderly, which is also an important reason for work–life imbalance. The heavy workload and irregular schedules often changed their lifestyles, and this change may lead to their neglecting or relegating other family responsibilities. Furthermore, patients' emotion also affects the nurses' mood. Some of the interviewed nurses indicated that patients' mistrust occasionally worsened their strain, and some nurses even experienced nighttime nightmares that had a significant influence on their lives and careers. It is important for nurses to take measures such as psychological support or counselling to realign work–life balance (Shaarbafchizadeh et al., 2021; Shivanpour et al., 2020).

### 3.3.4 | Limited support

Since nurses are at the heart of multidisciplinary burn care teams, they may experience greater levels of stress but receive limited support. In existing studies, burn care nurses said they needed support in caring for burn patients. This includes the availability of avenues for stress reduction that may be lacking. Some studies have demonstrated that many nurses endure great stress when confronted with serious burns or even the death of a patient. However, because

of their extensive responsibilities, they are unable to effectively relieve these stresses (Bayuo, 2018). Besides, although a multidisciplinary team is required in the care of the burn patient, burn care nurses may not always receive support in their roles (Kornhaber & Wilson, 2011a, 2011b). As a result, the support from colleagues was helpful in several ways (e.g. sharing the workload or a supportive presence in difficult times). Additionally, support for burn care nurses to upgrade their skills or learn how to operate new gadgets may be lacking. Numerous burn care nurses highlighted their need for new training, learning new equipment and new skills to improve their ability to care for patients with burns (Bayuo, 2018; Kornhaber & Wilson, 2011a, 2011b; Shaarbafchizadeh et al., 2021; Shivanpour et al., 2020). However, most studies indicated that such training was minimal (Shaarbafchizadeh et al., 2021). Lastly, nursing practice induces a myriad of emotions in nurses. Some nurses expressed feelings of helplessness and guilt when they failed to alleviate the suffering of their patients (Hilliard & O'Neill, 2010). Helping nurses secure multifaceted support during work will improve the care received by burn patients.

## 3.4 | Challenges related to family members

### 3.4.1 | Family's different views on prognosis and treatment

Some parents caring for their children with burns considered that the outcome of their injury was controlled by God, instead of the parents themselves, and some even considered that it was God's test on them, which would cause difficulties in the hospital's treatment. In addition, due to their children's burns, some minority parents expressed a need for psychosocial aftercare but encountered barriers because of their beliefs; a considerable number of people still do not disclose or secretly go to psychological counselling even if they need psychological support (Suurmond et al., 2020). Furthermore, some nurses consider that religious beliefs can prevent parents from feeling guilty, which, according to these nurses, is the reason why parents of ethnic minorities often do not apply for psychosocial care(Suurmond et al., 2012). However, the included study is only for the parents of children suffering from burns, and the correlation between the religious beliefs and treatment of the families of adult burns has rarely been mentioned.

### 3.4.2 | Work–life imbalance

Family members of the patients in general wards experience burdens (e.g. caring for the patient, working and studying). However, arising from the complexity of burns, family members pay more attention to the situation of burn patients during their hospitalization and actual problems (e.g. the outcome after discharge and rehabilitation). The problem of work–life imbalance among family members of burn patients turns out to be significant. Challenges to work–life balance for family members of burn patients were primarily attributed to the imbalance between work, family responsibility and caring for burn patients. Some people stated that the challenges imposed on their routine could be barriers to them (e.g. trying to balance working life and study) (Heath et al., 2018). Many family members had to reduce working hours or stop working completely to care for their injured relatives, thus probably resulting in financial difficulties. In addition, due to the scarcity of medical facilities in some regions, these people often have to travel great distances to reach burn specialist hospitals. Additional costs such as transportation and accommodation are also important reasons for aggravating economic problems (Heath et al., 2018). Some parents also found that most of their time was spent in caring for family members in hospitals, maintaining the home, going to work and caring for other family members without any injury. However, some family members will choose to prioritize accompanying the injured patient, leaving other family members neglected (e.g. siblings of burn patients). The above situations left them little time to consider their own needs (de Oliveira et al., 2015; Heath et al., 2018; Lernevall et al., 2021).

