

Factors Influencing Attrition and Retention of Nursing Staff in India: A Review

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Abstract: Nursing staff form the backbone of every healthcare delivery system, and their stability is directly linked to the quality, safety, and continuity of patient care. In India, hospitals and healthcare organisations increasingly report high rates of nursing attrition, which strain already limited human resources and inflate the costs associated with recruitment, orientation, and training. This review synthesises the existing literature on the factors that influence attrition and retention among nursing staff in India, drawing on both domestic studies and comparable international evidence. The available research indicates that attrition is rarely driven by a single cause; rather, it emerges from the interaction of individual, organisational, economic, and socio-cultural factors. Low remuneration, heavy workloads, limited career progression, weak organisational support, and migration opportunities abroad have repeatedly been identified as key drivers of turnover. Conversely, retention is strengthened by supportive leadership, competitive compensation, a positive organisational culture, structured career development, and meaningful employee engagement. This review is organised around a general introduction to the problem context, an examination of the healthcare workforce environment, a discussion of methodological approaches used in the field, and an integrated literature review covering demographic and personal factors, organisational and workplace factors, and economic and career-related factors. Three summary tables consolidate the findings across studies. The review concludes that a holistic, evidence-based retention strategy—combining fair pay, humane working conditions, and clear professional growth pathways—is essential to stabilise the nursing workforce in India. Directions for future research, including the need for longitudinal and predictive modelling studies, are also outlined.

Keywords: Nursing Staff, Attrition, Retention, Healthcare Workforce, India.

I. INTRODUCTION

Conventional 1.1 Background of the Study

The healthcare sector worldwide depends heavily on a stable and adequately staffed nursing workforce. Nurses represent the largest single occupational group within most health systems and are responsible for the majority of direct patient contact, monitoring, and bedside care. In India, the rapid expansion of private hospitals, the growth of tertiary care institutions, and rising public health demands have amplified the need for skilled nursing professionals. However, the supply of nurses has not kept pace with demand, and the situation is worsened by the movement of trained nurses out of the profession or out of the country. A rapid review of the global evidence found that attrition from the health workforce is a persistent and costly phenomenon that undermines service delivery in both high- and low-income settings (Castro Lopes et al., 2017). Within the Indian context, the challenge is compounded by uneven distribution of health workers, with rural and semi-urban facilities suffering the greatest shortages.

Attrition, broadly defined, refers to the gradual reduction of staff through resignation, retirement, migration, or exit from the profession. Retention, its counterpart, describes the ability of an organisation to keep its employees engaged and employed over time. The interplay between these two forces determines the overall stability of a hospital's

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workforce. Studies of the wider human-resource literature emphasise that managing this balance is one of the central challenges of twenty-first-century organisations, requiring integrated strategies rather than isolated interventions (Hashim & Hameed, 2012). For nursing specifically, the stakes are particularly high because staff turnover is directly associated with reduced continuity of care, increased error rates, and diminished patient satisfaction.

The concept of attrition in the health workforce should also be distinguished by its several forms. Voluntary attrition, in which nurses choose to leave for better opportunities, differs from involuntary attrition arising from termination or restructuring, and both differ again from professional attrition, in which trained nurses abandon clinical practice altogether. Each form has distinct causes and demands distinct responses. In India, voluntary attrition and professional attrition are of particular concern, because they represent the loss of scarce, publicly and privately funded human capital. When this loss is combined with international migration, the effective supply of nurses available to the domestic system contracts even as demand continues to expand, producing a structural imbalance that recruitment alone cannot resolve.

1.2 The Nursing Workforce Environment in India

The environment in which Indian nurses work is characterised by demanding schedules, high patient-to-nurse ratios, and, in many facilities, limited institutional support. Efforts to rationalise duty allocation—such as automated scheduling systems piloted in tertiary teaching hospitals in south India—illustrate both the scale of the workload problem and the potential for systematic solutions (D'souza et al., 2021). Despite such innovations, many nurses continue to experience fatigue, stress, and dissatisfaction that erode their commitment to a given employer. The organisational climate, including relationships with supervisors and the availability of professional development, plays a decisive role in shaping whether nurses choose to stay or leave.

