NARS – Nursing Allied Research Studies E- ISSN

Doi: Volume 1 Issue 1

Healthcare Worker Burnout And Patient Outcomes: A Meta-Analysis

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Article History:
Received: February 10, 2025
Revised: March 2, 2025
Published: April 10, 2025

Abstract –*The COVID-19 pandemic has exacerbated burnout among healthcare workers, negatively impacting patient health and safety outcomes. This meta-analysis aims to quantify the effect size and explore the relationship between healthcare worker burnout and patient outcomes. A comprehensive review of studies from PubMed, Scopus, and Google Scholar was conducted, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The Hunter and Schmidt method was employed to calculate the weighted effect sizes of the included studies, with interpretations based on Cohen's model. Following a rigorous selection process, seven studies were chosen from an initial pool of 265, each exhibiting diverse characteristics in the correlating variables and their coefficients. The analysis revealed a weighted effect size of r = 0.3508, indicating a moderate positive correlation, particularly between the burnout dimensions of emotional exhaustion and depersonalization and adverse patient outcomes. Despite the limited number of studies that met the inclusion criteria, this meta-analysis underscores the detrimental impact of healthcare worker burnout on patient care, highlighting the urgent need for interventions. Addressing burnout is crucial to enhance healthcare delivery and improve patient outcomes*
Keywords: *burnout, healthcare worker, meta-analysis, patient safety, patient satisfaction*

Introduction

Healthcare encapsulates not just the science of treating illnesses and diseases but also allows people in the form of healthcare workers to aid in restoring the optimum health of patients. The provision of healthcare is geared towards improving patients' outcomes. With that, curative methods are tailored to meet each patient's health goals. As healthcare workers assume many roles to achieve these individualized goals, burnout occurs, thus commonly resulting in emotional exhaustion, lack of motivation (depersonalization), and personal growth stagnation beyond their careers (personal accomplishment). Amidst the growing demands and pressure on healthcare workers, they continue to provide their patients with the highest quality of care.

PubMed's portal showed a significant rise in the number of indexed healthcare worker burnout journals appears to be evident mainly as the site provides a total number of 1,511 studies from 2021 alone compared to the numbers from pre-pandemic which amounts to 917 in 2018 and 1,106 in 2019. Due to the COVID-19 pandemic, Gavelin et. al (2020) expressed how healthcare workers experienced a significant rise in workload which caused an increased anticipation for burnout to be evident among these frontliners and has been a topic of interest since then. Nurses' burden during the pandemic includes performing administrative, preventive, and curative tasks, leading to the event of burnout and resulting in heightened intentions to resign at the peak of the pandemic (Paskarini et. al, 2023). The COVID-19 pandemic has increased symptoms of depression, anxiety, and burnout among healthcare front liners (Galanis et. al, 2022).

On the other hand, Alibudbud (2023) presented staff shortage and low salary income as primary factors of burnout in the Philippines, leading to resignation, shift in profession, and eventually, considering migration to other countries. These are challenges faced by healthcare staff due to the need for additional resources in the event of institutional budget constraints (Astvik and Andersson, 2018). These factors led to the worsening workload and insufficient staffing in direct patient care, putting patient outcomes and safety at risk. Additionally, an unfavorable healthcare environment threatens the healthcare worker's performance, posing a significant challenge to the healthcare delivery system in the country (Liu et. al, 2019).

A study conducted by Denney et. al (2021) during the onset of the COVID-19 pandemic assessed that nurse participants continued to work despite the increasing workload, stress, and burnout and showed no intention of resigning from their jobs. Nurses who are highly involved in their work are prevented from leaving the institution, aiding them to view their job as fulfilling personally and professionally (Sullivan, 2021). These underpaid front liners experience fear and anxiety, as well as stress, insomnia, denial, and anger. Because of these factors, healthcare workers who experience emotional exhaustion tend to avoid taxing situations. These studies imply that nurses are more susceptible to experiencing burnout and must be safeguarded from it as high levels of nurse burnout might further lead to loss of the nursing workforce which has now been facing a significant decline (Sullivan, 2021). Amidst this, the role of nurses plays a pivotal role in the healthcare response as front liners are involved directly in bedside patient care.