### 3.4.3 | Psychological issues

Due to the sudden nature of the injury and commonly prolonged hospitalization, family members of burn patients often had mental health issues. Almost all parents felt guilty upon arrival, including those not on the scene of the accident, since they felt that they had failed to protect their family members (Lernevall et al., 2021). In addition, some family members felt hopelessness, sadness and irritability, while worrying about the possible consequences of burns (e.g. sexual problems and even death) (Heath et al., 2018). Thus, numerous family members were anxious, expressed guilt and grief when facing their injured family members. Some burn patients were treated in intensive care units where visits were not allowed because of their injury severity (Bäckström et al., 2018; de Oliveira et al., 2015; Heath et al., 2018; Lernevall et al., 2021), many family members felt a sense of physical and emotional isolation (Heath et al., 2018). Furthermore, some quantitative studies investigated the family psychological issues using various tools, including the Hospital Distress Anxiety and Depression Scale (HADS), Modified PTSD Symptom Scale (MPSS) and Impact of Event Scale (IES) (Bond et al., 2017; Rimmer et al., 2015; Suurmond et al., 2020; Willebrand & Sveen, 2016). The above tools confirmed that many family members of burn patients are affected by guilt, shame and blame; in severe cases, they may even experience post-traumatic stress disorder.

### 3.4.4 | Lack of multifaceted support

While facing different challenges, family members of burn patients may also require ongoing support from other family members, friends, hospital staff and even people sharing the same experience. Most family members received support from their

families, including those of ethnic minorities (Bäckström et al., 2018; Lernevall et al., 2021; Suurmond et al., 2020). Due to the complex nature of the burns, some family members also said they were left in a state of confusion and uncertainty because they did not know the patient's condition when they visited the burn center or how they should respond to the questions raised by the patient. Besides, some family members stated that professional psychological counselling might alleviate their anxieties after witnessing the injuries of burn patients. However, only two of the included studies mentioned that hospitals would provide such services, so psychological problems are also obstacles for them to obtaining support (Heath et al., 2018; Lernevall et al., 2021). To enable the family members to make informed choices, they considered that sufficient information regarding patients during hospitalization and after discharge is very important, but the limited information provided by professionals or sometimes not meeting their needs may exacerbate their sense of confusion (Bäckström et al., 2018; Lernevall et al., 2021; Suurmond et al., 2020). In addition, some people considered that support from people with similar experience and internet resources could help alleviate their anxiety (Heath et al., 2018). Furthermore, arising from cultural and language differences, some family members of ethnic minorities mentioned the low social support during the recovery period due to the family's residence in the country of origin (Suurmond et al., 2020).

## 4 | DISCUSSION

Since the healthcare system aims to improve patient and family outcomes, overcoming the challenges for family members and nurses to provide better clinical services and family support is of high importance to the prognosis and recovery of patients. Thus, the evolving challenges of burn care nurses and family members can negatively affect patients if not identified and managed. Accordingly, this review aimed to identify the above challenges among nurses and family members of burn patients. Although family members and burn care nurses may play varying roles, both groups have a shared need of requiring professional support.

Findings from the review show that burn care nurses are affected by ethical and religious issues, clinical issues, work–life imbalance issues and limited support. The above challenges highlight the need for support as they navigate the caring process for a burned patient. Despite differences in the intensity, sources and their ways of overcoming the above challenges, factors related to heavy workload, lack of team support, unpleasant environment and their unstable emotion are common. The themes of ethical and religious issues suggest that caring for burn patients will face various ethical challenges in clinical practice, particularly in countries with particular religious beliefs, such as Iran. Some studies have highlighted the significance of respecting patients' privacy and maintaining their dignity across cultural boundaries (Bagheri et al., 2012). However, nurses often fall short in providing proper care to retain patients' dignity due to the complexity of burn care and the issues they experience in clinical practice, such as shortage of staff, bed-to-staff imbalance and severe workload (Mason et al., 2014). Some religious beliefs and cultural differences may also increase clinical infection. Therefore, it is recommended that nursing staff respect patients and provide quality treatment without breaking clinical regulations. Additionally, euthanasia is also the most prominent ethical challenge nurses face in clinical decision-making (Bijani & Mohammadi, 2021). Due to the absence of pertinent euthanasia regulations in some countries, nurses have a dilemma when patients request cessation of treatment or euthanasia (Lernevall et al., 2021). Besides, in the absence of support commensurate to their needs, burn care nurses may be at risk of vicarious suffering, fatigue and secondary traumatic stress. To overcome the above challenges, more burn nurses should be trained to reduce individual nurses' workloads, adequate human resource management is required, and nurses' legitimate days off and holidays should be recovered (Bayuo et al., 2019; Shivanpour et al., 2020), chances should be given to nurses to express their emotions through counselling (Bayuo et al., 2019; Bijani & Mohammadi, 2021; Cronin, 2001; Kornhaber & Wilson, 2011a, 2011b; Shivanpour et al., 2020; Silva et al., 2016), professional courses and conferences should be provided to better equip them for the job (Bijani & Mohammadi, 2021), and peer support is also required. Moreover, burn care nurses should be given relevant psychological counselling, which is also an effective means to alleviate their stress. Studies have demonstrated that nurses would benefit greatly from access to regular psychological counselling services at their hospitals (Kornhaber & Wilson, 2011a, 2011b; McClendon & Buckner, 2007). For the BICU nurses, their challenges may be higher than nurses in the general wards since patients in the ICU may have higher acuities and more needs. In addition, critically ill patient's care demands are generally higher, thus further aggravating the physical and emotional exhaustion of BICU nurses (Carlson, 2013; Rachel Anne Kornhaber, 2009). On that basis, mutual peer supports and relevant education and training are required (Bayuo, 2018). Bayuo indicated that most nurses have no experience in caring for burn patients before entering the burn ward, so ongoing institutional support should be ensured (Bayuo, 2018; Bayuo et al., 2019). It is very important for colleagues and institutions to provide physical, mental, emotional, professional and organizational support to develop the above nurses for burn care. In contrast to the above findings, the review indicated that support may now be lacking, raising concerns for the well-being of burn care nurses. In the absence of support, the exhaustion can culminate into compassion fatigue and adversely impact the quality of care.

