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Unraveling the Impact of Workload on Nurses' Turnover Intention in Hospital Settings: Scoping Review

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Abstract

Background

Excessive nursing workload is a global driver of high turnover rates in hospitals. However, the psychological pathways and organizational buffers influencing this relationship remain complex.

Aim

This scoping review aims to map the current evidence on the relationship between nurse workload and turnover intention, specifically focusing on the mediating and moderating mechanisms.

Method

A systematic scoping review was conducted following PRISMA-ScR guidelines. A comprehensive search was performed across PubMed, EBSCO, and Scopus for peer-reviewed articles published between 2020 and 2025. Studies were included if they investigated nursing workload (objective, subjective, or structural proxies) and its relationship with turnover intention in hospital settings.

Results

Fourteen studies met the inclusion criteria. Synthesis reveals a robust consensus: 13 of 14 studies confirmed a positive and significant relationship between workload and turnover intention. High workload operates primarily through a "health impairment pathway," with burnout (emotional exhaustion and depersonalization), job stress, and decreased job satisfaction acting as key mediators. Furthermore, the review identified critical moderating factors; the negative impact of workload can be significantly attenuated by organizational resources such as supportive leadership, perceived schedule control, and collegial social support. Notably, financial compensation alone was found to be insufficient in neutralizing the turnover cascade without concurrent improvements in the work environment.

Conclusion

Workload is a powerful predictor of nurse turnover intention, operating through complex psychological strains. To enhance retention, healthcare administrators must pivot from reactive measures to strategic investments in supportive leadership and healthy work environments that foster autonomy.

INTRODUCTIONS

Nurse retention is a cornerstone of high-quality healthcare delivery, as nurses play a pivotal role not only in determining clinical patient outcomes but also in anchoring interprofessional care teams. Currently, healthcare organizations worldwide face a significant challenge regarding high nurse turnover rates, which are estimated to reach approximately 16% globally (1). Notably, turnover intention among nurses is recorded to be even higher, with a prevalence reaching 27.7% in high-acuity settings such as intensive care units (2). This phenomenon entails substantial economic consequences and severely disrupts interdisciplinary collaboration (3). When nursing continuity is compromised, the ripple effects extend across the entire hospital ecosystem, impairing seamless communication and task delegation among physicians, allied health professionals, and hospital management. Furthermore, the ensuing staff shortages exacerbate the workload for the remaining nurses, creating a vicious cycle of fatigue that jeopardizes patient safety and the overall resilience of the multidisciplinary healthcare system.

The phenomenon of high nurse turnover has been extensively examined through the lens of various causal factors, including organizational political dynamics and work-family conflict (4). Among these, workload consistently emerges as one of the strongest and most persistent predictors of attrition. Numerous studies have demonstrated a strong positive association between workload both quantitative and qualitative and nurses' intention to leave. Quantitative workload, characterized by high nurse-to-patient ratios and the pressure of overtime, significantly increases turnover intention and disrupts safe staffing levels across hospital departments. (5, 6) In parallel, qualitative workload which encompasses high task complexity, emotional labor, and the mental demands of coordinating care with diverse multidisciplinary teams has been identified as a primary driver of burnout and the ultimate intention to leave the profession. (7, 8)

Recent evidence, including studies by Maniscalco et al. (2024) and Rotenstein et al. (2023), highlights that the relationship between workload and turnover intention is rarely linear; instead, it is heavily governed by complex mediating and moderating mechanisms. (9, 10) Several studies have identified emotional exhaustion, alongside diminished job and organizational satisfaction, as critical proximal mediators linking structural workload to a nurse's intention to leave. Excessive clinical demands inherently erode these crucial work attitudes, which in turn impairs the nurse's capacity to collaborate effectively within multidisciplinary healthcare teams (11, 12). Conversely, the adverse impacts of high workload can be significantly mitigated by moderating factors such as robust job resources, interprofessional supervisor support, and professional autonomy. Within a dynamic hospital environment, these factors serve as vital protective buffers, proven to attenuate the destructive effects of high job demands and sustain a resilient healthcare workforce. (13, 14)

This situation creates a significant gap in the existing literature; although numerous studies have examined mediation and moderation models, the resulting evidence remains fragmented and poorly integrated. A primary driver of this fragmentation is the fundamental disparity in defining and measuring "workload". While some studies utilize objective metrics, such as nurse-to-patient ratios, others rely on subjective perceptions of stress, thereby complicating efforts to synthesize these findings across different healthcare settings. Furthermore, the majority of studies have investigated only isolated aspects focusing solely on burnout or supervisor support, for instance resulting in a lack of research that comprehensively maps all relevant factors within a cohesive framework. Consequently, this leads to two primary gaps: (1) a Theoretical Gap, characterized by the absence of a comprehensive conceptual model that integrates these variables; and (2) a Practical Gap, wherein nursing leaders, human resource professionals, and multidisciplinary hospital administrators lack evidence-based guidelines for selecting the most appropriate, system-wide intervention

