Research Article

Burnout Among Nurses Working in Critical Care Units in Africa: An Integrative Review

Rodwell Gundo, PhD, MSc, UCM, BScN[1]; Chisomo Mulenga, MSc, UCM, BScN[1]; Blessings Chiluzi, MSc, UCM, BScN[1]; Netsayi Gowero, MSc, BScN[1]; Beatrice Gundo, MSc, UCM, BScN[2]; Gervasio Nyaka, MED (PPL), BED[1]; Felix Chisoni, BSc, Msc[1]

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[1] School of Nursing, Kamuzu University of Health Sciences, Malawi.
[2] Kamuzu Central Hospital, Lilongwe. Malawi
Corresponding author: Rodwell Gundo @ rgundo@kuhes.ac.mw

ABSTRACT

Background: Burnout is a syndrome resulting from chronic workplace stress that has not been effectively managed. The level of burnout that is experienced by nurses varies according to geographical region and specialties, such as paediatric and critical care nursing. However, little is known about burnout among nurses in African critical care units.

Aim: To explore the available evidence on burnout among nurses in African critical care units.

Methods: The review was guided by the Whittemore and Knafl framework for integrative review. Literature was searched in Web of Science, Embase, PubMed, and SCOPUS databases. The search strategy applied Boolean operators AND, OR using the following key terms: critical care nurses, burnout, and Africa. The alternative keywords were: nurs*, OR intensive care nurses OR Critical Care Nursing OR Intensive Care Nursing OR critical care nurs* AND "burnout syndrom*depersonalis/zation" OR "emotional exhaustion, workplace stress, Occupational Stresses, Professional Stress, Job-related Stress" AND specific names of the African countries.

Findings: The review included eighteen articles. Two hundred and forty-nine nurses (n = 2,249) who work in critical care settings participated in the studies. The findings showed that nurses in critical care settings experience moderate to high levels of burnout, with emotional exhaustion being a common characteristic. Burnout is associated with factors related to the individual, work, and organization. The consequences of burnout include secondary traumatic stress, intention to leave the job, and increased risk of infection to the patient.

Conclusions: The review has significant implications for nursing at various levels. The findings provided could inform future research and interventions to reduce burnout among critical care nurses in Africa.

Keywords: Critical care nursing; burnout, professional; depersonalization; burnout, psychological;low resource countries

INTRODUCTION

The World Health Organization declared burnout as an occupational phenomenon and included it in the 11th revision of the International Classification of Diseases. 11th edition, in 2019 (World Health Organization, 2019). It is a syndrome that results from chronic workplace stress that has not been effectively managed (World Health Organization, 2019; Zeng et al., 2020). Characterized by exhaustion, increased mental distance from one's job and reduced professional efficacy, the syndrome is attributed to chronic exposure to work-related demands, lack of job resources, and personal traits (World Health Organization, 2019; Zeng et al., 2020). Compared to other health professionals, nurses experience high levels of burnout (Ghahramani et al., 2021).

Literature shows that burnout worsened among nurses during the COVID-19 pandemic. The nurses experienced psychological pressure as they cared for the increasing number of critically ill patients with COVID-19. Sadly, some nurses committed suicide in Italy because of the stress (Ali et al., 2020). Other studies revealed that nurses in Wuhan experienced decreased appetite, fatigue, difficulty in sleeping, nervousness, frequent crying, and suicidal thoughts during the pandemic (Liu et al., 2022; Shen et al., 2020; Yörük & Güler, 2021). Furthermore, younger nurses with no experience in caring for critically ill patients experienced greater psychological stress (Shen et al., 2020).