The challenges of burn patients' families are primarily revealed in psychological issues, daily living and information needs (Lernevall et al., 2021; Wetzig & Mitchell, 2017). The literature included in this study reported that the majority of family members of burn patients had some psychological issues (e.g. guilty, anxiety and depression), and even worse, would cause PTSD symptoms, with spouses and parents of burn patients constituting the majority of the population (Boersma-van Dam et al., 2021; Bond et al., 2017; Bonsu et al., 2019; Rimmer et al., 2015; Suurmond et al., 2020;

Willebrand & Sveen, 2016). In addition, due to the strict hygienic regulations in burn wards, some parents of burn children or severe burn patients are often isolated from their children. The parents' singular attention on the patient's condition causes them to frequently overlook their own basic needs (e.g. eating, drinking water and resting). However, according to Maslow's hierarchy of human needs, higher needs can be achieved only when physiological needs are met (Jackson et al., 2014). Thus, it is recommended that family-centered care can be supported by sharing and updating information on patients' condition, medical and social resources to care, teaching particular caring techniques, listening to their concerns and investigating ways to find support from family, friends and even medical and social institutions (Bayuo & Wong, 2020; Lernevall et al., 2020; Wetzig & Mitchell, 2017). However, unlike the family members of children burn patients, the family members of adult burn patients may have study and work challenges. They may serve as caregivers and assume additional responsibilities while the family members are injured, thus probably affecting their studies and work (Bayuo & Wong, 2020). To address the above challenges, it is necessary for other family members or relevant social institutions to provide support to help ease the burden of changing roles (Bäckström et al., 2018; Bayuo & Wong, 2020). In addition, some family members of ethnic minority patients mentioned that information communication was the main barrier they encountered during hospitalization due to language, culture and other issues (Suurmond et al., 2020). Therefore, when facing family members of ethnic minority patients, medical staff should treat and care for them on the premise of respecting their culture and beliefs. Translation or other support should be offered to family members of patients with different languages or cultural backgrounds in information communication. Given the challenges facing family members, nurses should cater the needs of patients and their family members. Accordingly, further research is required to determine what type of support should be provided, in what form and when to provide such support.

In this review, the challenges identified by nurses and family members were similar, yet there were also differences. For instance, nurses and family members faced similar challenges but had different points of concern related to balancing work–life, ethical-religious coping and psychological issues. The challenges facing nurses and family members were interactive and affected the counterparties and the patient care. For clinical issues, family members who took their religious viewpoint to understand the cause and prognosis of burn did not cooperate with nursing management. Moreover, burn care nurses and family members share a common concern for maintaining patients' dignity in clinical issues. Important factors that threaten the dignity of victims include the conflict between religious issues and clinical treatment and the possibility of permanent impairment of physical function, scarring and disfigurement in the case of severely burned patients. Therefore, it is suggested that nurses and family members should treat these patients kindly, avoid mocking or insulting them and respect their privacy (Matiti & Trorey, 2008; Webster & Bryan, 2009). Besides, patients and their family members may be neglected to a certain extent due to the heavy workload of the burn ward and the insufficient number of nurses, and the family members may face certain physical and psychological difficulties, thus negatively affecting the mood of patients (Bijani & Mohammadi, 2021). For the challenges to work–life balance, both nurses and family members will have work–family imbalance, thus exerting a certain effect on patients' outcome. In addition, the burn care nurses and the family members of burn patients need support from plentiful aspects to satisfy their own needs. For the family members of burn patients, since numerous patients are discharged earlier than expected, nursing staff underestimates the challenges of patients and their family members after discharge, thus hindering the recovery of patients (Heath et al., 2018). As a result, for family members of burn patients, information needs are at the core of the above challenges. Some family members explained that they wanted to receive positive or negative information about the patient's condition because it would give them a sense of security. However, due to the heavy workload and other reasons, nurses sometimes have no time to take care of these needs. In addition, cultural and linguistic obstacles can impede communication between nurses and family members (e.g. medication guidance and follow-up appointments), hence decreasing patients' treatment adherence (Lernevall et al., 2020; Suurmond et al., 2012). Therefore, the information needs of family members of burn patients may pose a challenge to nurses in the burn department. Thus, the above challenges should be addressed and measures should be taken to meet their needs, such as balancing the work pressure in burn wards, improving the working environment, and meeting the reasonable needs of burn care nurses and family members, to more effectively care for patients and facilitate their recovery. Moreover, further research is required to determine when and how nurses should provide appropriate information to the family members of burn patients.

