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The Relationship Between Resilience and Nurses' Mental Health: A Systematic Review

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Abstract

Background: Nurses face chronic work-related stress burdens that lead to mental health problems such as depression, anxiety, stress, burnout, and sleep disorders, while suboptimal resilience levels may increase nurses' mental health vulnerability.

Objective: This systematic review aimed to synthesize recent evidence on the relationship between resilience and mental health outcomes among nurses.

Methods: This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A structured search was conducted in Scopus, PubMed, ScienceDirect, and Web of Science to identify articles published in English between 2021 and 2025. Original quantitative studies that examined the association between resilience and mental health outcomes among nurses were included. Two reviewers independently screened the records, assessed eligibility, and resolved disagreements through discussion. Methodological quality was appraised using the Joanna Briggs Institute Critical Appraisal Checklist. Due to heterogeneity in study measures and outcomes, findings were synthesized narratively.

Results: A total of 1319 records were identified, of which 10 studies met the inclusion criteria. Resilience was consistently associated with lower levels of depression, anxiety, psychological distress, burnout, and fatigue among nurses. Higher resilience was also associated with better psychological well-being, professional quality of life, occupational adaptation, and job satisfaction. Several studies suggested that resilience functioned as a mediating factor in the relationship between occupational stressors and mental health outcomes, while burnout also emerged as an important mediator.

Conclusion: Resilience is consistently associated with more favorable mental health outcomes among nurses. However, the available evidence is limited to cross-sectional research, preventing causal inference. Strengthening resilience may represent a promising strategy to support nurses' mental health, but future longitudinal and intervention studies are needed.

Keywords: Anxiety; burnout; depression; mental health; nurses; resilience; systematic review

INTRODUCTION

Mental health problems among nurses encompass a range of psychological disorders influenced by biological, social, and economic

factors, with a high burden of depression, anxiety, stress, burnout, sleep disturbances, and emotional exhaustion resulting from chronic work pressure, staff shortages, long shifts, and workplace violence (1). These conditions not

only adversely affect nurses' health but also compromise patient safety and organizational performance, including reduced quality of life and job satisfaction, increased risk of chronic illness, and higher rates of absenteeism, turnover, and low workforce retention (2-4). Globally, numerous reviews and meta-analyses have reported a high prevalence of anxiety, depression, stress, insomnia, and burnout among nurses across various healthcare settings, including during and after the pandemic (4,5), which further contributes to declining quality of care and threatens the sustainability of healthcare systems (6-9).

In this context, resilience is considered a key protective factor that enables nurses to adapt to work-related stress and maintain mental well-being. However, nurses' resilience levels are generally reported to be low to moderate and insufficient to counterbalance high levels of occupational stress (10-13). Consistent evidence indicates that resilience is negatively associated with depression, anxiety, stress, burnout, and psychological distress, and positively associated with psychological well-being, post-traumatic growth, job satisfaction, and quality of life (12,14-16). Nevertheless, under conditions of high workload and limited organizational support, high resilience alone may not be sufficient to fully protect nurses from mental health problems (15).

Various structured psychological interventions, such as mindfulness-based stress reduction, emotional intelligence training, and resilience training, have been shown to improve well-being and reduce psychological symptoms, although the effectiveness and sustainability of these effects remain variable (6,17). However, previous systematic reviews and meta-analyses have primarily focused on prevalence, determinants, or intervention effectiveness, often combining multiple healthcare professions or examining only a limited range of mental health outcomes. Consequently, these studies have not provided a comprehensive synthesis of the relationship between resilience and the full spectrum of mental health indicators, specifically among nurses (5,12,14,18).

This systematic review therefore aimed to synthesize recent evidence on the relationship between resilience and mental health outcomes among nurses. Specifically, this review examined whether resilience is associated with lower levels of depression, anxiety, burnout, psychological distress, fatigue, and related adverse outcomes, as well as whether it is associated with higher well-being, professional quality of life, and job satisfaction.

METHODS

Overview

This systematic review was conducted in accordance with the PRISMA guidelines. The review focused on quantitative evidence examining the relationship between resilience and mental health outcomes among nurses.