The levels of burnout also vary according to geographical regions and specialties. For example, there are high levels of burnout among nurses in sub-Saharan Africa compared to Europe and Central Asia (Dubale et al., 2019; Moss et al., 2016; Woo et al., 2020). With regards to specialty, paediatric nurses and critical care nurses have the highest burnout symptoms (Moss et al., 2016; Woo et al., 2020). In ICU, burnout is attributed to huge workload, long term fatigue, infection threat, frustration with the death of patients, anxiety and misunderstanding with some colleagues, patients, and their families (Ntseke et al., 2023; Shen et al., 2020). This has serious consequences for patients, other healthcare workers and the healthcare organization (Moss et al., 2016; Woo et al., 2020). Unfortunately, there is a lack of psychological support for the nurses in some hospitals (Ntseke et al., 2023).

Despite its prominence during COVID-19 pandemic and in critical care practice, burnout has not received great attention in low-and-middle income countries (LMICs) as it is in high-income countries (Dubale et al., 2019). There are unique aspects in LMIC, and there are even more unique

aspects in Africa (Dubale et al., 2019), therefore the focus of this review. Critical care practice in the region is characterized by a shortage of well-trained staff and resources, which negatively impacts nursing care (Carter & Snell, 2016; Gundo et al., 2019). It is expected that the findings will provide critical insights into the prevalence of burnout and inform strategies to reduce it among the nurses in critical care settings across Africa.

Aim

To explore the available evidence on burnout among nurses in critical care units in Africa.

METHODS

Design

The review of literature was guided by the Whittemore and Knafl framework for integrative review. The stages of the framework are as follows: problem identification, literature search, data evaluation, data analysis, and presentation (Whittemore & Knafl, 2005).

Search strategy

Literature was searched in Web of Science, Embase, PubMed and SCOPUS databases. We also searched for gray literature and relevant articles in the reference lists of the identified articles and reports. The PCC (Population [or participants]/Concept/Context) Framework was used to identify the search terms. The strategy applied Boolean operators AND, OR using the following key terms, critical care nurses, burnout, and Africa. The alternative key words were: nurs*, OR intensive care nurses OR Critical Care Nursing OR Intensive Care Nursing OR critical care nurs* AND "burnout syndrom*depersonalis/zation" OR "emotional exhaustion, workplace stress, Occupational Stresses, Professional Stress, Job-related Stress" AND specific names of the African countries. Details of the search for each database are presented in Table 1 below.

Data screening

The identified articles were exported to a free online app, Rayyan for screening (Ouzzani et al., 2016). The app helps to expedite the initial screening of titles and abstracts. After removing the duplicates, two independent reviewers (RG and CM) screened the titles and abstracts to reduce bias. In cases where the two disagreed, a third reviewer was invited to resolve the differences. The full text of the identified articles was searched in Google Scholar. This process is summarized in Figure 1 below.

Study selection

The inclusion criteria were primary research conducted in Africa and reported about burnout and associated factors among nurses in critical care settings; original research published in English in the past ten years (2013 to 2023). The decision on the publication period was pragmatic given limited literature specific to Africa. The exclusion criteria included articles whose full text could not be accessed.

Data evaluation

The Critical Appraisal Skills Program (CASP) tools for cohort (Critical Appraisal Skills Programme, 2018a) and qualitative studies (Critical Appraisal Skills Programme, 2018b) were used to assess the methodological quality of the included studies. The cohort study checklist comprises 12 questions addressing three broad issues: are the study results valid? (Section A) what are the results? (Section B) and will the results help locally? (Section C). The qualitative study checklist has ten questions related to similar broad issues: are the study results valid? (Section A), what are the results? (Section B), and will the results help locally? (Section C).

Data extraction

Data were extracted from the included articles by the first two authors (RG and CM). As earlier indicated, a third reviewer was invited to resolve the differences in cases where the two disagreed. The extracted information included the following: (a) author, year, and country (b) objective of the study (c) Methods, i.e., study design, study setting, sample size, tools used for data collection, age, and gender of the participants (d) findings.

Data analysis

The constant comparison method was used to analyze the data as proposed by (Whittemore & Knafl, 2005). The steps are as follows: data reduction, data display, data comparison, and conclusion drawing and verification.