In addition, the relationship between the above challenges should be highlighted. First, both the nurses and the family members of the burn patients play the role of caregiver in the process of caring for burn patients. There is a difference that nurses are professional caregivers. They only take care of patients during working hours until patients are discharged, and they can always maintain a rational attitude when caring for patients. In contrast, family members may be overconcerned and become irrational while the patient is hospitalized. Given the nature of burns, the role played by family members extends beyond the hospital stay (Bayuo & Wong, 2020). The above informal caregivers were found confused in the absence of professional support (Lernevall et al., 2020). Second, for psychological issues, since nurses have been in the burn ward for a long time, their ability to adapt and cope with pressure will be gradually enhanced with the length of work and experience (Kornhaber & Wilson, 2011a, 2011b). However, impacted by the sudden nature of burns, the changes in the psychological needs of family members are sudden, so the adaptability and stress-coping ability of the family members may be worse than that of the nurses. Besides, the strategies for addressing the physical and mental rehabilitation of patients' family members should be explored in depth (Sundara, 2011). Last, it is

the need for information. As professional caregivers, nurses require information regarding how to more effectively care for patients. They can acquire information by reviewing literature, attending conferences and consulting professionals. For the family members of patients, they are concerned about patients' recovery, and they need medical staff to provide timely information regarding patients (Lernevall et al., 2021). In addition, due to concerns about the condition of burn patients and the environment of the burn ward, both the nurses and family members of burn patients may cause some neglect to their families. The above issues should be investigated in depth.

In brief, nursing staff and family members have shown different challenges when facing burn patients. Although different reasons result in a wide variety of problems, burn patients have the most contact with nursing staff and family members during their hospitalization and after they are discharged. Thus, active countermeasures should be taken to solve the challenges of nurses and patients' family members, promote patient recovery and improve the quality of life of patients.

### 4.1 | Strengths and limitations

The strength of this review is that it summarizes the challenges of the families and nursing staff of burn patients, respectively, and describes the correlation of the above challenges, which provides a direction for further research and implications for clinical practice. Also, qualitative and quantitative studies were included in this review to provide a comprehensive description of the challenges of the family members and nurses of burn patients. However, this review still had some limitations. First, non-English articles were excluded; Second, most of the studies focusing on family members include mostly parents of burn patients but with limited attention to other family members which offers limited understanding of what other relatives experience following a burn injury. Despite the above limitations, the results of the review can provide a reference for future research and more significantly support the family members and nursing staff of burn patients.

## 5 | CONCLUSION

Burn patients have been reported as one of the most vulnerable individuals, and caring for burn patients is recognized as a challenging activity. This synthesis of 17 studies highlights the challenges encountered by burn care nurses and family members of burn patients over the past decade. Although there has been global progress in the treatment of burn patients in recent years, the results showed that burn nurses and family members of burn patients continue to confront major problems. The challenges faced by burn care nurses include ethical and religious issues, clinical issues, work–life imbalance and limited support. Furthermore, the challenges among family members include the family's different views on prognosis and treatment, work–life imbalance, psychological issues and lack of multifaceted support.

As revealed by the findings of this review, the interactive nature of different challenges of burn care nurses and family members requires the attention of health care providers. In-depth research should be conducted to explore interventions to help nurses and family members overcome the challenges in caring for burn patients in the hospital and at home after discharge.


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## CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

## DATA AVAILABILITY STATEMENT

This is a integrative review of the published literature.We relied solely on publicly available information.References of articles used in this evidence synthesis are provided throughout the paper. The papers analyzed are available to the public.

## ETHICAL APPROVAL

Ethical approval was not required.


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