

Psychosocial Risk Factors and Work Stress among Hospital Healthcare Workers : A Systematic Literature Review

¹ Wikan Rizky Atmaja*, ² Maria Goretti Catur Yuantari, ³ Slamet Isworo

¹Master Program of Public Health, Universitas Dian Nuswantoro

^{2,3}Departement of Health, Universitas Dian Nuswantoro

*Corresponding Author:

wikanatmaja17@gmail.com

ABSTRACT

Work stress among hospital healthcare workers is a significant occupational health issue that affects psychological well-being and healthcare service quality. Hospital work environments are characterized by high job demands, time pressure, emotional responsibilities, and complex organizational systems that increase exposure to psychosocial risks. This study aimed to analyze psychosocial risk factors associated with work stress among hospital healthcare workers.

A systematic literature review using a PRISMA-based approach was conducted by analyzing 28 primary research articles published between 2019 and 2024 retrieved from PubMed, Scopus, ScienceDirect, and Google Scholar. The findings indicate that high workload, time pressure, role conflict, role ambiguity, and low organizational support are the most consistent psychosocial risk factors contributing to increased work stress. In contrast, social and organizational support, adaptive coping strategies, and individual resilience function as protective factors that reduce stress levels.

These findings highlight that work stress among hospital healthcare workers is primarily shaped by the interaction between job demands and job resources as described in the Job Demands–Resources model. Therefore, organizational-level psychosocial risk management strategies, including workload regulation, supportive leadership, and strengthening institutional support systems, are essential to improve healthcare workers' psychological well-being and maintain hospital service quality.

Keywords: *work stress, psychosocial risk, healthcare workers, hospital, Job Demands - Resources model*

I. INTRODUCTION

Work stress has become a critical occupational health concern worldwide, particularly in high-risk and high-responsibility sectors such as healthcare. Work stress arises when job demands exceed an individual's psychological and physical capacity as

well as the available organizational resources. Persistent exposure to excessive stress may result in emotional exhaustion, decreased productivity, mental health disorders, and increased risk of professional errors (World Health Organization, 2022). In hospital settings, these consequences extend beyond employee well-being and may directly compromise patient safety and healthcare service quality.

Hospitals represent complex organizational systems characterized by intensive workload, time constraints, emotional labor, and continuous exposure to critical clinical situations. Healthcare workers are regularly confronted with psychosocial risks such as role conflict, role ambiguity, interpersonal tension, insufficient managerial support, and limited decision-making autonomy. The Job Demands–Resources (JD-R) model provides a comprehensive theoretical explanation of occupational stress, suggesting that psychological strain emerges when high job demands are not balanced by adequate job and personal resources (Bakker & Demerouti, 2007). Within this framework, job demands function as stressors, while job resources and personal resources act as buffering mechanisms.

Empirical evidence consistently demonstrates that excessive workload, extended working hours, and inadequate organizational support significantly increase work stress among healthcare professionals (Kim et al., 2023; Suhartono et al., 2023). The COVID-19 pandemic further amplified these stressors, intensifying psychological strain due to increased patient load, uncertainty, and resource scarcity (Hoedl et al., 2021). Conversely, studies have shown that social support, supportive leadership, adaptive coping strategies, and resilience mitigate stress levels and enhance psychological well-being (Brown et al., 2022; Norful et al., 2024).

Despite the growing body of research, existing studies predominantly focus on specific professional groups, particularly nurses, and often examine psychosocial determinants in isolation. There remains limited integrative synthesis that systematically analyzes psychosocial risk factors across multiple healthcare professions within hospital environments using a unified theoretical framework. Moreover, only limited review studies explicitly synthesize psychosocial risk factors using the Job Demands–Resources (JD-R) model to explain the interaction between job demands, job resources, and personal resources in shaping work stress outcomes among hospital healthcare workers.