India is also a major source country for internationally recruited nurses. Trained Indian nurses are actively sought by hospitals in the Gulf states, Europe, and countries such as South Africa, where migration offers higher salaries and improved living conditions. A case study of Indian nurses recruited to work in South African hospitals highlighted the multiple factors—financial, professional, and personal—that influence whether such nurses remain in their host country or return home (Coustas, 2019). This international dimension means that domestic retention efforts must compete with attractive opportunities abroad, further intensifying the pressure on Indian healthcare institutions.

1.3 Significance and Scope of the Review

Understanding the drivers of nursing attrition and retention is significant for several reasons. First, replacing an experienced nurse is expensive: recruitment, orientation, and the productivity loss during the learning curve of a new hire all impose substantial costs on institutions. Second, high turnover disrupts team cohesion and institutional knowledge, which are difficult to rebuild. Third, workforce instability has direct consequences for patient outcomes, as continuity of care is a recognised determinant of safety and quality. Evidence from adjacent sectors, such as the Indian information technology and technology industries, reinforces the general principle that structured retention practices and early-tenure support markedly reduce turnover (Deshpande & Gupta, 2021; Haque, 2024). These lessons, while drawn from other fields, are instructive for healthcare human-resource planning.

Beyond costs and outcomes, there is an ethical and public-health dimension to workforce stability. A shortage of experienced nurses places a heavier burden on those who remain, creating a vicious cycle in which overwork drives further departures. This dynamic is especially damaging in a country such as India, where the health system already faces significant human-resource constraints and where equitable access to care depends on a sufficient and well-distributed nursing workforce. Stabilising nurse retention is therefore not merely an organisational efficiency issue but a matter of health-system resilience and social equity.

The scope of this review encompasses peer-reviewed studies, systematic reviews, and industry analyses relevant to nursing attrition and retention, with a primary focus on India and supporting evidence from comparable international contexts. The review deliberately integrates literature on employee engagement, employer branding, and organisational



culture, because these constructs have proven central to retention outcomes in healthcare settings (Gupta, 2017; Goyal & Kaur, 2023). By bringing together this diverse body of work, the review aims to provide a coherent picture of the problem and to identify actionable levers for improvement.

1.4 Structure of the Paper

The remainder of this paper is organised as follows. The literature review section is divided into four subsections. The first outlines the methodological approaches used in the field, establishing how attrition and retention have been measured and modelled. The second examines demographic and personal factors that influence nurses' decisions to stay or leave. The third considers organisational and workplace factors, including leadership, workload, and culture. The fourth addresses economic and career-related factors, encompassing remuneration, career development, and migration. Three tables summarise key studies and findings across these themes. The paper then draws conclusions about the most influential factors and the most promising retention strategies, before outlining directions for future research.

II. LITERATURE REVIEW

The literature on nursing attrition and retention is broad, spanning empirical surveys, systematic reviews, qualitative inquiries, and predictive modelling studies. This section synthesises that literature under four headings, beginning with the methods researchers have used and then examining the substantive factors that shape retention outcomes.

2.1 Methodological Approaches in Attrition Research

Researchers have employed a variety of methods to study attrition and retention, reflecting the multifaceted nature of the phenomenon. Survey-based studies remain the most common approach; for example, an attrition analysis among staff nurses used a structured survey to quantify turnover and to catalogue the retention strategies adopted by institutions (Cathrine, 2019). Systematic reviews and meta-analyses aggregate findings across many studies to produce more generalisable estimates; a systematic review of attrition rates across the health workforce demonstrated the value of this approach for identifying consistent patterns (Castro Lopes et al., 2017). Similar systematic methods have been applied in adjacent domains, such as the retention of patients in care programmes, where determinants were pooled across multiple settings (Abebe Moges et al., 2020).