To address the persistent fragmentation and lack of synthesis within the current literature, a scoping review methodology is the most appropriate approach. Unlike systematic reviews which typically focus on narrow quantitative questions such as measuring effect sizes scoping reviews are specifically designed to map the volume, nature, and characteristics of broad, complex, and diverse evidence. Therefore, this review aims to systematically map existing research to address three key questions: (1) How are the constructs of 'workload' and 'turnover intention' defined and measured in empirical studies involving inpatient hospital nurses? (2) What key factors including mediators, moderators, and other antecedents have been investigated to explain the relationship between workload and turnover intention? and (3) What are the principal findings and research gaps identified within this literature? By conducting this mapping, this scoping review is expected to provide a baseline synthesis, identify both well-researched areas and those requiring further investigation, and contribute to the development of a more integrated theoretical framework that can guide multidisciplinary retention strategies.

METHOD

Research Design

This study adopted a scoping review design to comprehensively map the existing literature on the impact of workload on nurse turnover intention. This review was conducted in accordance with the methodological framework developed by Arksey & O'Malley (2005) (15) and further refined by Levac et al. (2010) (16), and the Joanna Briggs Institute (JBI) methodology for scoping reviews (17). The reporting of this review adheres to the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). (18)

A scoping review approach was chosen as the most appropriate method to clarify key concepts (particularly the fragmentation between objective and subjective workload), identify knowledge gaps, and examine the conduct of research in this area. Unlike systematic reviews, which aim to synthesize evidence of effectiveness, this design allows for the inclusion of a variety of study methodologies to provide a broad overview of the complex relationship between workload mechanics and turnover intention in hospital settings.

Eligibility Criteria

Eligibility criteria were established based on the Population, Concept, and Context (PCC) framework, guided by the JBI methodology. The specific inclusion parameters were defined as follows:

Population: Inpatient nurses working within hospital settings.

Concept: Workload and turnover intention, including the various factors influencing this relationship (e.g., mediators, moderators, and contributors).

Context: Hospital environments globally, encompassing general, specialist, government, or private hospitals, regardless of region or country.

Search Strategy

Adhering to the PRISMA guidelines for literature reviews, a comprehensive search was conducted across databases including PubMed, EBSCO, Scopus to identify full-text articles published up to September 25, 2025. Search keywords were adapted according to each specific database and included terms such as 'Workload,' 'Personnel Turnover,' 'Intention to Leave,' 'Nurses,' 'Nursing Staff,' and 'Hospital'.

To maintain the recency and empirical focus of the review, articles were excluded if they were published more than five years ago or were literature reviews. During the selection phase, all reviewers independently screened the retrieved titles, abstracts, and full texts against the established PCC criteria to determine final inclusion.

Data Extraction

Data extraction was conducted independently by the reviewers (M.H.T., A.S.M., H.R.A., M.A.A., R.A., W.S., S.S., V.C.N) using a standardized data charting form aligned with the JBI methodology. The extracted data included author(s), year of publication, study location, study design, population characteristics (e.g., gender, sample size), key variables or exposures, measurement instruments, and main results. Any discrepancies during the extraction process were resolved through consensus or by consulting a designated senior reviewer (A.S.M.).

Data Analysis and Synthesis

A narrative synthesis approach was adopted, given that a quantitative meta-analysis was not feasible due to the significant methodological and contextual heterogeneity across the included studies. The extracted findings were thematically organized into three key domains: (1) the impact of workload on nurse well-being, (2) its subsequent influence on nurse retention, and (3) the underlying mediation and moderation mechanisms. This thematic analysis focused on identifying consistent patterns and constructing a coherent explanatory model based on the available evidence, ultimately aiming to provide actionable insights for multidisciplinary hospital management.

RESULTS

Study Selection

The initial literature search across three major electronic databases (PubMed, EBSCO, and Scopus) yielded a total of 4,493 records. Following the removal of duplicate records, the remaining articles were screened based on predefined filters, including publication within the last five years, focus on the nursing field, open-access availability, and peer-reviewed journal status. Subsequent screening of titles and abstracts, followed by a rigorous full-text review, was conducted in strict adherence to the established Population, Concept, and Context (PCC) criteria.

This comprehensive selection process resulted in 14 empirical studies meeting all inclusion criteria for the final narrative synthesis. All selected studies specifically examined the relationship between workload or closely related constructs and turnover intention among nurses in hospital settings, providing critical evidence for multidisciplinary healthcare management. The detailed step-by-step study selection process is illustrated in the PRISMA flow diagram (Fig. 1).

Characteristics of Included Studies

The fourteen studies included in this synthesis, published between 2020 and 2025, exhibited considerable diversity across geographic regions, study designs, and clinical settings (Table 1). Geographically, the studies were distributed across Europe (n = 7; including France, Italy, Sweden, Switzerland, Slovenia, Turkey, and one European multicenter study), Asia (n = 6; China, Japan, Iran), and North America (n = 1; United States). Methodologically, the majority of the research employed a cross-sectional design (n = 11), alongside two longitudinal or prospective cohort studies, and one mixed-methods approach.