In several empirical studies, burnout appears to be one of the causes of the increased incidence of medical error among physicians (Shanafelt et. al, 2010; Huang et. al, 2023). Emotional exhaustion (EE) influences attitudes and behaviors towards the practice of medicine and in patient care, causing healthcare professionals to feel alienation toward their profession, leading to decreased patient trust, and satisfaction and increased patient susceptibility to poor outcomes. In Puspitasari and Purnomo’s (2020) study, patient satisfaction is the most used metric for assessing how well health services meet the standards and values of the healthcare delivery system. Expectations and satisfaction are firmly linked to one another.

Thus, these results present a contradicting result from other existing studies expressing how healthcare workers navigate themselves to achieve patient goals despite burnout and the lack of resources due to the country's development in the fight against COVID-19. The meta-analysis statistical technique is utilized in this study to ascertain the relationship between healthcare workers' burnout and patients' overall outcomes in the hospital context. This statistical technique compiles and examines information from numerous independent studies on the selected variables. It enables researchers to synthesize and draw conclusions from a large body of research, thus offering a more detailed and exact evaluation of the interaction between variables. Specific aims include figuring out whether an effect occurs, if it is positive or negative, and, ideally, getting a

single, comprehensive assessment of the effect (Haidich, 2005). This analytical study can consider the various levels of burnout experienced by healthcare personnel due to workload, staffing issues, financial constraints, and a lack of enthusiasm that impacts patient outcomes.

This study aims to explore and put emphasis on how healthcare worker burnout's existence, even from studies conducted a decade ago, affects patient outcomes by reviewing related literature, bridging existing research gaps, and drawing conclusions from the results of the selected studies as well as maximizing the studies' effect sizes which may be essential for evidence-based interventions and policy formulations for different healthcare institutions and contribute to the existing body of knowledge. The aim is to improve not just functional aspects but also professional aspects to provide the best quality of care and enhance patient safety, thus significantly improving patient outcomes and elevating the overall patient experience, helping patients achieve optimal health and well-being. The anticipated outcomes are expected to contribute significantly to academic discourse and draw significant implications for healthcare professionals, policymakers, and researchers.

Methods and Materials

When conducting a meta-analysis, the findings of individual research are generalized, thus providing a more accurate assessment of the correlation of the two variables using its effect size (Lee, 2019). This meta-analysis was conducted according to the Preferred Reporting Items of Systematic Reviews and Meta-Analysis (PRISMA) standards (Page et. al, 2021).

Eligibility Criteria

Upon selecting studies for the review, included studies were based on the following criteria: (1) healthcare worker burnout and patient outcomes were presented as variables; (2) studies published between 2008-2023; (3) studies were quantitative; and (4) provided the Pearson's *r* or Spearman's *rho* correlation coefficient. The exclusion of studies for this review was based on the following: (1) duplicates of a journal; (2) studies focused only on one variable related to the study; (3) unretrievable studies; (4) Systematic Reviews and Meta-Analyses; (5) qualitative journals; (7) the correlation coefficient was not presented; and (8) studies which did not show a correlation between the two variables.

Information Sources

Three primary databases were optimized to search for qualified studies for this meta-analysis: PubMed, Scopus, and Google Scholar. Harzing's Publish or Perish was also utilized in the initial search for titles and abstracts, and each title was cross-matched if the study was indexed in either of the three databases. Studies from various registers, websites, and organizations were also accessed, namely Research Gate, Springer Link, Wolters Kluwer, Academia, and The BMJ. PubMed-indexed studies generate high-quality, peer-reviewed medical journals. Meanwhile, studies from Scopus assure high-impact factors, and studies from Google Scholar provide wide-range accessibility. A primary search for studies was conducted back in September 2023, and the study selection process was conducted in March 2024.