Qualitative approaches complement these quantitative designs by capturing the lived experience of nurses and nursing students. A qualitative study of nursing students repeating units in an undergraduate programme, for instance, revealed the emotional and academic challenges that can foreshadow later attrition from the profession (Elmir et al., 2019). Systematic reviews of nursing curriculum design have likewise linked educational structure to attrition among undergraduate nursing students, underscoring that the pipeline into the profession is itself a site of loss (Chan et al., 2019).

More recently, machine-learning and predictive-modelling techniques have entered the field, offering the ability to forecast which employees are most at risk of leaving. A study applying machine-learning approaches to employee turnover demonstrated that data-driven models can identify at-risk staff with useful accuracy, enabling targeted retention interventions (Chakraborty et al., 2021). Each of these approaches carries characteristic limitations. Cross-sectional surveys capture attitudes at a single moment and cannot easily establish causation; systematic reviews depend on the quality and comparability of the underlying studies; qualitative work offers depth at the expense of generalisability; and predictive models require large, well-maintained datasets that many Indian institutions do not yet possess. A robust evidence base therefore requires triangulation across methods, with findings from one design corroborating and contextualising those from another. Table 1 summarises these principal methodological approaches, their typical data sources, and their strengths.

Table 1. Methodological approaches used in attrition and retention research.

Approach	Typical Data Source	Strength	Representative Study
Survey / cross-sectional	Questionnaires from staff	Quantifies turnover and	Cathrine (2019)



Approach	Typical Data Source	Strength	Representative Study
		strategies	
Systematic review / meta-analysis	Pooled published studies	Generalisable estimates	Castro Lopes et al. (2017)
Qualitative interviews	Nurse / student narratives	Depth and lived experience	Elmir et al. (2019)
Predictive modelling	HR and administrative records	Forecasts at-risk employees	Chakraborty et al. (2021)

2.2 Demographic and Personal Factors

A recurring theme in the literature is the influence of demographic and personal characteristics on nurses' intentions to stay or leave. Age, marital status, family responsibilities, and career stage all shape retention outcomes. Younger nurses and new entrants are frequently the most vulnerable to early attrition, as they weigh their initial workplace experiences against alternative opportunities. Evidence from the Indian information-technology sector shows that the retention of newcomers is a distinct challenge requiring dedicated onboarding and support, a finding with clear parallels in nursing (Deshpande & Gupta, 2021). The broader technology-employee literature similarly emphasises that early-tenure engagement is decisive in determining whether talented staff remain (Haque, 2024).

Personal factors intersect with professional preparation. Nurses who feel inadequately prepared for the clinical demands of their roles are more likely to experience stress and to consider leaving. Studies of clinical competence, such as an assessment of basic life support knowledge among young doctors in India, illustrate how gaps between training and practice generate anxiety and dissatisfaction that can spill over into turnover intentions (Chandran & Abraham, 2020). Educational experiences during training, including the need to repeat units, can undermine confidence and commitment before a nurse even enters the workforce (Elmir et al., 2019; Chan et al., 2019).

Family and personal circumstances also weigh heavily in retention decisions, particularly for women, who constitute the vast majority of the nursing workforce in India. The desire for stable working hours, proximity to family, and support for caregiving responsibilities frequently influences whether a nurse remains with a given employer or seeks alternatives, including migration abroad (Coustas, 2019). These personal considerations interact with organisational conditions, discussed next, to determine overall retention.

2.3 Organisational and Workplace Factors

Organisational and workplace factors are among the most powerful and modifiable determinants of retention. Leadership quality, supervisory support, workload, staffing levels, and organisational culture all shape the daily experience of nurses. Heavy workloads and unfavourable patient-to-nurse ratios are consistently associated with burnout and turnover intention. Attempts to manage workload systematically, such as automated duty-scheduling systems in Indian tertiary hospitals, reflect institutional recognition of this problem and its impact on staff wellbeing (D'souza et al., 2021).

Employee engagement has emerged as a central construct linking organisational conditions to retention. A study developing an employee-engagement model in a tertiary care hospital demonstrated that engaged nurses are more committed and less likely to leave, and that engagement can be deliberately cultivated through management practices (Gupta, 2017). Closely related is the concept of employer branding: research on nurses found that a strong employer brand improves retention, with organisational culture and career development acting as mediating mechanisms (Goyal & Kaur, 2023). Together, these findings indicate that the reputation and internal climate of an institution are not incidental but are core levers of workforce stability.