Table 1
Data Extraction and Summary of Included Studies

Author (Year)	Country	Study Design	Setting & Sample	Workload / Strain Instrument	Turnover Intention Instrument	Key Findings (Mechanisms & Outcomes)
Matsuo et al. (2021) [27]	Japan	6-month prospective cohort	9 national/public hospitals near Tokyo; 975 nurses	Overtime and work stress data; *Strain proxy*: Maslach Burnout Inventory–GS	Intention to Leave Scale (Tei-Tominaga & Yamazaki, 6 items)	Burnout (especially cynicism and exhaustion) is strongly related to turnover intention. Work–life balance behaviors and salary satisfaction act as protective buffering factors.
Zhou et al. (2022)[22]	China (Jiangsu)	Cross-sectional	20 county hospitals; 654 newly recruited female nurses	Perceived Stress Scale (PSS; 6 dimensions, including role & workload stress)	3-item Turnover Intention Scale (Singh et al.)	Role and workload stress, patient care stress, and lack of knowledge significantly increase turnover intention directly.
Wong et al. (2024)[29]	Hong Kong (China)	Cross-sectional online survey	13 public hospitals; 502 RNs	Job demands: work overload, job stress, work–family conflict, conflict with nurses	2 items (Organizational and Occupational Turnover; adapted from Yamaguchi et al.)	All work demands increase turnover intention through burnout (mediator). Work overload and job stress also exert a direct positive effect on turnover intention.
Şeki & Özlük (2025)[11]	Turkey	Descriptive–correlational, SEM	7 hospitals (public, private, university); 373 nurses	Workload Scale (Duxbury & Higgins, 11 items)	Intention to Leave Scale (Mobley et al., 3 items)	Workload increases turnover intention both directly and indirectly (mediated by decreased job satisfaction and organizational identification).
Bruyneel et al. (2025)[19]	France	Cross-sectional with longitudinal workload	61 ICUs (mostly public/academic); 1,271 ICU nurses	Nursing Activities Score (NAS; objective workload per patient/nurse)	Single item: Intention to leave the hospital within 1 year (binary)	The prevalence of shifts with NAS > 100% (objective overload) is significantly associated with higher turnover intention.
Friese et al. (2024)[23]	USA (Michigan)	Repeated cross-sectional surveys (2022 & 2023)	Licensed RNs in Michigan; 9,150 (2022), 7,059 (2023)	Understaffing and mandatory overtime metrics; *Strain proxy*: Oldenburg Burnout Inventory (OBI)	Single item: Plans to leave position within 12 months	Structural workload (understaffing/mandatory overtime) is the primary driver of planned exit. Emotional exhaustion is tightly linked to plans to leave.
Maniscalco et al. (2024)[9]	Belgium, Netherlands, Italy, Poland	Cross-sectional multisite (JD-R based)	8 hospitals; 1,351 nurses	COPSOQ Job Demands (22 items: workload, work pace, emotional/cognitive demands)	METEOR Turnover Intention Scale (2 items: hospital and profession)	Job demands increase depersonalization and decrease job satisfaction, which subsequently and indirectly elevate turnover intention.
Skela Savič et al. (2025)[25]	Slovenia	Cross-sectional exploratory	10 general/clinical hospitals; 1,010 RNs and HCAs	Overtime hours per month; *Strain proxy*: MBI-HSS Emotional Exhaustion subscale	Single item: Intention to leave the hospital within 1 year	Emotional exhaustion and a high frequency of overtime hours are each significantly and positively associated with turnover intention.
Liu et al. (2025)[26]	China (Shandong)	Cross-sectional, chain mediation model	12 hospitals; 744 OR nurses	*Strain proxy*: Chinese Maslach Burnout Inventory (22 items)	6-item Turnover Intention Scale (Li JY)	High professional mission increases professional identity, which subsequently reduces burnout, indirectly lowering

Note: Abbreviations: RN, Registered Nurse; HCA, Health Care Assistant; ICU, Intensive Care Unit; OR, Operating Room; HR, Human Resources; SEM, Structural Equation Modeling; JD-R, Job Demands-Resources; NAS, Nursing Activities Score; PSS, Perceived Stress Scale; MBI, Maslach Burnout Inventory; MBI-HSS, Maslach Burnout Inventory-Human Services Survey; OBI, Oldenburg Burnout Inventory; COPSOQ, Copenhagen Psychosocial Questionnaire; NASA-TLX, NASA Task Load Index.