RESULTS

The initial search yielded 98 articles from the databases and manual search. After removing duplicates, articles published only as abstracts, articles published in non-English languages, and articles not related to burnout among nurses in critical care settings, 18 articles were included in the review. The process is summarized in Figure 1. The included studies and report complied with most of the items in the Critical Appraisal Skills Program (CASP) checklists. None of the studies was excluded due to

limited published literature specific to burnout among nurses in African critical care settings.

Sixteen articles (88.9%) were quantitative studies while the other two were mixed methods and qualitative studies. As presented in Table 2, most of the studies (n = 5, 27.8%) were conducted in South Africa (Barnard et al., 2023; Mtsoeni et al., 2023; Naidoo & Schoeman, 2023; Ndlovu et al., 2022; Shelton, 2023) followed by Egypt, n = 4, 22.2% (El-Ashry et al., 2023; Fattah et al., 2023; Mosallam et al., 2015; Othman et al., 2023) and Ghana, n = 3, 16.7% (Boateng et al., 2021; Nyarko et al., 2024; Opoku et al., 2023). The other studies were conducted in Zimbabwe (Chitura & Chitura, 2014), Rwanda (Cishahayo et al., 2017), Tanzania (Lwiza & Lugazia, 2023), Morocco (Chahbounia & Gantare, 2023) Somaliland (Noah & Potas, 2022) and Botswana (Mushonga & Dube-Mawerewere, 2017).

Two thousand two hundred and forty-nine nurses (n = 2,249) who work in critical care settings participated in the studies. Except for the study by Chahbounia and Gantare (2023), where male participants outnumbered females, most participants in the other studies were female, ranging from 58% (El-Ashry et al., 2023) to 96.2% (Shelton, 2023). The settings included general, neuro, trauma, medical cardiothoracic, and paediatric ICUs, as well as high dependency unit. Most studies (n = 11, 61%) used the Maslach Burnout Inventory to assess the level of burnout among the nurses. The other tools were Burnout Assessment Tool, Professional Quality of Life 5 tool (ProQoL-5), Job Demands-Resources Scale, Capability Set for Work Questionnaire, Five-facet mindful questionnaire, Self-compassion questionnaire, Wong and Law's Emotional Intelligence Scale and Stress Scale. In one study, the researchers used a self-administered questionnaire. Five studies were conducted before COVID-19, four studies during the pandemic, five studies after COVID-19 while four studies did not indicate the period for data collection. The findings are summarized as follows: level of burnout among the nurses, individual-related factors, work-related factors, organization-related factors associated with burnout and consequences of burnout.

Level of burnout among the nurses

Most articles reported that the nurses experienced moderate to high levels of burnout (Boateng et al., 2021; Chahbounia & Gantare, 2023; Chitura & Chitura, 2014; Cishahayo et al., 2017; Fattah et al., 2023; Lwiza & Lugazia, 2023; Mosallam et al., 2015; Naidoo & Schoeman, 2023; Ndlovu et al., 2022; Nyarko et al., 2024; Shelton, 2023). Emotional exhaustion was the most predominant characteristic of burnout (Abdo et al., 2016; Boateng

et al., 2021; Chahbounia & Gantare, 2023; Chitura & Chitura, 2014; Cishahayo et al., 2017; Lwiza & Lugazia, 2023; Mosallam et al., 2015; Naidoo & Schoeman, 2023; Opoku et al., 2023; Othman et al., 2023). The other manifestations were disillusionment, depersonalization, and low personal accomplishment (Boateng et al., 2021; Chahbounia & Gantare, 2023; Chitura & Chitura, 2014; Cishahayo et al., 2017; Opoku et al., 2023; Othman et al., 2023). However, one study by Mushonga and Dube-Mawerewere (2017) reported low burnout and was attributed to supportive supervision in the critical care unit. The burnout was associated with several individual, work and organization related factors.