Search Strategy

This systematic review followed PRISMA guidelines. A structured literature search was conducted in Scopus, PubMed, ScienceDirect, and Web of Science. The search strategy used Boolean operators combining key terms related to nurses, resilience, and mental health outcomes. The keywords used were "nurses," "resilience," and "burnout," "depression," "anxiety," or "psychological distress," with the search string formulated as: ("nurses") AND ("resilience" OR "psychological resilience") AND ("burnout" OR "depression" OR "anxiety" OR "psychological distress"). Equivalent terms were adapted for each database. The inclusion criteria were original research articles published in English between 2021 and 2025 that examined the relationship between resilience and mental health among nurses. All search results were imported into Mendeley Desktop to remove duplicates. Study selection was conducted independently by two reviewers, and disagreements were resolved through discussion.

Selection Criteria

Studies were selected based on predefined eligibility criteria using the PEO framework (Population, Exposure, Outcome). The criteria were applied to identify relevant articles for inclusion in this review.

Table 1. Selection Criteria

Criteria	Inclusion	Exclusion
Population	Studies involving nurses (registered nurses or nursing staff) working in healthcare settings.	Studies involving other healthcare professionals or mixed populations where nurse-specific data cannot be separated.
Exposure	Studies measuring resilience/psychological resilience using validated or standardized instruments.	Studies assessing coping or other psychological variables without explicit measurement of resilience.
Outcome	Studies reporting the association between resilience and mental health outcomes (e.g., depression, anxiety, stress, burnout, psychological distress, sleep problems, well-being, quality of life).	Studies reporting only non-psychological outcomes (e.g., performance, job satisfaction, turnover) without mental health indicators.
Study design	Quantitative observational studies (e.g., cross-sectional, cohort) examining associations between resilience and mental health.	Qualitative studies, reviews, editorials, protocols, and intervention studies primarily evaluating resilience programs.

Quality Assessment

Methodological quality and risk of bias of the included studies were assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for analytical cross-sectional studies. This tool evaluates key domains including sampling bias, measurement validity, confounding factors, response bias, and the adequacy of statistical analysis. The results of the quality appraisal were used to inform the interpretation of findings, with greater emphasis placed on studies with higher methodological quality.

Data analysis

Data were analyzed using a structured narrative synthesis approach, as meta-analysis was not feasible due to heterogeneity in outcome measures and study designs. Extracted data were organized into mental health outcome domains, including depression, anxiety, burnout, psychological distress, sleep problems, and job satisfaction.

Studies were grouped and compared within each outcome domain to identify patterns and relationships between resilience and mental health outcomes. The direction (positive or negative) and consistency of associations were assessed across studies. Consistency was determined by the recurrence of similar findings

across the majority of studies in the same domain. The role of resilience (e.g., predictor, mediator, or moderator) was also considered in the synthesis.

RESULTS

Searching results

Based on the literature search, a total of 1,319 records were identified from four databases: Scopus (n = 305), ScienceDirect (n = 669), PubMed (n = 312), and Web of Science (n = 33). After removing 650 duplicate records, 669 records remained for screening. Title screening was conducted on these 669 records, resulting in the exclusion of 418 records that were not relevant or not classified as research articles. The remaining 251 records were then sought for retrieval. Of these, 144 records could not be retrieved due to irrelevant titles and abstracts or inaccessibility of the full text, leaving 107 reports to be assessed for eligibility. During the full-text review, 97 articles were excluded because they did not focus on nurses (n = 45) or did not discuss mental health (n = 52). Finally, 10 studies met the inclusion criteria and were included in this systematic review. The article selection process is illustrated in the PRISMA flow diagram.