Therefore, this study aims to synthesize and analyze psychosocial risk factors associated with work stress among hospital healthcare workers through a systematic literature review using a PRISMA-based approach. By integrating empirical findings within the JD-R framework, this study contributes theoretically by clarifying interaction mechanisms between organizational and individual determinants of work stress and provides evidence-based insights for strengthening psychosocial risk management strategies in hospital occupational safety and health systems.

II. METHOD

This study employed a systematic literature review (SLR) using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to identify, screen, and synthesize empirical studies examining psychosocial risk factors associated with work stress among hospital healthcare workers. The literature search was conducted using four electronic databases: PubMed, Scopus, ScienceDirect, and Google Scholar. The search strategy used combinations of the following keywords: (“work stress” OR “occupational stress”) AND (“psychosocial risk” OR “job demands” OR “organizational support” OR “role conflict”) AND (“healthcare workers” OR “medical staff” OR “hospital workers”).

The search strategy was developed based on the Job Demands–Resources (JD-R) theoretical framework to ensure the inclusion of both job demand and job resource variables related to work stress.

Studies were included if they were primary empirical research articles, conducted among hospital healthcare workers, examining psychosocial factors related to work stress, and published between 2019 and 2024 in English. Studies conducted outside hospital settings, review articles, conference abstracts, and studies not measuring work stress as an outcome variable were excluded.

Eligibility criteria were defined prior to the screening process to ensure transparency and consistency in study selection. Studies were included if they met the following criteria: empirical research articles, conducted among hospital healthcare workers, examining psychosocial risk factors related to work stress as the primary outcome variable, and published between 2019 and 2024. Studies were excluded if they

were review articles, conducted outside hospital settings, did not measure work stress as an outcome variable, or were conference abstracts without full-text availability.

The selection process followed the PRISMA guideline. From 205 identified articles, 62 were reviewed in full text and 28 studies met the inclusion criteria. The findings were analyzed using thematic synthesis based on the Job Demands–Resources (JD-R) model framework.