Search Strategy

In implementing the search process, keywords such as *"healthcare worker burnout," "nurse burnout," "physician burnout," "patient outcomes," "burnout," "patient safety," "patient satisfaction," "medical errors," "patient care,"* and *"patient mortality"* were optimized to generate

titles of published journals across different databases, websites, and organizations. Specific filters like the publication date ranging from 2008 to 2023 and text availability (abstract, free full-text, full-text) were applied, particularly in trimming down the results of the search. Matched results were then manually placed into a Microsoft Word Excel SharePoint file to facilitate ease in classifying the study characteristics by using identification markers.

Data Collection Process

As manual extraction was utilized, two researchers were tasked to input the titles in the Excel file. Two researchers evaluated all the characteristics of the titles reviewed and their abstracts, and another researcher evaluated all 265 titles and abstracts according to each specific grouping for the inclusion and exclusion process of the PRISMA Flow Diagram. In selecting studies, all inclusion criteria must be thoroughly examined and screened. Each of the studies must contain Pearson's *r* or Spearman's *rho* correlation coefficient to quantify the weighted effect size of the two variables.

Selection Process

After the initial process of selecting studies and placing the selected titles and abstracts utilizing Microsoft Word Excel, each title was thoroughly screened using the set criteria. Where the studies were indexed was first identified, their date of publication, the inclusion of the two variables, retrievability of the studies, quantitative nature, and the presentation of the correlation coefficients for healthcare worker burnout and patient outcomes were identified to select the qualified studies. Each criteria set was assigned with significant identifiers for ease of tracking how each was excluded along the selection process following the PRISMA Flow Diagram 2020 standards. No automation tools were utilized, and manual extraction and evaluation were performed to select the best-qualified papers for review. Selected studies for the meta-analysis underwent content validation by the research adviser.

Study Risk of Bias Assessment

The integrity of the conclusions in this analysis is significantly contingent upon the quality of the papers that were included. To guarantee the reliability and validity of the conclusions reached, a comprehensive evaluation of the risk of bias was carried out. The evaluation of bias is essential in establishing the degree to which the research effectively quantifies the correlation between healthcare worker burnout and patient outcomes.

Furthermore, a main issue in this meta-analysis was the presence of selection bias, which emerges from the procedure used to choose trials for inclusion. The present analysis employed rigorous inclusion and exclusion criteria to guarantee the consideration of only studies that addressed both healthcare professional burnout and patient outcomes. Nevertheless, it is important to acknowledge that the possibility of selection bias cannot be eliminated. This is because the presence of studies may indicate publication bias, where research with substantial results is more highly likely to be published and hence included in the analysis. To minimize this danger, databases were thoroughly perused, and unpublished or grey literature was considered to guarantee a more complete collection of data.

Furthermore, performance bias, which pertains to systematic disparities in the provision of treatment to various groups, and detection bias, or disparities in the evaluation of outcomes, are also possible risks. The included studies exhibit diversity in the definition and measurement of burnout, which may result in inconsistent reporting throughout the literature. For example, certain

research may have depended on self-reported assessments of burnout, which might introduce subjectivity, whilst others may have utilized more objective and rigorously verified instruments. Likewise, the study revealed heterogeneity in the measurement of patient outcomes, as different metrics such as mortality, morbidity, and satisfaction were used. These variations have the potential to distort the results, thereby reducing the reliability of the pooled effect estimates.

Moreover, attrition bias, which arises when there is a consistent disparity across groups in terms of withdrawals or exclusions from the study, was another possible issue. The studies under consideration in this meta-analysis had different durations of follow-up, and the rates of participant attrition were not uniformly documented. Studies characterized by high dropout rates may underestimate the actual influence of burnout on patient outcomes, since individuals who are lost to follow-up may have significantly different results compared to those who continue to participate in the trial. A sensitivity analysis was conducted to evaluate the influence of attrition bias. However, it is crucial to apply caution when interpreting the findings considering this possible confounding factor.