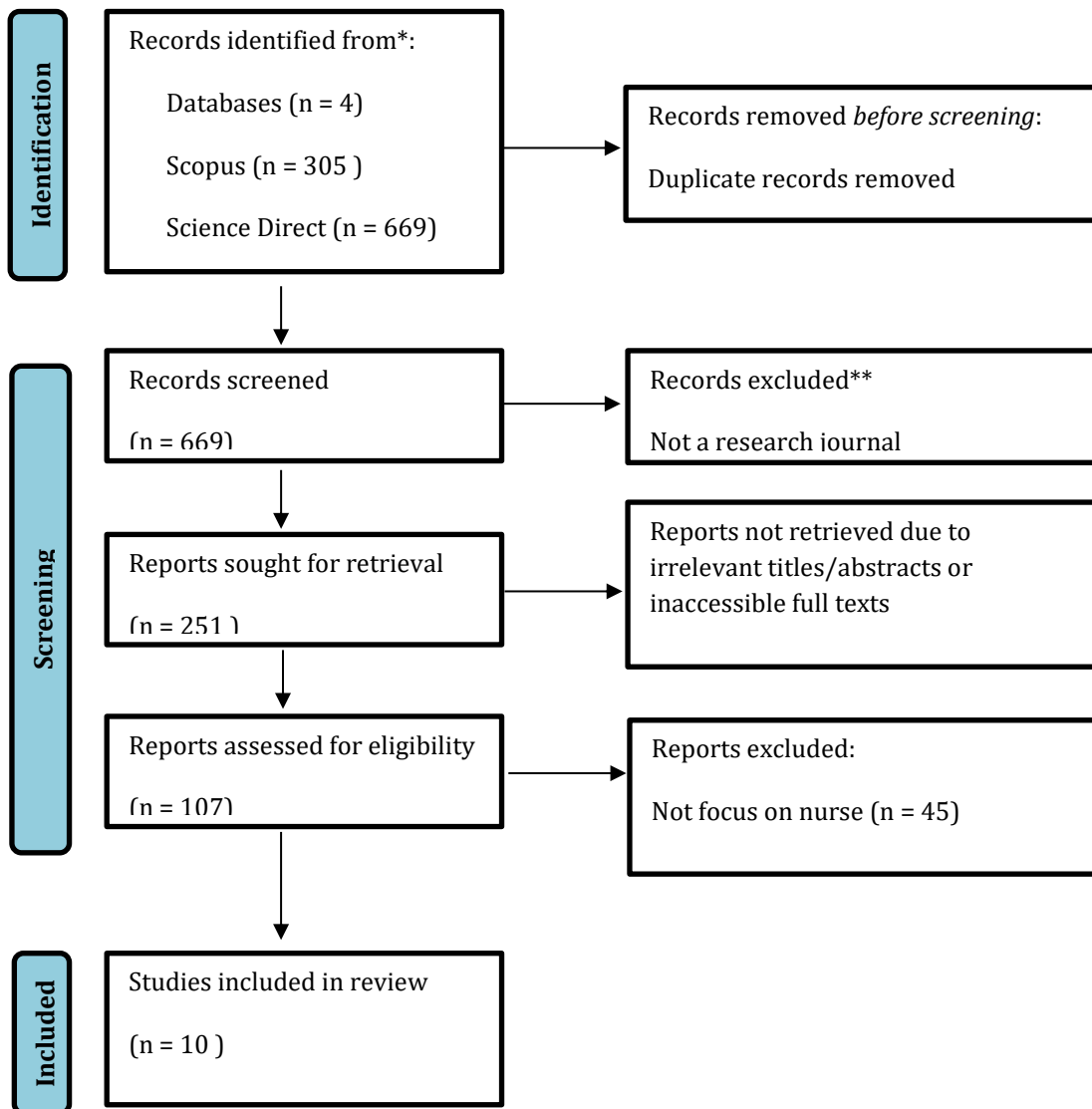


Figure 1. PRISMA Flow Diagram

Study characteristics

A total of 10 cross-sectional studies from 8 countries were included: China (n=2), Spain (n=2), Saudi Arabia (n=2), Greece (n=1), Taiwan (n=1), Peru (n=1), and the Philippines (n=1). All studies examined psychological resilience among nurses and its association with mental health outcomes, including depression, anxiety, psychological distress, burnout, sleep problems, and psychological well-being, as well as selected occupational outcomes such as job satisfaction, professional quality of life, and pandemic fatigue. Resilience was measured using validated instruments, including the Connor–Davidson Resilience Scale (CD-RISC, including CD-RISC-10), Resilience Scale-14 (RS-14), Mental

Resilience Scale, and Brief Resilience Scale. Mental health outcomes were assessed using standardized tools such as DASS-21, PHQ-2, GAD-2, PASS-4, GHQ-12, WHO-5 Well-Being Index, PROMIS Global Health, Maslach Burnout Inventory (MBI), ProQOL, and pandemic fatigue questionnaires. The diversity of measurement instruments indicates methodological heterogeneity, which may limit direct comparability across studies.

Respondent characteristics

Participants were predominantly hospital-based nurses, mostly female, aged 20–40 years, with varying levels of clinical experience. Most held a bachelor's degree in nursing. Studies were largely

conducted during or shortly after the COVID-19 pandemic (2021–2025). Several focused on psychiatric/mental health nurses, while others included newly graduated nurses or general clinical nurses. Variations in clinical settings, career stages, and pandemic-related contexts contributed to heterogeneity across studies.

Quality Appraisal

The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist. Overall, 90% of the studies (9/10) were rated as high quality with a low risk of bias, while one study was rated as moderate quality. Despite its limitations, the moderate-quality study showed findings consistent in direction with the higher-quality studies. No studies were excluded based on quality assessment; however, study quality was considered in the interpretation of findings.