Author (Year)	Country	Study Design	Setting & Sample	Workload / Strain Instrument	Turnover Intention Instrument	Key Findings (Mechanisms & Outcomes)
						turnover intention (chain mediation).
Mousavi et al. (2023)[20]	Iran (Khuzestan)	Cross-sectional (COVID-19 period)	3 hospitals; 300 COVID-19 ward nurses	NASA-TLX (mental workload; 6 dimensions)	Turnover Intention Questionnaire (Kim et al., 15 items)	Mental workload positively correlates with turnover intention, primarily mediated by job stress. Resilience acts as an integral mediating buffer against stress.
Tang et al. (2023)[28]	China	Cross-sectional	48 public hospitals; 2,863 clinical nurses	Work overtime frequency; Night sleep deprivation and workplace violence as structural proxies	Single item: Turnover intention (binary)	Overtime alone was not significant in the final model, but acute manifestations of workload (poor sleep and workplace violence) significantly increased turnover intention.
Catania et al. (2024)[5]	Italy	Multicenter descriptive & regression	15 hospital organizations; 1,046 nurses	Administrative workload: Patient-to-nurse ratio in the last shift (RN4CAST)	Single item: Intention to leave within 1 year (RN4CAST)	Higher patient-to-nurse ratios (workload) and elevated turnover intentions collectively indicate severe HR strain and are associated with adverse patient outcomes.
Eriksson et al. (2020)[21]	Sweden	Longitudinal (3 yearly waves)	5 urban hospitals; 516 RNs, 324 assistant nurses	COPSOQ II Job Demands (quantitative, work pace, emotional demands)	Single item: Frequency of thinking about applying for another job	Job demands heavily predict turnover intention. Job resources (e.g., trust and social support) significantly moderate/mitigate the impact of high work pace.
Gehri et al. (2023)[24]	Switzerland	Cross-sectional multicenter	13 psychiatric hospitals; 994 RNs	Work-schedule demands: Overtime and shift changes at short notice	Single item: Frequency of thinking about looking for a new job (NEXT)	Overtime and sudden shift changes increase turnover intention. Schedule control and supervisor support act as critical moderating buffers to retain staff.

Note: Abbreviations: RN, Registered Nurse; HCA, Health Care Assistant; ICU, Intensive Care Unit; OR, Operating Room; HR, Human Resources; SEM, Structural Equation Modeling; JD-R, Job Demands-Resources; NAS, Nursing Activities Score; PSS, Perceived Stress Scale; MBI, Maslach Burnout Inventory; MBI-HSS, Maslach Burnout Inventory-Human Services Survey; OBI, Oldenburg Burnout Inventory; COPSOQ, Copenhagen Psychosocial Questionnaire; NASA-TLX, NASA Task Load Index.

The clinical settings varied widely, encompassing general and university hospitals, psychiatric facilities, and high-acuity specialized departments such as intensive care units (ICUs), operating rooms, and surgical or internal medicine wards. This broad scope highlights that workload-induced turnover is a pervasive, system-wide issue traversing various multidisciplinary healthcare environments. However, this diversity also warrants caution in generalizing the findings, given the inherent differences in international healthcare systems, staffing policies, and cultural contexts.

Workload and Turnover Intention Measurement

Methodological Approaches to Workload Measurement

Workload is a multidimensional concept measured across the reviewed literature using three primary methodological approaches: objective metrics, subjective self-reports, and psychosocial or structural proxies. Objective measurements rely on quantifiable clinical data, utilizing tools such as the Nursing Activities Score (NAS) to calculate intervention intensity (19) or administrative nurse-to-patient ratios (5). Conversely, subjective measurements capture nurses' personal evaluations of their work intensity through validated scales like the Workload Scale (11) or the NASA Task Load Index for cognitive demands. (20)

The third approach utilizes psychosocial frameworks and structural proxies to contextualize workload within broader job demands. This includes employing instruments such as the Copenhagen Psychosocial Questionnaire (COPSOQ) (9, 21), the Perceived Stress Scale (22), or relying on indicators like overtime frequency and staff shortages (23–25). Notably, while instruments assessing burnout such as the Maslach Burnout Inventory (MBI) and Oldenburg Burnout Inventory (OBI) are not direct measures of workload, they are frequently paired with these metrics to capture the resulting psychological strain that immediately precedes turnover intention (23, 26, 27).

Measurement of Turnover Intention

Similar to the assessment of workload, the operationalization of turnover intention across the reviewed studies varied significantly, primarily falling into two methodological categories. The first category utilized single-item questions or direct inquiries, an approach frequently employed in large-scale or multicenter surveys to minimize respondent burden. These items typically asked nurses to self-report their intention to leave within a specific timeframe (e.g., the next 12 months) or utilized a simple dichotomous (Yes/No) or frequency format, such as querying how often they thought about looking for a new job. (5, 19, 24, 25) In contrast, the second category relied on validated multi-item scales designed to capture the cognitive and behavioral nuances of the intention to quit. Studies adopting this approach utilized standardized Likert-scale instruments, including scales developed by Tei-Tominaga, Mobley et al., Kim et al., and Li JY, as well as the METEOR Turnover Intention scale. (9, 20, 22, 26, 27)

Furthermore, a critical conceptual distinction emerged within the literature regarding the scope of turnover intention. While the majority of studies focused narrowly on the intention to leave the current hospital or clinical setting (organizational turnover), a subset of studies explicitly differentiated this from the intention to leave the nursing profession entirely (occupational turnover). This distinction is vital for multidisciplinary healthcare administrators to understand whether excessive workload merely drives nurses to seek better hospital environments or forces them out of the healthcare industry altogether.