Additionally, the study also evaluated reporting bias, specifically selective reporting bias, which refers to the tendency of research to selectively disclose highly significant findings while downplaying or excluding non-significant data. In this meta-analysis, meticulous measures were taken to retrieve and thoroughly evaluate all pertinent results. Nevertheless, it is plausible that certain studies did not comprehensively document all observed results, therefore potentially distorting the overall findings. Egger's tests and funnel plots were employed to assess the presence of publication bias, and the findings indicated a modest likelihood of selective reporting.

Similarly, the original research considered confounding variables such as the healthcare environment, workload, and characteristics of the patient group. However, not all studies equally adjusted for these aspects. Insufficient consideration of confounding variables in studies may result in an overestimation or underestimation of the actual correlation between burnout and patient outcomes. The influence of specific confounding variables was investigated by subgroup analyses, although, the potential limitation of heterogeneity among studies remains.

Overall, the evaluation of bias risk identified significant constraints in the studies included in this meta-analysis, namely regarding selection bias, performance bias, and the management of confounding variables. While extensive literature searches, subgroup analysis, and sensitivity testing were undertaken to reduce these risks, the results should be considered with caution.

Effect Measures

In the analysis of the correlation coefficients of each study selected for the review, the Hunter and Schmidt method is employed to measure the weighted effect sizes of the studies.

Synthesis Methods

Cohen's (1988) model interprets and further synthesizes the two variables by utilizing the computed weighted effect size of the selected studies. The closer the value of Cohen's *d* to 1, the more significant the correlation between healthcare worker burnout and patient outcomes.

Table 1.
Interpretation of the Effect Size for the Relationship Between Healthcare Worker Burnout and Patient Outcomes Using Cohen's Model

	Effect Size (ES) Measurement, r	
	Positive	**Negative**
Little	0.1 to 0.3	-0.1 to -0.3
Moderate	0.3 to 0.5	-0.3 to -0.5
Big	0.5 to 1.0	-0.5 to -1.0