Outcome Domains

Negative Psychological Symptoms (Depression, Anxiety, Psychological Distress)

Across all studies assessing these outcomes, resilience showed a consistently negative association with depression, anxiety, and psychological distress. In China, approximately 38–40% of nurses reported poor mental health (GHQ-12), with higher depression levels observed among those with high work stress and low resilience (19). Similar findings were reported in Spain and Peru, where resilience remained a significant independent predictor of lower depressive symptoms after controlling for confounders (20,21).

Anxiety was also prevalent, particularly among younger and female nurses and those working in high-intensity settings (22,23). In Taiwan, 36.8% of nurses reported anxiety symptoms during COVID-19 (10). Across studies, higher resilience was consistently associated with lower anxiety and distress levels, despite variations in measurement tools and effect sizes.

Occupational Mental Health Outcomes (Burnout and Fatigue)

Burnout and emotional exhaustion were commonly reported, particularly among nurses in high-demand clinical settings. More than 60% of nurses in one study reported moderate-to-high burnout levels (21). Higher resilience was consistently associated with lower burnout and better professional quality of life.

Several studies identified burnout as a mediator in the relationship between resilience and mental health outcomes. For example, in China, burnout partially mediated the effect of resilience on psychological outcomes, indicating that lower resilience increases emotional exhaustion, which in turn worsens mental health (19). Similar patterns were observed in psychiatric nurses (24).

Positive Well-Being Outcomes

Resilience demonstrated a consistently positive association with psychological well-being and professional quality of life. In Saudi Arabia, 58% of psychiatric nurses were classified as flourishing, with moderate-to-high resilience levels despite high emotional demands (25). Other studies reported positive associations between resilience and well-being measures (WHO-5, PROMIS) as well as compassion satisfaction, alongside negative associations with burnout and fatigue (24). These findings suggest that resilience functions not only as a protective factor against negative outcomes but also as a resource that enhances positive psychological functioning.

Occupational-Related Outcomes (Job Satisfaction and Pandemic Fatigue)

Occupational outcomes were analyzed separately due to their conceptual distinction from core mental health indicators. Resilience was positively associated with job satisfaction and adaptation, particularly among newly graduated nurses, where it supported early career adjustment and coping with professional stress (23). Pandemic fatigue was associated with lower resilience, high workload, and insufficient organizational support. Although closely related to mental health, it was conceptualized as a context-specific occupational outcome influenced by pandemic-related stressors.

Table 2. Article Review Summary

Title	Design	Research Findings
Relationships between emotional intelligence, mental resilience, and adjustment disorder in novice nurses: a cross-sectional study in China (23)	D: Cross-sectional S: 445 new nurses V: resilience, emotional intelligence, adjustment disorder I: Mental Resilience Scale, CD-RISC-10, EI scale A: Chi-square, logistic regression	Higher emotional intelligence is associated with greater resilience and lower psychological symptoms in nurses. Resilience and EI are positively related to work adaptation and reducing psychological stress.
Mediating Role of Resilience and Its Impact on Psychological Well-Being and Mental Distress among Mental Health Nurses (22)	D: Cross-sectional S: 250 mental health nurses V: resilience, psychological well-being, mental distress I: DASS-21, Ryff's PWB, CD-RISC A: Descriptive, t-test, ANOVA, regression	The research results report that the level of moderate-extreme stress is 66%, moderate-extreme anxiety is 56%, and depression is 25%. Resilience mediates the relationship between psychological distress and PWB. Higher distress is associated with lower resilience, and higher resilience is associated with higher PWB. Increased resilience can reduce the negative impact of distress on nurses' well-being.
Resilience, Burnout and Mental Health in Nurses: A Latent Mediation Model (21)	D: Cross-sectional S: 1165 Spanish nurses V: resilience, burnout, mental health issues I: RS-14, Maslach Burnout Inventory, GHQ-28 A: SEM, latent mediation	Resilience is negatively correlated with burnout and mental health disorders. 48.6 – 87% of the effect of resilience on mental health issues is mediated by burnout. Burnout has proven to be a strong mediator between resilience and mental health, meaning that high resilience reduces burnout, which in turn improves nurses' mental health.
Psychological distress, well-being, resilience, posttraumatic growth, and turnover intention of mental health nurses during COVID-19: A cross-sectional study (24)	D: Cross-sectional S: 144 Australian mental health nurses V: Psychological distress, well-being, resilience, posttraumatic growth, turnover intention I: CD-RISC, PROMIS Global Health A: T-test, linear regression	About 30-50% of nurses experienced moderate to high distress during the pandemic. High distress is associated with low resilience and well-being; nearly half of the nurses remained "flourishing."
The relationship between psychological resilience and professional quality of life among mental health nurses: a cross-sectional study (25)	D: Cross-sectional S: 179 mental health nurses V: resilience, compassion satisfaction, burnout, secondary traumatic stress I: CD-RISC, ProQOL A: correlation, regression	Resilience is positively related to compassion satisfaction, negatively related to burnout and secondary traumatic stress. Nurses with higher resilience tend to find positive meaning in their work and are better protected from emotional