Individual related factors

One study Lwiza and Lugazia (2023) reported that burnout was associated with the individual's social life such as, few night-time sleeping hours, tobacco use, and a lack of regular exercise. In addition, Naidoo and Schoeman (2023) observed that specialist professional nurses experienced high emotional exhaustion and depersonalization. Furthermore, Fattah et al. (2023) noted a highly negative correlation between burnout scale and emotional intelligence. However, four studies did not establish any relationship between the level of burnout and the following individual characteristics of the individual: age, gender, educational level, work experience, professional development (pursuing of further studies), nursing category, marital status, number of living children, level of education, marital status, and service area (Chitura & Chitura, 2014; Cishahayo et al., 2017; Lwiza & Lugazia, 2023; Ndlovu et al., 2022).

Work related factors

The following factors were identified as causes of burnout, poor conditions of work, work overload, emotionally upsetting situations, work-related violence, work burden, inadequate nursing staff, and lack of recognition of the profession. The studies further found that conflicts with colleagues and managers, too frequent night duties, not being appreciated by nurse managers, inadequate resources, and bad attitude of colleagues and involvement in resuscitation were also responsible for burnout (Barnard et al., 2023; Boateng et al., 2021; Cishahayo et al., 2017; El-Ashry et al., 2023; Lwiza & Lugazia, 2023; Mushonga & Dube-Mawerewere, 2017; Ndlovu et al., 2022). In the study by Ndlovu et al. (2022), nurses caring for one patient experienced lower burnout than those who cared for more than one patient.

In addition, Barnard et al. (2023) reported that challenge demands (such as, *my job requires me to work hard*) were statistically significantly and

positively related to three dimensions of burnout namely, exhaustion, mental distance, and cognitive impairment. Hindrance demands (such as, *I have to go through a lot of red tape to get my job done*) were statistically significantly related to dimensions of burnout namely, exhaustion, mental distance, cognitive impairment, and emotional impairment. Four job resources (co-worker relations, supervisor relations, autonomy, and equipment) were negatively related to the four dimensions of burnout.

Organization related factors

There was no significant relationship between burnout and the following organization-related factors: remuneration, lack of recognition of the profession and workplace autonomy (Barnard et al., 2023; Boateng et al., 2021; Lwiza & Lugazia, 2023). However, the study by Barnard et al. (2023) reported a significant negative relationship between exhaustion and mental distance, on one hand, and earning a good income. Furthermore, Nyarko et al. (2024) observed that lack of policies on management of alarms in the critical care unit contributed to alarm fatigue which led to severe burnout.

Consequences of burnout

Burnout was positively correlated to secondary traumatic stress and intention to leave (Cishahayo et al., 2017; Shelton, 2023). Similarly, Mosallam et al. (2015) reported statistically significant correlation between emotional exhaustion and turnover intention. In addition, Noah and Potas (2022) observed that nurses with high burnout levels had 3.7 times higher risk of neonates under their care being diagnosed with nosocomial infection. In addition, stress level of nurses increased the incidence rate of neonates being diagnosed more than once with nosocomial infection by 3.2 times.

DISCUSSION

The aim of this study was to explore the available evidence on burnout among nurses in critical care units in Africa. The findings showed that (a) nurses in critical care settings in Africa experience moderate to high levels of burnout, with emotional exhaustion being a common characteristic (b) burnout is associated with factors related to the individual, work, and the organization (c) the consequences of burnout include secondary traumatic stress, intention to leave the job and increased risk of infection to the patient.

The level of burnout and emotional exhaustion is consistent with results from other countries outside Africa such as Brazil (Fernandes et al.,

2017), and India (Kumar et al., 2021). The findings of the review support the assertion that the critical care environment is emotionally challenging and conducive for the development of burnout among the nurses. It occurs as a manifestation of the emotional price of caring for the critically ill (van Mol et al., 2015). It is also worth noting that most of the studies included in the review were conducted during and after the COVID-19 pandemic. It is possible that the pandemic aggravated the nurses experience of burnout. Several studies on the impact of COVID-19 pandemic confirmed that the pandemic caused an increasing trend of burnout among the nurses (Galanis et al., 2021; Ge et al., 2023). This highlights the urgent need to explore strategies of addressing burnout among the nurses in preparation for future pandemics.