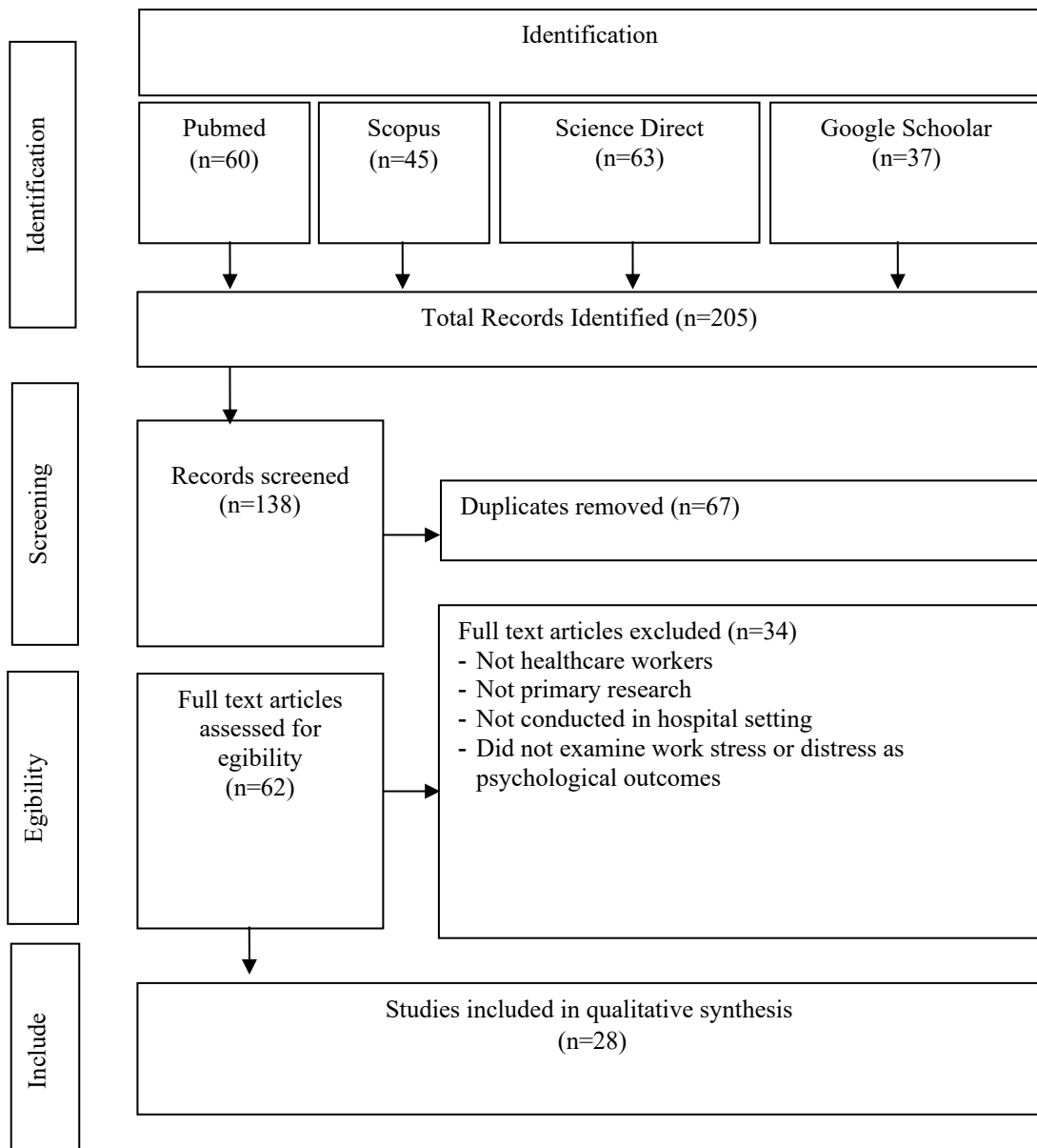


Figure 1. PRISMA Flow Diagram of the Study Selection Process

III. RESULTS AND DISCUSSION

Table 1. Summary of Research Findings on Psychosocial Factors and Work Stress
among Healthcare Workers in Hospitals (2019–2024)

No	Author	Country / Population	Sample	Design	Key Variables	Main Findings
1	Nasution et al. (2019)	Indonesia, hospital administrative staff	80	Cross-sectional	Workload, social support, work stress	High workload and low social support increased work stress ($p<0.05$).
2	Fitriyani et al. (2020)	Indonesia, nurses	150	Cross-sectional	Work stress, burnout	Work stress positively correlated with burnout ($r=0.52$; $p<0.01$).
3	Rachmawati & Wardhani (2020)	Indonesia, COVID-19 referral hospitals	230	Cross-sectional	Job demands, organizational support, work stress	High job demands and low organizational support increased stress.
4	Marbun et al. (2021)	Indonesia, government hospital nurses	180	Cross-sectional	Age, workload, work stress	Younger age and high workload increased work stress.
5	Lorente et al. (2021)	Spain, nurses	157	Cross-sectional	Coping, resilience, psychological distress	Adaptive coping and resilience reduced distress.
6	Hoedl et al. (2021)	Austria, healthcare workers	1,005	Cross-sectional	Workload, work stress	Stress increased significantly during COVID-19.
7	Ramdan & Sari (2021)	Indonesia, healthcare workers	200	Cross-sectional	Work factors, work stress	40% experienced moderate–severe work stress.
8	Babapour et al. (2022)	Iran, nurses	260	Cross-sectional	Workload, quality of life	High workload reduced quality of life ($p<0.01$).
9	Putri & Nugraha (2022)	Indonesia, private hospital nurses	120	Cross-sectional	Social support, work stress	Higher social support reduced work stress.
10	Brown et al. (2022)	USA, nurses	350	Longitudinal	Organizational support, emotional distress	Supervisor support reduced emotional distress.