Title	Design	Research Findings
Relationship between nurses' resilience and depression, anxiety and stress during COVID-19 in Taiwan (10)	D: Cross-sectional S: 600 nurses V: resilience, depression, anxiety, stress I: standards DASS resilience scale A: correlation	exhaustion. Regression analysis shows resilience as a strong predictor of the ProQOL dimensions. 33–40% of nurses experience depression, anxiety, or stress. Higher resilience is associated with lower mental health problems.
Predictors of Depression in Nurses During COVID-19 Health Emergency The Mediating Role of Resilience (26)	D: Cross-sectional S: 286 Peru nurses V: fear, stress, resilience, depression I: Self-report questionnaire A: SEM, correlation	The model shows that fear and stress predict depression; resilience mediates the effects of fear and stress on depression.
The mediating and moderating role of psychological resilience between occupational stress and mental health of psychiatric nurses (19)	D: Cross-sectional S: 413 psychiatric nurses V: work stress, resilience, mental health I: Chinese Nurses' Stress Scale, CD-RISC, WEMWBS, GHQ A: Descriptive, Spearman correlation, mediation/moderation (SmartPLS)	The research results show that 54.5% fall into the "positive mental health" category and 16.7% into the "completely troubled" category. Resilience has been shown to mediate the relationship between work stress and mental health, but not to moderate it. High work stress reduces resilience, and low resilience is associated with more psychological symptoms and less well-being.
Pandemic fatigue and clinical nurses' mental health, sleep quality, and job contentment during the COVID-19 pandemic: The mediating role of resilience (27)	D: Cross-sectional S: 225 clinical nurses V: pandemic fatigue, resilience, mental health, sleep quality, job satisfaction I: Pandemic Fatigue Questionnaire, Brief Resilience Scale, Job Contentment Scale, Sleep Quality Scale A: Correlation, mediation	Pandemic fatigue is associated with worse mental health, lower sleep quality, and decreased job satisfaction. Resilience has been shown to partially mediate that relationship, so nurses with high resilience do not experience a decline in mental health and job satisfaction as severely as nurses with low resilience.
The Mediating Role of Resilience in the Relationship between Perceived Stress and Mental Health (20)	D: Cross-sectional S: 214 Spanish nurses V: stress, resilience, well-being, anxiety, depression I: PSS-4, RS-14, WHO-5, PHQ-2, GAD-2 A: correlation, mediation	Resilience mediates the relationship between stress and various negative mental health outcomes. High stress levels decrease resilience, which in turn increases depression, anxiety, and distress. These findings confirm that interventions aimed at enhancing resilience have the potential to reduce the psychological impacts of pandemic stress on nurses.

DISCUSSION

Mental health problems among nurses were consistently reported across the included studies, particularly in the form of depression, anxiety, psychological distress, and burnout. The findings of this review indicate that a substantial proportion of nurses experience moderate to severe symptoms, especially in high-demand settings and during the COVID-19 period. These findings are consistent with broader evidence showing that approximately 30–40% of nurses report symptoms of depression, anxiety, or stress, with even higher proportions observed in specific contexts such as mental health nursing or pandemic conditions (10,22). Burnout and fatigue also emerged as prominent issues, particularly among early-career nurses and those exposed to high workloads and emotional demands (23).

Across all included studies, resilience demonstrated a consistent negative association with adverse mental health outcomes, including depression, anxiety, psychological distress, and burnout, as well as a positive association with well-being and job-related outcomes. However, it is important to note that all included studies employed cross-sectional designs; therefore, these findings reflect associations rather than causal relationships. While higher resilience is linked to better mental health outcomes, the directionality of this relationship cannot be definitively established, and reciprocal or bidirectional effects remain possible.