Synthesis of Thematic Findings

Direct Positive Relationship Between Workload and Turnover Intention.

The detailed findings from each included study, including the specific workload metrics, turnover intention measurements, and the underlying mediating and moderating variables, are summarized in Table 2. Direct Positive Relationship Between Workload and Turnover Intention. There is a robust consensus across the reviewed literature, with 13 of the 14 included studies reporting a positive and statistically significant relationship between nursing workload measured either directly or through structural proxies and turnover intention. Excessive workload consistently emerged as a strong predictor of the intention to leave, regardless of how the construct was operationalized. For instance, objective measures such as a Nursing Activities Score (NAS) exceeding 100% per nurse (19), subjective workload perception (19), workload perception (11), and mental workload indices (20) all demonstrated profound impacts on nurses' intentions to quit. Furthermore, structural proxies of workload, including the frequency of overtime (24) and high job demands (28), were similarly identified as critical drivers. Consequently, these unmanageable demands precipitate severe psychological strains most notably burnout (23, 26, 27) and emotional exhaustion (25) which directly catalyze the withdrawal process.

Table 2
Summary of Mediating and Moderating Mechanisms

Author (Year)	Workload / Strain Concept	Direct Effect on TI?	Mediating Variables (Connecting Paths)	Moderating Variables (Buffering Effects)	Key Conclusion / Mechanism
Matsuo et al. (2021) [27]	Overtime and work stress (Strain proxy: Burnout)	Yes	Not formally tested (Burnout treated as a direct predictor)	None tested (Work-life balance and salary satisfaction act as independent protective factors)	Burnout (especially cynicism) directly increases turnover intention (TI); work-life balance and pay satisfaction independently reduce TI.
Zhou et al. (2022)[22]	Role and workload stress (Perceived Stress Scale)	Yes	None tested	None tested	Role and workload stress directly increase the turnover intention of newly recruited nurses.
Wong et al. (2024)[29]	Job demands (work overload, job stress, work-family conflict)	Yes (for specific demands)	Burnout mediates the influence of all job demands on organizational/professional TI.	Pay satisfaction (tested, but did not significantly moderate the demands–burnout–TI path)	Job demands increase burnout, which in turn increases TI; work overload and job stress also exert direct independent effects.
Seki & Özlük (2025)[11]	Quantitative workload (amount of work/hours)	Yes	Job satisfaction and Organizational identification (Workload ↓ JS/OI → TI ↑)	Gender (moderates the workload → organizational identification path)	Heavy workload directly increases TI and indirectly exacerbates it by decreasing job satisfaction and organizational identification.
Bruyneel et al. (2025)[19]	Objective ICU workload (NAS > 100%)	Yes	None tested	None tested (A better work environment acts as an independent protective predictor)	Frequent objective overload significantly increases TI; better environmental practices strongly reduce TI.
Friese et al. (2024)[23]	Understaffing and mandatory overtime (Strain proxy: Emotional exhaustion)	Yes	Not formally modeled (Conceptually: workload → emotional exhaustion → planned exit)	None tested	Structural workload (understaffing and mandatory overtime) drives planned exits, tightly linked to high emotional exhaustion.
Maniscalco et al. (2024)[9]	Job demands (workload, work pace, emotional/cognitive)	No (Fully mediated)	Depersonalization and Job satisfaction (Demands ↑ DP & ↓ JS → TI ↑)	None formally tested as moderators	Heavy workloads operate primarily through indirect pathways, increasing depersonalization and decreasing job satisfaction, which subsequently drive TI.
Skela Savič et al. (2025)[25]	Overtime frequency (Strain proxy: Emotional exhaustion)	Yes	None tested	None tested	High overtime hours and severe emotional exhaustion both independently and directly increase TI.
Liu et al. (2025)[26]	Strain proxy: Job burnout (exhaustion, depersonalization, reduced personal accomplishment)	Yes (Strain → TI)	Chain mediation: Professional mission → Professional identity → Job burnout	None tested	Burnout directly increases TI; a strong professional mission enhances professional identity, which reduces burnout and indirectly lowers TI.