Results

Study Selection

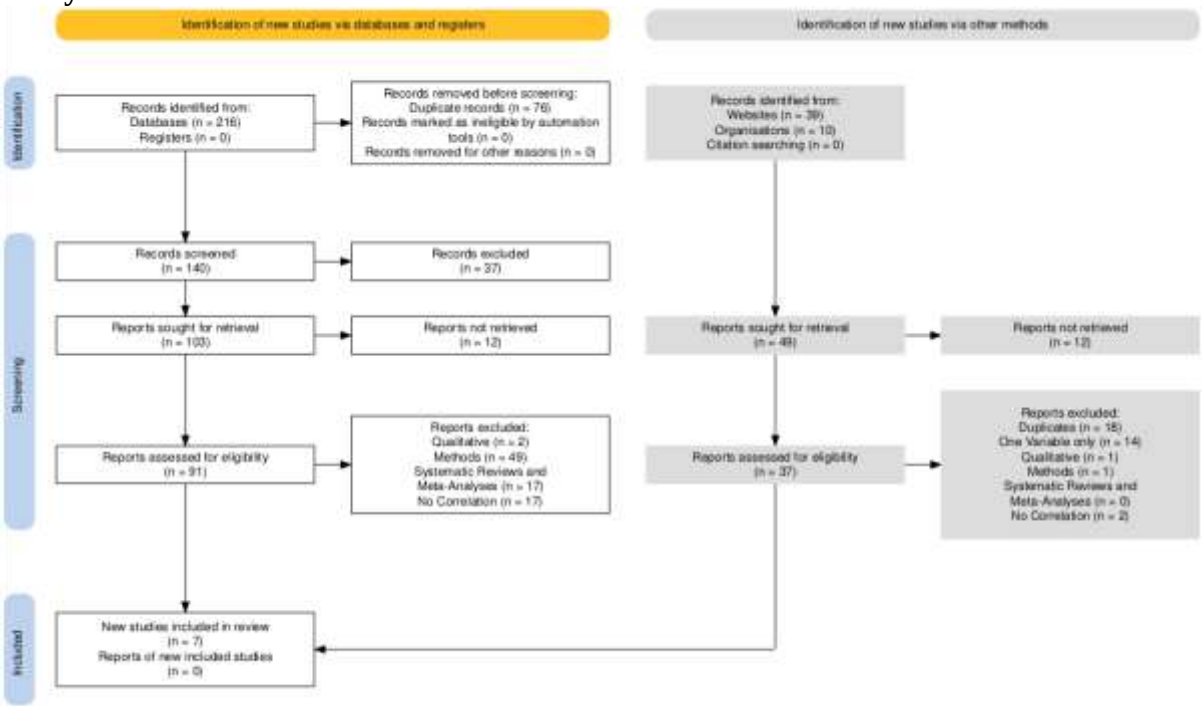

Figure 1. The study selection and inclusion process using PRISMA flow diagram

Figure 1 showcases the Preferred Reporting Items of Systematic Reviews and Meta-Analysis flow diagram, which was utilized to select qualified studies for this meta-analysis. This flow diagram clearly illustrates the flow of inclusion and exclusion of the studies according to the set criteria across the various phases of the meta-analysis (Haddaway et. al, 2022).

Initially, 265 studies were identified. A total of 216 studies were from different databases (PubMed, Scopus, and Google Scholar), 39 studies from various websites (i.e., Academia,

Research Gate, The BMJ), and 10 studies from various organizations. In the identification phase, 76 duplicates of the database studies were removed. In the first exclusion criteria of the screening process, studies containing only one variable were removed before the retrieval process, amounting to 37 database studies. The retrieval began with 103 database studies, wherein 12 of these studies were unable to be retrieved, while 12 studies from other sources were also unable to be retrieved. Ninety-one database studies and 37 studies from other sources were then assessed for eligibility. Database studies excluded include two qualitative studies, 49 studies that did not match the methods criteria, two systematic reviews and meta-analyses, and 17 studies that contained the two variables but did not show any correlation at all.

For the other sources, 18 study duplicates were removed, 14 studies having only one variable were also removed, as well as one qualitative, one unmatched method, and two studies that showed no correlation between healthcare worker burnout and patient outcomes. Six database studies qualified the standards of the review, and 1 study from other sources was also included, garnering a total of 7 qualified studies for this meta-analysis.

Study characteristics

Table 2.
Characteristics of the selected studies.

Author/s	Study	Country	e	Database	N	BO Instrument	PO Instrument
Watson et. al (2019)	**Self-reported modifying effects of resilience factors on perceptions of workload, patient outcome, and burnout in physician-attendees of an international emergency medicine conference**	United Kingdom	Burnout domains on perceived workload impact, patient outcomes	PubMed	50	Maslach Burnout Inventory	Likert Scale Questionnaire
Sturm et. al (2019)	**Do perceived working conditions and patient safety culture correlate with objective workload and patient outcomes: A cross-sectional explorative study from a German university hospital**	Germany	Physician's patient-related burnout, patient morbidity	PubMed Open Access	224	Copenhagen Burnout Inventory	Hospital Survey on Patient Safety Culture (HSPSC)
Halbesleben & Rathert (2008)	**Linking physician burnout and patient outcomes: Exploring the dyadic relationship between physicians and patients**	USA	Healthcare provider burnout and Patient outcomes	PubMed	178	Maslach Burnout Inventory	SERVQUAL
Tsiga et. al (2017)	**Examining the link between burnout and medical error: A checklist approach**	Greece	Burnout and Medical error	Scopus Open Access	114	Maslach Burnout Inventory	Hospital Survey on Patient Safety Culture (AHRQ)