There are conflicting findings on the influence of individual characteristics on the development of burnout. Most of the reviewed articles did not demonstrate significant association between the individual's characteristics and burnout. This is consistent with findings of other studies in other countries outside Africa. For example, the previously cited study by Fernandes et al. (2017) reported that gender did not affect the development of burnout among critical care nurses in Brazil. However, this is contrary to other studies which reported that burnout is influenced by demographic characteristics of the nurses such as gender, age, marital status, educational level, years of experience, professional title, and language (Galanis et al., 2021; Kumar et al., 2021; Zeng et al., 2020). The lack of clarity on the influence of the individual characteristics could be explained by differences in personal qualities, such as resilience and environmental factors such as culture (van Mol et al., 2015). Further research on the risk factors is required to inform appropriate strategies to address burnout among the nurses in different settings.

The findings on work and organization-related factors have also been reported in the previous studies. In the African context, especially sub-Saharan Africa, the finding is not surprising in view of the high disease burden which increases the demand for critical care. This is compounded by a lack of resources for critical care (Carter & Snell, 2016; Gundo et al., 2019; Touray et al., 2019). According to Jun and Costa (2020), burnout should be perceived as a social phenomenon that can be shared among nurses through emotional contagion. Therefore, innovative approaches are required to promote the community of critical care clinicians. Our findings support calls for multipronged approached in addressing burnout (Jun et al., 2021). While individual-focused strategies

have proved to be effective, strategies at work and organizational level are required to address the dynamics of burnout.

The review showed that the consequences of burnout are secondary traumatic stress, intention to leave the job and increased risk of infection to the patient. Burnout especially emotional exhaustion is associated with a range of adverse personal and organizational outcomes (Jun et al., 2021). For example, Zeng et al. (2020) reported that burnout contributes to absenteeism, turnover, low job satisfaction and poor quality of nursing care. Similarly, a study that was conducted in Equador by Colindres et al. (2018) showed that burnout contributes to reduced adherence to infection control. These results are concerning in view of the weak health system in most African countries that is characterized by shortage of well-trained health professionals including nurses and material resources (Oleribe et al., 2019). This means that addressing burnout among the nurses could help to mitigate the challenges that negatively affect the health system in Africa.

Limitations

The review is limited by the availability and inclusion of studies published in English and specific to nurses who work in critical settings in Africa. In addition, most studies used quantitative designs which might have limited the participants' expression of burnout and its consequences. Despite these limitations, the findings provide some insight into factors that are associated with burnout among nurses in critical care settings in the African region.

Implications for nursing

The findings of the review have significant implications for nursing at various levels. Nurses working in African critical care settings experience moderate to severe burnout. Given the limited published research on this issue, these findings underscore the need for further investigation into the risk factors associated with burnout. Such research could inform the development of appropriate strategies to address burnout in different settings (van Mol et al., 2015). While individual-focused interventions have proven effective, there is an urgent need for multipronged strategies at the workplace and organizational levels to address the complex dynamics of burnout. Implementing these initiatives could help mitigate the challenges that further weaken health systems in African countries. Additionally, such measures could foster the development of resilient nurses, better prepared to face future pandemics.

CONCLUSION

This review explored the available evidence on burnout among nurses in critical care settings in Africa. The study has found that the nurses experience moderate to high levels of burnout and emotional exhaustion is a common characteristic. Burnout is associated with individual, work and organization-related factors, and contributes to secondary traumatic stress, intention to leave the job and increased risk of infection to the patient. The level of burnout could be reduced by multipronged interventions at individual, work, and organizational levels.

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