Several studies included in this review also suggest that resilience may function as a mediating factor, particularly in the relationship between work stress and mental health outcomes. For example, resilience was found to attenuate the impact of stress on depression, anxiety, and psychological distress, while burnout was identified as a partial mediator linking lower resilience to poorer mental health outcomes (Chen et al. 2022; Suazo Galdames et al. 2024). These findings suggest that resilience may influence how nurses respond to occupational stress.

These findings can be interpreted within established theoretical frameworks, such as the Job Demands–Resources (JD-R) model and the Effort–Reward Imbalance (ERI) model, which highlight the interaction between job demands and available resources in influencing mental health outcomes (Bouche et al. 2025; Yu et al.

2024). In this context, resilience may be understood as a personal resource that interacts with organizational factors, such as workload, support, and work environment. However, it should be emphasized that these models were not directly tested in the included studies and are used here only to support interpretation.

Importantly, the reviewed studies also indicate that the relationship between resilience and mental health is influenced by contextual and organizational factors. High workload, workplace stress, and limited organizational support were consistently associated with poorer outcomes, particularly among nurses with lower levels of resilience (Peng et al. 2025; Qing- et al. 2023). Conversely, nurses with higher resilience tended to report lower levels of distress and burnout even in demanding environments, although this protective association appeared to vary depending on the level of external support and work conditions.

While the findings suggest that resilience is an important factor associated with better mental health outcomes, it should not be interpreted as an isolated or sufficient solution. The evidence indicates that nurses' mental health is shaped by a combination of individual and organizational factors, and resilience operates within this broader context rather than independently. Therefore, approaches focusing solely on individual resilience without addressing structural work conditions may have a limited impact.

Overall, this review supports a consistent and meaningful association between resilience and better mental health outcomes among nurses. However, due to the cross-sectional nature of the evidence, conclusions regarding causality remain limited. Future research should prioritize longitudinal designs to clarify the directionality of these relationships, as well as intervention studies to evaluate the effectiveness of resilience-enhancing strategies. In addition, further studies should explore the role of organizational and contextual moderators, as well as cultural differences, in shaping the relationship between resilience and mental health outcomes.

Implications

The findings of this review have important implications for both clinical practice and future research. From a practice perspective, resilience should be recognized as a key psychological resource that can support nurses' mental health;

however, interventions should not focus solely on individual resilience enhancement. Instead, multilevel strategies are required, combining individual-level interventions (eg, resilience training, mindfulness-based programs, and emotional regulation strategies) with organizational-level improvements such as adequate staffing, workload management, supportive leadership, and safe work environments (6,8,15).

From a research perspective, future studies should prioritize longitudinal and prospective designs to clarify the directionality and causal pathways between resilience and mental health outcomes. In addition, intervention studies are needed to evaluate the effectiveness and sustainability of resilience-enhancing programs in diverse nursing populations. Future research should also explore the role of mediators and moderators, including burnout, organizational support, and cultural context, to better understand how resilience operates within complex health care systems. Finally, standardization of measurement tools would improve comparability and enable future meta-analyses.

Limitations

This review has several limitations that should be considered when interpreting the findings. First, all included studies employed cross-sectional designs, which limits the ability to establish causal relationships between resilience and mental health outcomes (10,19–25). Second, the included studies demonstrated methodological heterogeneity in terms of measurement instruments, outcome definitions, and analytical approaches, which precluded meta-analysis and may limit comparability across studies. Third, most studies relied on self-reported data, increasing the risk of common method bias and social desirability bias. Fourth, the inclusion of only English-language studies published between 2021 and 2025 may have resulted in language and publication bias, potentially excluding relevant evidence from other contexts. Finally, contextual factors such as organizational support, cultural differences, and health system characteristics were not consistently examined across studies, limiting the generalizability of findings.

CONCLUSION

Resilience was consistently associated with more favourable mental health outcomes among

nurses. These included lower levels of depression, anxiety, psychological distress, burnout, and fatigue, as well as higher well-being and quality of life. Studies also suggest that resilience may play a mediating role in the relationship between work-related stressors and mental health outcomes. However, as all included studies were cross-sectional, these findings indicate associations rather than causal relationships. While strengthening resilience may be a promising approach to support nurses' mental health, its effectiveness requires further validation through longitudinal and intervention studies. Future research should examine longitudinal pathways, intervention-based resilience enhancement, and the influence of organizational, contextual, and cultural factors on the relationship between resilience and mental health outcomes.

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Conflict of Interest

There is no conflict of interest.

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