Author/s	Study	Country	e	Database	N	BO Instrument	PO Instrument
Sulaiman et. al (2017)	**Burnout syndrome among non-consultant hospital doctors in Ireland: relationship with self-reported patient care**	Ireland	Burnout syndrome and Self-reported patient care	Scopus Open Access	265	Maslach Burnout Inventory	Likert Scale Questionnaire
Eltaybani et. al (2021)	**The association between nurses' burnout and objective care quality indicators: a cross-sectional survey in long-term care wards**	Japan	Nurse burnout and Care quality in long-term care wards	Scopus Open Access	196	Japanese Burnout Scale (Maslach Burnout Inventory)	Quality Outcome Indicator
Butao et. al (2021)	**Impact of burnout among dialysis nurses providing high-quality care in Butuan City, The Philippines**	Philippines	Burnout in Dialysis Nurses and Quality Care	Google Scholar Open Access	44	Maslach Burnout Inventory	Self-structured Questionnaire

Legend:

"e" stands for the study variables
"N" as the population size
"BO instrument" refers to the instrument used to measure Healthcare Worker Burnout
"PO instrument" refers to the instrument used to measure Patient Outcomes

Table 2 presents the notable features of the seven (7) qualified studies for the meta-analysis. Within this table is the presentation of authors and their publication year, the study titles and their place of publication, the variables classified under healthcare worker burnout and patient outcomes, the database where each study is indexed, the population size, and the instruments used to measure burnout and patient outcomes. Among the selected studies, variations from where the study was conducted, the sample size, and the burnout and patient outcome measurements were shown. The qualified studies presented a total of 1,071 participants.

Results of Individual Studies

Table 3.
Presentation of study objectives, results and correlation coefficients.

Author/s	Study Objectives	Key Findings	N	*r*	Confidence Interval	
					LL	UL
Watson et. al (2019)	To scale physician-reported answers regarding the impact of burnout and patient outcomes and to note resiliency factors posing an impact to burnout physicians.	A strong positive correlation between **emotional exhaustion** (a burnout domain) and perceived negative patient outcomes.	50	0.59	0.3729	0.7459
Sturm et. al (2019)	To understand the relationship between healthcare worker perception on work-induced stress and strain and patient safety.	A correlation between perceived workload and **job-related stress (burnout)** with patient safety culture, affecting patient outcomes.	224	0.48	0.3723	0.5749

Halbesleben & Rathert (2008)	To explore the correlation between burnout among physicians and patient satisfaction alongside the time it takes for recovery to occur.	A positive correlation between **depersonalization** (a burnout domain) in physicians and self-reported **medical errors**.	178	0.23	0.0858	0.3647
Tsiga et. al (2017)	To examine the influence of participant factors on medical errors.	**Depersonalization** and **medical error** reporting showed a positive association.	114	0.388	0.2198	0.5338
Sulaiman et. al (2017)	To examine the prevalence of burnout among hospital doctors and its association with self-reported medical error	**Emotional exhaustion** correlates to the increased likelihood of **medical errors.**	265	0.381	0.273	0.4795
Eltaybani et. al (2021)	To investigate the relationship between objective quality measures and staff nurses' burnout.	Increased **emotional fatigue (exhaustion)** in nurses correlates with higher incidences of pneumonia and pressure sores in patients.	196	0.152	0.01211	0.2861
Butao et. al (2021)	To assess burnout of nurses in dialysis centers and the impact of high-quality care to dialysis patients.	Strong correlation between **emotional exhaustion** in dialysis nurses and the quality of care provided.	44	0.517	0.26	0.7056

Legend: "N" as the population size
"r" means the calculated effect size of each study
"LL-UL" for the Lower Limit and the Upper Limit Confidence Interval of 95%

Table 3 presents the results and key findings of the seven (7) studies included in this meta-analysis, showcasing the correlation between healthcare worker burnout and patient outcomes. The study's results were quantified using Pearson's *r* correlation coefficient or Spearman's *rho* correlation coefficient, which measured the strength of the relationship between burnout and patient outcomes.

Results of Syntheses

Table 4. Statistical analysis
Weighted effect sizes for the studies in the meta-analysis.