Note: Abbreviations: TI, Turnover Intention; JS, Job Satisfaction; OI, Organizational Identification; DP, Depersonalization; EE, Emotional Exhaustion; WLB, Work-Life Balance; HR, Human Resources; NAS, Nursing Activities Score; JD-R, Job Demands-Resources; NASA-TLX, NASA Task Load Index; MBI, Maslach Burnout Inventory; ↑, Increase/Positive relationship; ↓, Decrease/Negative relationship; →, Lead to/Direction of effect

Author (Year)	Workload / Strain Concept	Direct Effect on TI?	Mediating Variables (Connecting Paths)	Moderating Variables (Buffering Effects)	Key Conclusion / Mechanism
Mousavi et al. (2023)[20]	Mental workload (NASA-TLX)	Yes	Job stress and Resilience (Mental workload ↑ Stress → TI ↑)	None tested	High mental workload increases job stress, elevating TI; resilience acts as an integral mediating buffer that weakens this stress pathway.
Tang et al. (2023)[28]	Overtime frequency (Proxies: night sleep deprivation, workplace violence)	No (Overtime non-significant after control)	Not formally modeled (Conceptually: disrupted sleep and reduced quality of working life)	None tested	Raw overtime hours lose significance in the final model, but acute manifestations (sleep deprivation, workplace violence) directly increase TI.
Catania et al. (2024)[5]	Objective nurse–patient ratio (Administrative workload)	Not assessed directly against TI	None tested	None tested	High patient-to-nurse ratios (workload) and elevated TI independently increase patient mortality, both reflecting severe systemic HR strain.
Eriksson et al. (2020)[21]	Job demands (quantitative, work pace, emotional demands)	Yes (Especially for nursing assistants)	None tested	Job resources (social support, vertical trust, interprofessional collaboration)	Job demands strongly predict TI. Job resources significantly moderate/mitigate the effects of work pace and emotional demands, but do not buffer quantitative overload.
Gehri et al. (2023)[24]	Work schedule demands (overtime, sudden shift changes)	Yes	None tested	Perceived schedule control and Supervisor support	Overtime and short-notice shift changes increase TI. Schedule control and supervisor support act as critical moderating buffers against schedule burden.

Note: Abbreviations: TI, Turnover Intention; JS, Job Satisfaction; OI, Organizational Identification; DP, Depersonalization; EE, Emotional Exhaustion; WLB, Work-Life Balance; HR, Human Resources; NAS, Nursing Activities Score; JD-R, Job Demands-Resources; NASA-TLX, NASA Task Load Index; MBI, Maslach Burnout Inventory; ↑, Increase/Positive relationship; ↓, Decrease/Negative relationship; →, Lead to/Direction of effect

Interestingly, the single study that did not find a statistically significant relationship between generalized workload (e.g., overtime hours) and turnover intention in its final multivariable model (29) still confirmed the destructive nature of extreme clinical demands. Specifically, Tang et al. (2023) identified that workload-induced consequences, namely night sleep deprivation (AOR = 1.391–1.808) and exposure to workplace violence, remained powerful and significant predictors of turnover intention.(29) This indicates that while the raw hours of work may occasionally be buffered by other factors, the acute physical and environmental manifestations of an unmanageable workload inevitably drive nurses away from the bedside.

Mediating Mechanisms (The Pathways of Strain)

Regarding mediating factors, several included studies explicitly examined the psychological pathways and work attitudes bridging workload and turnover intention. Rather than a simple direct effect, the literature reveals that workload primarily operates through indirect mechanisms, which can be grouped into two broad domains: (1) psychological strain and (2) work-related attitudes.

Burnout and its core components emerged as the most prominent mediators across the reviewed literature. For instance, Wong et al. (2024) demonstrated that burnout fully or partially mediated the impact of various job demands on the intention to leave both the organization and the profession. (28) Similarly, Maniscalco et al. (2024) revealed that the direct effect of job demands on turnover intention dissipated once mediators were introduced; instead, heavy workloads exerted their destructive effects indirectly by significantly increasing depersonalization and decreasing job satisfaction. (9) Even in studies without formal mediation modeling, such as Friese et al. (2024) and Skela-Savič et al. (2025), emotional exhaustion was consistently positioned as the primary proximal consequence of understaffing and mandatory overtime,

tightly linking structural burden to the decision to quit. (23, 25) Furthermore, Liu et al. (2025) highlighted burnout as a critical link in a chain mediation model, where a strong professional mission enhances professional identity, which subsequently reduces burnout and indirectly lowers turnover intention. (26)

Job stress also serves as a critical connecting pathway. mousavi et al. (2023) found through path analysis that high mental workload directly increases job stress, which in turn elevates turnover intention.(20) Crucially, their model identified resilience not as a moderator, but as an integral mediating variable that buffers other mental factors before they manifest as job stress. Beyond psychological strain, deteriorating work attitudes represent a parallel mediating pathway. Seki & Özlük (2024) demonstrated that quantitative workload indirectly exacerbates turnover.

Moderating Mechanisms (The Buffering Effects)

Conversely, several studies identified moderating factors capable of attenuating the adverse effects of heavy workloads. At the organizational level, robust job resources such as perceived supervisor support, vertical trust, and flexible work-schedule control serve as critical buffers.(21, 24) Extrinsic organizational rewards, particularly pay level satisfaction, were also found to significantly moderate the psychological strain, reducing the likelihood of nurses leaving despite high clinical demands (27, 28). At the individual level, proactive work-life balance behaviors and high Quality of Working Life (QWL) metrics act as protective shields against the turnover cascade (29). By mapping these mechanisms, it becomes evident that multidisciplinary healthcare administrators must actively intervene at both the mediation and moderation stages to retain nursing talent effectively.