No	Author	Country / Population	Sample	Design	Key Variables	Main Findings
11	Suhartono et al. (2023)	Indonesia, healthcare workers	212	Cross-sectional	Workload, job control, work stress	High workload and low job control increased stress.
12	Rohita et al. (2023)	Indonesia, healthcare workers	174	Cross-sectional	Role conflict, social support, work stress	Role conflict and low support increased stress.
13	Kim et al. (2023)	South Korea, nurses	210	Cross-sectional	Role ambiguity, relationships, work stress	Role ambiguity increased stress risk (OR 2.13).
14	Norful et al. (2024)	13 countries, healthcare workers	2,784	Cross-sectional	Organizational support, work-life balance, stress	Support and work-life balance reduced stress.
15	Gynning et al. (2024)	Europe, healthcare professionals	2,032	Cross-sectional	Job demands, resources, well-being	Job resources mediated job demands and well-being.
16	Wahid et al. (2024)	Pakistan, healthcare workers	300	Cross-sectional	Coping strategies, work stress	Adaptive coping reduced work stress.
17	Labrague & De los Santos (2020)	Philippines, hospital nurses	325	Cross-sectional	Organizational support, anxiety, work stress	Organizational support significantly reduced anxiety and work stress.
18	Zhang et al. (2020)	China, healthcare workers	1,563	Cross-sectional	Workload, psychological distress	High workload increased psychological distress significantly.
19	Lai et al. (2020)	China, healthcare workers	1,257	Cross-sectional	Exposure risk, mental health outcomes	Frontline workers reported higher stress levels than non-frontline staff.
20	Spoorthy et al. (2020)	India, healthcare workers	500	Cross-sectional	Fear of infection, stress	Fear of COVID-19 exposure increased stress levels significantly.
21	Algunmmeen et al. (2020)	Jordan, healthcare workers	430	Cross-sectional	Organizational preparedness, stress	Poor preparedness increased psychological stress.
22	De Kock et al. (2021)	UK, healthcare workers	1,194	Cross-sectional	Work environment, stress	Poor work environment increased stress and burnout risk.

No	Author	Country / Population	Sample	Design	Key Variables	Main Findings
23	Şahin et al. (2021)	Turkey, nurses	210	Cross-sectional	Workload, emotional exhaustion	Heavy workload significantly increased emotional exhaustion.
24	Hu et al. (2021)	China, nurses	2,014	Cross-sectional	Job stress, turnover intention	High job stress increased turnover intention significantly.
25	Salari et al. (2022)	Iran, healthcare workers	750	Cross-sectional	Anxiety, stress prevalence	Moderate–high stress prevalence found among healthcare workers.
26	Al Maqbali et al. (2022)	Oman, nurses	400	Cross-sectional	Workload, organizational support	Organizational support reduced occupational stress levels.
27	Chatzittofi s et al. (2023)	Cyprus, healthcare workers	424	Cross-sectional	Job demands, coping strategies	High job demands increased stress; coping reduced impact.
28	Al Sabei et al. (2024)	Oman, nurses	367	Cross-sectional	Work environment, job stress	Supportive work environment reduced job stress significantly.

The findings of this systematic literature review demonstrate that psychosocial risk factors associated with work stress among hospital healthcare workers can be comprehensively explained using the framework of the Job Demands–Resources Model. Across the 28 included studies, workload consistently emerged as the most dominant job demand influencing stress outcomes. Evidence from Indonesia (Nasution et al., 2019; Suhartono et al., 2023), South Korea (Kim et al., 2023), China (Hu et al., 2021), and Austria (Hoedl et al., 2021) demonstrates that time pressure, emotional labor, and task complexity significantly increase stress levels among healthcare workers. These findings support the health-impairment pathway of the JD-R model, which explains how sustained exposure to excessive job demands contributes to psychological strain through progressive energy depletion.