Study	N	r	Nr
Watson et. al (2019)	50	0.59	29.5
Sturm et. al (2019)	224	0.48	107.52
Halbesleben & Rathert (2008)	178	0.23	40.94
Tsiga et. al (2017)	114	0.388	44.232
Sulaiman et. al (2017)	265	0.381	100.965
Eltaybani et. al (2021)	196	0.152	29.792
Butao (2021)	44	0.517	22.748
TOTAL	1,071		375.697

$\bar{r} = 375.697/1,071 = 0.3508$

Weighted effect size: 0.3508

Table 4 displays the Hunter and Schmidt method, which was utilized to calculate the weighted effect size of the seven (7) studies using Pearson's *r* and Spearman's *rho* correlation coefficients. Each study's population was multiplied by the correlation coefficient value, resulting in a summation of the computed values. This was then divided by the total number of respondents to generate the weighted effect size to generate the linear relationship of the variables presented. The overall value of these studies resulted in a weighted effect size of 0.3508, which will now then be employed to seek the relationship between healthcare worker burnout and patient outcomes.

Table 5.
The statistical weighted effect size of the seven (7) studies.

No. of studies	∑ N	R	Nr	Lower Limit (LL)	Upper Limit (UL)
7	1,071	0.3508	375.697	0.2971	0.4022

As shown in Table 5, the analysis produced an overall weighted effect size amounting to 0.3508. As presented in Table 1, this result implied a moderate effect size. Healthcare worker burnout has an overall effect size of 0.3508 on patient outcomes, with 95% confidence intervals of 0.2971, 0.4022. This implied that healthcare worker burnout presented a moderate impact on patient outcomes among the seven (7) qualified studies.

DISCUSSION

The outcomes and themes of the studies included in the meta-analysis constantly revealed a link between healthcare worker burnout and patient outcomes, presented by the varying degrees of correlation while highlighting the different burnout domains, particularly emotional exhaustion, and depersonalization, and their impact on patient care outcomes.

The study of Watson et al. (2019) and Butao et al. (2021) revealed a correlation between burnout among healthcare professionals and patient outcomes, emphasizing the importance of implementing strategies and interventions geared to alleviate burnout and improve and uphold quality patient care. Meanwhile, the studies of Halbesleben and Rathert (2008) and Eltaybani et al. (2021), showed relatively lower correlation coefficients between healthcare worker burnout and patient outcomes, indicating that while burnout affects patient outcomes, there may be varying factors playing crucial roles affecting the relationship of both variables which may either be related to burnout or in the provision of quality patient care. Among the seven studies, emotional exhaustion and depersonalization were the prominent domains of healthcare worker burnout that affected patient outcomes.

Overall, the meta-analysis revealed a moderate correlation between healthcare worker burnout and patient outcomes, based on the computed weighted effect size $r = 0.3508$. This

moderate effect size provided evidence on the need to improve healthcare delivery and patient outcomes and aim to eliminate the onset of burnout.

Conclusion

Healthcare worker burnout and patient outcomes: a meta-analysis measured the weighted effect sizes of seven (7) qualified studies using each study's computed Pearson's *r* and Spearman's *rho* correlation coefficient, which resulted in $r = 0.3508$. Based on Cohen's model, this weighted effect size of healthcare worker burnout and patient outcomes belongs to the positive moderate correlation, signifying the segmental positive correlation of the two variables.

Among the selected studies, emotional exhaustion and depersonalization (domains of burnout) appeared to have the most significant correlation between patient outcomes, emphasizing their significance to the occurrence of medical errors affecting patient safety and overall patient safety, satisfaction and outcomes. In this study, varying factors may have influenced the relationship between healthcare worker burnout and patient outcomes, such as the individual correlation of emotional exhaustion, depersonalization, and reduced personal achievement to patient outcomes.