DISCUSSION

This scoping review of 14 studies, published over the past five years, provides a comprehensive synthesis of recent evidence regarding the relationship between nursing workload and turnover intention in hospital settings. A principal finding is the conceptual and operational diversity in defining "workload" across the literature. The term is frequently used interchangeably to describe objective demands (e.g., patient-to-nurse ratios or NAS scores) (5, 19), subjective perceptions of overload (11, 20), and even the resulting psychological consequences, such as burnout, emotional exhaustion, and stress (22, 23, 27). While this overlapping terminology particularly the conflation of workload as a causal demand versus burnout as a psychological strain (30), presents challenges for direct cross-study comparisons, the overarching conclusion remains remarkably robust. Despite these measurement variations, 13 of the 14 included studies unequivocally confirmed a positive and statistically significant relationship between heavy workload, or its structural proxies, and nurses' turnover intention. (11, 19, 23, 28)

These findings strongly corroborate classic occupational health frameworks, most notably the Job Demands-Resources (JD-R) model (31), wherein workload serves as a primary "job demand." The mediating mechanisms identified in this review specifically the roles of burnout, stress, diminished job satisfaction, and reduced organizational identification (11, 20, 26, 28), perfectly map onto the health impairment pathway predicted by the JD-R model. High clinical workloads continuously deplete nurses' energetic and emotional resources, precipitating severe psychological distress (22, 27). This distress subsequently erodes positive work attitudes (11, 26), ultimately driving the intention to withdraw from the organization or the profession entirely.

Arguably, the most critical finding for multidisciplinary healthcare management lies in the buffering effects of moderating factors. This review demonstrates that the translation of heavy workload into turnover intention is not an inevitable trajectory. Modifiable organizational factors, categorized as "job resources," have proven highly effective in mitigating these adverse effects, aligning seamlessly with the buffering hypothesis of the JD-R model (31). Specifically, supportive leadership (24) and strong collegial social support (21) act as vital protective shields. Furthermore, the evidence indicating that perceived control over work schedules provides twice the protective effect of merely avoiding overtime (24) suggests that fostering workplace autonomy and empowerment is just as crucial as ensuring adequate staffing ratios. (32)

Interestingly, the observation by Wong et al. (2024) that pay satisfaction does not significantly moderate the relationship between burnout and turnover intention offers a profound managerial perspective (28). It suggests that retention strategies relying solely on financial compensation without concurrently improving the psychosocial work environment through workload management and enhanced support are fundamentally insufficient. This aligns directly with Herzberg's Two-Factor TheoryHerzberg (1966), which posits that salary functions merely as a "hygiene factor" to prevent basic dissatisfaction, rather than an intrinsic motivator capable of neutralizing severe burnout. (33)

Limitations of the Review

It is important to interpret the findings of this scoping review in light of several methodological limitations, stemming from both the primary literature and the review process itself. A primary limitation is the predominance of cross-sectional designs (comprising 11 of the 14

included studies), which restricts the ability to draw definitive causal or temporal inferences. Furthermore, nearly all studies relied heavily on self-reported data, introducing potential common method and social desirability biases. The conceptual and operational heterogeneity surrounding the definition of "workload" also presents a challenge; the occasional conflation of workload as a structural job demand with burnout as a resulting psychological strain complicates direct cross-study synthesis. strain complicates direct cross-study synthesis.

Regarding the review methodology, in accordance with standard scoping review frameworks, we did not conduct a formal methodological quality or risk-of-bias assessment. Consequently, findings from studies with potential methodological weaknesses were given equal weight to those from more rigorous designs. Additionally, the synthesis was strictly narrative; the absence of a meta-analysis precludes the statistical aggregation of effect sizes. Finally, the literature search was restricted to three major databases and limited to open-access, peer-reviewed articles. This approach, alongside the exclusion of grey literature (e.g., dissertations and conference proceedings), may have omitted relevant research published in subscription-based journals or non-traditional formats.

Implications for Policy and Multidisciplinary Practice

At the meso (hospital organization) and macro (governmental or health ministry) levels, these findings advocate for systemic structural reforms. Hospital administrators must reframe leadership training for nurse managers not merely as an operational expense, but as a strategic investment to ensure workforce stability. Managerial development programs should explicitly cultivate competencies in supportive leadership and the creation of positive practice environments. Furthermore, the consistent identification of excessive workload as a primary predictor of turnover (19, 23) provides a compelling evidence base for mandating safe nurse-to-patient ratios. Adequate staffing policies are imperative not only for safeguarding patient safety (5) but also for ensuring the long-term sustainability of the nursing workforce.