However, this review also indicates that workload alone does not fully determine stress outcomes across hospital contexts. Role conflict and role ambiguity consistently strengthened the relationship between job demands and work stress, particularly among healthcare workers who perform overlapping clinical and administrative responsibilities (Rohita et al., 2023; Kim et al., 2023). These findings suggest that structural clarity within hospital work systems plays a critical role in shaping stress experiences. Within the JD-R perspective, role-related uncertainty functions as a secondary demand amplifier that intensifies the psychological impact of workload rather than acting as an independent stressor alone.

Conversely, organizational support and social support emerged as the most consistent protective job resources across national contexts. Evidence from Indonesia (Putri & Nugraha, 2022), the United States (Brown et al., 2022), Oman (Al Maqbali et al., 2022; Al Sabei et al., 2024), and multinational hospital samples (Norful et al., 2024) demonstrates that supervisory engagement, collegial collaboration, and work–life balance policies significantly reduce perceived stress levels among healthcare workers. Importantly, several studies identified social support as a moderating variable that weakens the negative effects of workload on stress outcomes. This finding reinforces the motivational pathway assumption of the JD-R model, where job resources enhance adaptive capacity and reduce the psychological burden associated with demanding work environments.

Personal resources such as coping strategies and resilience further explained variations in stress outcomes across comparable workload conditions. Evidence from Spain (Lorente et al., 2021), Pakistan (Wahid et al., 2024), and Cyprus (Chatzittofis et al., 2023) indicates that adaptive coping strategies strengthen healthcare workers' psychological adjustment in high-demand hospital environments. In contrast, limited coping capacity increased vulnerability to stress even when exposure to workload remained similar (Marbun et al., 2021). These findings support recent extensions of the JD-R model emphasizing that personal resources function as active regulatory mechanisms influencing how healthcare workers interpret and respond to psychosocial risk exposure.

Another important contribution of this review is the identification of contextual differences between pandemic-period and post-pandemic studies. Earlier studies emphasized infection risk exposure and emergency workload escalation as primary stress drivers among healthcare workers (Lai et al., 2020; Zhang et al., 2020), whereas more recent studies increasingly highlight organizational preparedness, communication quality, and work–life balance policies as key determinants of psychological stability (Norful et al., 2024; Al Sabei et al., 2024). This shift suggests that psychosocial stress mechanisms in hospital environments evolve dynamically in response to organizational conditions and service delivery pressures rather than remaining constant across time.

Importantly, several studies reported weaker associations between workload and stress among healthcare workers with stronger resilience capacity and supportive leadership environments (Babapour et al., 2022; Labrague & De los Santos, 2020; Algunmeeyn et al., 2020). These findings confirm that job resources and personal resources interact synergistically with job demands in shaping occupational stress outcomes. From a theoretical perspective, this interaction strengthens the explanatory capacity of the JD-R model in hospital settings by demonstrating that psychosocial stress is produced through multidimensional system-level mechanisms rather than isolated exposure to workload intensity alone.

This review therefore contributes to the occupational health literature by synthesizing evidence showing that psychosocial risk factors influencing work stress among healthcare workers operate through dynamic interactions between structural job demands, organizational job resources, and individual personal resources. By integrating findings across multiple countries and healthcare systems, this study extends the application of the JD-R framework specifically within hospital environments, highlighting the importance of organizational context in shaping stress vulnerability among healthcare professionals.

From a practical perspective, the findings suggest that effective stress prevention strategies in hospitals should prioritize integrated organizational interventions that simultaneously reduce excessive workload and strengthen protective job resources. Policies that improve staffing adequacy, clarify role expectations, strengthen supervisory communication systems, and promote resilience-based coping training are more likely to

produce sustainable reductions in work stress compared with single-component interventions. Such multidimensional approaches are essential not only for improving psychological well-being among healthcare workers but also for maintaining service quality, patient safety, and long-term workforce sustainability within hospital systems.