Apart from this, the qualified studies also mentioned the effect of organizational structures and work cultures on burnout, mainly as this study covered a vast range of populations and not a specific identity of healthcare workers. This study has implications for healthcare workers (mainly nurses) and the healthcare delivery system to gear specific measures that would help improve patient outcomes and always promote patient safety. Burnout among healthcare workers now demands its presence in academic discussions, research, policies, and practices.

As the study concluded the effect of healthcare worker burnout on patient outcomes, this bridged specific implications to the practice of the nursing profession, particularly in education, research, policy, and practice, which are further discussed below:

Implication to Education:

Burnout disrupts the goal of providing holistic care while practicing healthcare. Hence, this meta-analysis provided a cue to address burnout and promote academic discussions to recognize and alleviate burnout. Early recognition and detection guarantee better outcomes, prompting the allied health education system to equip students with apt knowledge on burnout and how this affects the care that is given to the patients. A rich leadership foundation essentially aids in cultivating competent healthcare leaders who will advocate not just for the patients but also for the healthcare workers by promoting health and eliminating burnout amongst them.

Implication to Research:

As burnout remains evident among healthcare workers, this research study emphasizes the need to conduct further evaluative studies to determine whether the key findings of the existing studies have indeed been effective in reducing burnout among healthcare workers. Healthcare researchers are encouraged to conduct studies evaluating the measures taken to solve burnout and reduce its occurrence and how patient outcomes are responding to these methods.

Implication to Policy:

Policymakers are challenged to tackle burnout among healthcare workers and reduce this occurrence to improve patient outcomes while upholding patient safety significantly. Policies should be well crafted to accommodate the demands of workload, compensation, and staffing, which are a few of the identified causative factors contributing to burnout. This further implies that policies should be customized according to institutional or societal standards for these to be effective in reducing and eventually eliminating healthcare worker burnout, which affects patient outcomes.

Implication to Practice:

Nurses and physicians, among all healthcare professionals, are at the most significant risk of burnout and are known to have the most patient-healthcare worker engagement. Hence, this study urges nurses ang physicians at the frontlines to prioritize their well-being and recognize the need to alleviate early burnout symptoms to avoid its progress before it leads to the chronic stage.

Limitations

Studies about healthcare worker burnout and patient outcomes showed homogeneity in their results. However, the methods utilized by the studies posed a challenge to the selection process. Qualified studies also resulted in heterogeneity, showing no common geographic region as to where the occurrence of burnout has proliferated amongst healthcare workers. Predominantly, selected studies for the meta-analysis came from Europe. Hence, factors such as work culture and norms must be considered so that they cannot be immediately similar to the work patterns of the other study respondents from different parts of the globe. Hence, these interpretations must be cautiously considered because of these limitations.

Recommendations

The study discovered that burnout among healthcare workers presented a moderate effect on patient outcomes, implying an inevitable risk to patient safety. Healthcare providers must prioritize patient safety in all aspects of care, particularly as the goal of achieving good health and well-being (SDG-3) continues to be a priority in healthcare provision. Thus, the following recommendations were proposed:

Cultural and Individual Practices Consideration: Strategies to reduce healthcare worker burnout should be tailored to the specific cultural and individual work-related practices of these workers. This approach ensures that the interventions are effective and relevant to their unique contexts.

Burnout for Healthcare Workers Program: Provide avenues for healthcare workers to recognize the occurrence of burnout, considering work-life balance and adequate work-rest periods. This can be done by adjusting healthcare worker scheduling and utilizing adequate staffing to provide the best quality care without the risk of burnout.

Burnout Awareness Campaigns: Comprehensive campaigns can increase healthcare workers' awareness of burnout. Additionally, training or workshops focused on patient safety can help reduce the impact of burnout.

Active Participation in Burnout Reduction: Encourage healthcare workers to identify and mitigate potential causes of burnout actively. This collaborative approach can lead to more effective and sustainable solutions.

Future Research Directions: Future researchers should conduct geographically specific studies to explore the nuances of burnout in healthcare workers and patient outcomes in different regions. Understanding the local context can help in developing more targeted and effective interventions.

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