At the macro level, policymakers should incentivize the adoption of the Healthy Work Environment (HWE) framework as a universal standard for healthcare human resource management. The findings of this review particularly regarding the protective roles of autonomy, collegial support, and effective conflict resolution strongly resonate with core HWE principles. Institutionalizing these frameworks will foster healthier clinical ecosystems, thereby significantly enhancing the retention of multidisciplinary nursing professionals.

Implications for Further Research

While this review extensively maps the current research landscape, it also highlights critical gaps that future investigations must address to advance the field. Given the heavy reliance on cross-sectional data, future research is strongly encouraged to adopt prospective longitudinal designs to firmly establish causality, building upon the multi-wave approaches seen in studies like Eriksson et al. (2021) (21). Ideally, such studies would measure objective workload at baseline (T1), psychological mediators at subsequent intervals (T2), turnover intention later on (T3), and actual turnover utilizing human resource retention records (T4).

Moreover, because the descriptive literature confirming the basic workload–turnover relationship is now saturated, future scholarly efforts should pivot toward intervention studies. Cluster-Randomized Controlled Trials (cRCTs), for instance, are urgently needed to test the real-world efficacy of targeted organizational interventions. Future research could evaluate whether clinical units led by managers who underwent supportive leadership training exhibit significantly lower burnout and turnover rates compared to control units. Methodologically, researchers must also standardize the measurement of "workload" by clearly delineating objective demands (e.g., patient ratios, NAS scores, and working hours), subjective demands (e.g., the Workload Scale), and psychological strains (e.g., burnout measured via the MBI). Eliminating this conceptual overlap is vital for theoretical precision. Finally, future studies should explore more complex, multi-level interaction models, such as investigating whether supportive leadership only effectively mitigates workload-induced strain when coupled with a high degree of schedule autonomy.

CONCLUSION

This comprehensive scoping review maps the past five years of empirical research, confirming that excessive nursing workload is a critical, pervasive driver of turnover intention in hospital settings. Whether operationalized through objective clinical metrics, subjective self-reports, or structural proxies, unmanageable job demands consistently precipitate severe psychological strain most notably burnout and emotional exhaustion which ultimately catalyzes a nurse's decision to leave.

Crucially, however, this review highlights that the trajectory from high workload to turnover intention is not deterministic. The adverse impacts of intense clinical demands can be significantly buffered by modifiable organizational resources, including supportive leadership, collegial support, schedule autonomy, and the reinforcement of professional identity. Consequently, the onus of nursing retention rests primarily on healthcare organizations to cultivate healthy, empowering work environments, rather than relying solely on individual nurses' resilience to endure unsustainable conditions. Strategic, long-term solutions to the nursing turnover crisis demand systemic investments in managerial leadership and psychosocial support structures, rather than superficial reactive measures or exclusively financial compensation.

Declarations

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ETHICS STATEMENT

Ethical approval and informed consent were not required for this study as it is a scoping review of publicly available peer-reviewed literature and did not involve direct interaction with human participants or animals.

DECLARATION OF GENERATIVE AI

The authors used Google Gemini during the preparation of this work to improve readability and language structure. After using this tool, the authors reviewed and edited the content and take full responsibility for the integrity of the manuscript.

DISCLOSURE

The authors had no conflicts of interest in this research.

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AUTHORS CONTRIBUTIONS

Made substantial contributions to the conception and design of the systematic review, literature search, study selection, data extraction, quality assessment, or analysis and interpretation of data: M.H.T., A.S.M., H.R.A., M.A.A., R.A., W.S., S.S., V.C.N; Involved in drafting the manuscript or revising it critically for important intellectual content: M.H.T., A.S.M., H.R.A., M.A.A., R.A., W.S., S.S., V.C.N; Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content: M.H.T., A.S.M., H.R.A., M.A.A., R.A., W.S., S.S., V.C.N; Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: M.H.T., A.S.M., H.R.A., M.A.A., R.A., W.S., S.S., V.C.N.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Clinical Trial Number

Not applicable.

Availability of data and materials

The datasets (e.g., search strategies, data extraction sheets, and quality assessment results) generated and/or analyzed during the current systematic review are available from the corresponding author, [MHT], upon reasonable request.

Competing interests

The authors declare no competing interests.

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Figures

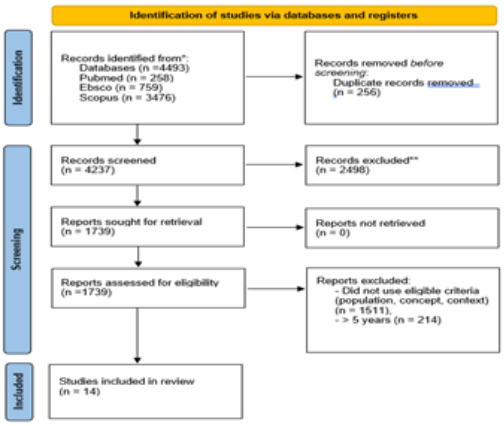


Figure 1

PRISMA Flow Diagram. Adapted from Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic

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