Based on the systematic review of 28 selected articles, an overview of study characteristics was identified, including the healthcare professions involved, research designs employed, and psychosocial variables analyzed. The distribution of these characteristics is presented in Table 2.

Table 2. Characteristics of the Analyzed Studies

No	Study Aspect	Category	Number of Studies	Percentage (%)
1	Profession	Nurses	13	46.4
		Mixed healthcare workers	14	50
		Administrative staff	1	3.6
2	Research Design	Cross-sectional	27	96.4
		Longitudinal	1	3.6
3	Psychosocial Factors	Workload / Job demands	13	46.4
		Social / organizational support	9	32.1
		Role conflict / role ambiguity	2	7.1
		Coping strategies / resilience	4	14.3
		Burnout / mental health	1	3.6
		Work life balance	1	3.6
		Work environment	2	7.1
		Fear/ exposure risk(covid context)	2	7.1
		Individual characteristics	1	3.6

Psychosocial Risk Factors and Work Stress among Hospital Healthcare Workers

The findings of this systematic literature review indicate that psychosocial risk factors influencing work stress among hospital healthcare workers are consistently structured around the interaction between job demands and job resources, as conceptualized in the Job Demands–Resources (JD–R) model (Bakker & Demerouti, 2007; Lorente et al., 2021). Across the 28 reviewed studies, workload emerged as the most dominant job demand, while organizational support represented the most consistent protective job resource factor (Nasution et al., 2019; Kim et al., 2023; Suhartono et al., 2023; Norful et al., 2024).

This pattern confirms that work stress in hospital environments is strongly shaped by organizational working conditions rather than solely by individual vulnerability. The dominance of workload-related stressors across multiple professional groups suggests that work stress represents a structural occupational health issue affecting healthcare systems broadly (Hoedl et al., 2021; Brown et al., 2022).

Importantly, the review also identified an imbalance in the distribution of psychosocial stress research across professional categories. Although nurses remain the most frequently studied group, evidence involving non-clinical staff such as administrative personnel remains limited (Brown et al., 2022). This gap indicates that existing occupational stress literature may not fully represent the complexity of hospital systems, where administrative coordination roles contribute substantially to service delivery performance and workflow continuity (Norful et al., 2024).

Methodological Characteristics and Evidence Strength

Another important finding of this review is the dominance of cross-sectional study designs, which accounted for the majority of included articles. While cross-sectional studies are effective for identifying associations between psychosocial risk factors and work stress, they provide limited evidence regarding causal pathways and temporal dynamics of stress development (Bakker & Demerouti, 2007; Lorente et al., 2021).

This methodological pattern indicates that current evidence on healthcare worker stress remains largely descriptive rather than explanatory. Since the JD–R model conceptualizes work stress as a dynamic interaction between job demands and job resources over time, the limited number of longitudinal studies represents an important gap in the literature (Hoedl et al., 2021).

Furthermore, the reliance on self-report instruments across most studies introduces potential common method bias, which may influence the strength of reported associations between psychosocial variables and stress outcomes (Nasution et al., 2019; Kim et al., 2023). Therefore, future research should prioritize longitudinal and intervention-based designs to strengthen causal inference and support evidence-based occupational stress prevention strategies in hospital settings (Norful et al., 2024).

Dominant Psychosocial Risk Factors within the JD–R Framework

Across the reviewed literature, workload consistently emerged as the strongest predictor of work stress among healthcare workers (Nasution et al., 2019; Suhartono et al., 2023; Kim et al., 2023). High patient loads, time pressure, and emotional demands represent key components of the health impairment pathway described in the JD–R model (Bakker & Demerouti, 2007). These findings became particularly pronounced during the COVID-19 pandemic period, where increased service demand significantly intensified occupational stress exposure (Hoedl et al., 2021).

In contrast, organizational and social support functioned as the most consistent protective job resource factors (Putri & Nugraha, 2022; Brown et al., 2022; Norful et al., 2024). Supportive leadership, effective teamwork, and responsive institutional policies were repeatedly associated with lower stress levels across multiple healthcare professions, reinforcing the buffering function of job resources within the JD–R framework (Lorente et al., 2021).

Although role conflict and role ambiguity were examined in fewer studies, their consistent statistical association with stress outcomes suggests that structural role clarity represents an important organizational determinant of occupational stress in hospital environments (Kim et al., 2023).

Similarly, coping strategies and individual resilience contributed to stress reduction, but their protective effect appeared to depend strongly on the availability of organizational support (Lorente et al., 2021; Wahid et al., 2024). This finding indicates that individual coping capacity alone is insufficient to mitigate stress risk when structural job demands remain high.

Implications for Occupational Health Policy and Hospital Management

Taken together, the reviewed evidence suggests that effective stress prevention strategies in hospital settings should prioritize organizational-level interventions rather than relying solely on individual coping enhancement programs (Norful et al., 2024). Specifically, interventions that simultaneously reduce excessive workload and strengthen institutional support systems appear to provide the strongest protective effect against work stress (Brown et al., 2022; Putri & Nugraha, 2022). These findings support the application of the JD–R framework as an evidence-based conceptual model for designing

occupational stress prevention programs in healthcare institutions (Bakker & Demerouti, 2007).

Importantly, the limited availability of longitudinal and intervention-based research indicates that current hospital stress-management strategies may still rely more on associative evidence than on strong causal evaluation (Hoedl et al., 2021). Therefore, future research should focus on evaluating organizational interventions that directly target workload restructuring, leadership support mechanisms, and role clarity improvements across multidisciplinary healthcare teams.

This systematic literature review has several important strengths. It synthesizes evidence from 28 peer-reviewed studies involving multiple healthcare professions working in hospital settings, providing a comprehensive overview of psychosocial risk factors associated with work stress in multidisciplinary clinical environments. In addition, the application of the Job Demands–Resources model framework enabled a structured interpretation of the interaction between job demands and job resources influencing stress outcomes.

However, several limitations should also be considered. Most of the included studies used cross-sectional designs and relied primarily on self-reported measurement instruments, which may limit causal interpretation and introduce potential response bias. Furthermore, the dominance of nursing populations and the limited inclusion of administrative staff may restrict the generalizability of findings across all hospital professional groups. Despite these limitations, this review provides an integrated evidence synthesis that supports the development of organizational-level stress prevention strategies in hospital settings.

IV. CONCLUSION

This systematic literature review synthesizes evidence from 28 studies examining psychosocial risk factors associated with work stress among hospital healthcare workers and demonstrates that work stress is primarily shaped by the interaction between job demands and job resources as conceptualized in the Job Demands–Resources model (JD–R) model. Across the reviewed literature, workload consistently emerged as the most

dominant job demand factor contributing to increased stress levels, while organizational and social support represented the most significant protective job resource factors.

The findings indicate that work stress among hospital healthcare workers should be understood as a structural organizational issue rather than solely an individual psychological response. This review contributes to the existing literature by providing an integrated synthesis of psychosocial stress determinants across multidisciplinary hospital professions and by highlighting the central role of organizational working conditions in shaping occupational stress outcomes.

Importantly, this review also identifies gaps in the current evidence base, particularly the dominance of cross-sectional research designs and the limited representation of non-clinical healthcare personnel. These limitations suggest that future research should prioritize longitudinal and intervention-based approaches to better understand causal mechanisms and evaluate effective organizational stress prevention strategies in hospital settings.

Practically, the findings support the implementation of organizational-level interventions that simultaneously reduce excessive workload and strengthen institutional support systems as key strategies for preventing work stress among healthcare workers. Overall, this study contributes to occupational health research by clarifying the dominant psychosocial determinants of work stress in hospital environments and by reinforcing the importance of integrated demand–resource management strategies to improve healthcare worker well-being and service sustainability.

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