Workplace culture also encompasses the interpersonal environment—relationships among colleagues, respect from physicians and administrators, and the presence or absence of a supportive team climate. Nurses who experience



incivility, poor communication, or a lack of recognition are more likely to disengage and eventually leave, whereas a collaborative and respectful climate fosters loyalty. Physical and psychological safety at work, including protection from violence and manageable exposure to emotionally demanding situations, further shapes whether nurses feel able to sustain a long career at a given institution. These cultural dimensions are often overlooked in favour of more easily measured factors such as pay, yet the literature consistently indicates that they exert a powerful independent influence on retention (Gupta, 2017; Goyal & Kaur, 2023).

The importance of organisational support extends to community and lay health workers in lower-income settings, where the availability of supportive resources strongly predicts programme effectiveness and sustainability (De Vries & Pool, 2017). While that evidence concerns a different cadre, it reinforces the general principle that supportive systems—supervision, resources, and recognition—are essential to keeping health workers engaged. International staffing analyses reach the same conclusion: a critical examination of NHS staffing trends identified retention as a strategic priority requiring sustained investment in working conditions and support rather than reliance on recruitment alone (Buchan et al., 2019). Table 2 consolidates the principal organisational factors and their reported effects on retention.

Table 2. Organisational and workplace factors influencing nurse retention.

Factor	Reported Effect on Retention	Representative Study
Workload / staffing levels	High workload lowers retention	D'souza et al. (2021)
Employee engagement	Engagement raises retention	Gupta (2017)
Employer branding & culture	Strong brand raises retention	Goyal & Kaur (2023)
Organisational support / resources	Support sustains health workers	De Vries & Pool (2017)
Strategic staffing investment	Improves long-term retention	Buchan et al. (2019)

2.4 Economic, Career, and Migration Factors

Economic considerations are frequently cited as the single most important driver of nursing attrition in India. Perceptions of inadequate or uncompetitive salaries, limited financial incentives, and the absence of performance-linked rewards push nurses toward better-paying employers or overseas positions. The survey of staff nurses found that compensation and financial security ranked prominently among both the reasons for leaving and the strategies most valued for retention (Cathrine, 2019). Financial pressures are not confined to staff; the broader Indian healthcare economy is characterised by high out-of-pocket costs and financial strain, as illustrated by studies of catastrophic expenditure among patients seeking cancer treatment, which reflect a system under considerable economic stress (Bose et al., 2022).

Career development and opportunities for advancement constitute a second major axis. Nurses who perceive clear pathways for professional growth, further education, and promotion are substantially more likely to remain with their employer. The mediating role of career development in the relationship between employer branding and retention underscores how central growth opportunities are to nurses' decisions (Goyal & Kaur, 2023). Lessons from technology-sector retention research reinforce this point, showing that investment in skills, progression, and recognition reduces turnover across knowledge-intensive occupations (Haque, 2024; Deshpande & Gupta, 2021).

Migration represents a distinctive economic and career factor in the Indian context. The prospect of higher earnings, better working conditions, and enhanced professional status abroad exerts a strong pull on trained nurses. The case study of Indian nurses in South African hospitals documented how financial and professional incentives shape migration and retention decisions in host countries (Coustas, 2019). More broadly, the global movement of health workers—and the attrition it causes in source countries—has been a consistent concern in the international literature (Castro Lopes et al., 2017; Buchan et al., 2019). Retention determinants identified in patient-care and community-



health programmes further illustrate that sustained engagement depends on aligning incentives with the needs and aspirations of health workers (Abebe Moges et al., 2020; De Vries & Pool, 2017).

Emerging areas of practice and implementation research also carry implications for the future shape of the workforce. Studies of technology-enabled health interventions, such as online cognitive stimulation therapy delivered in India and Brazil, highlight both the opportunities and the workforce-support requirements of new models of care (Fisher et al., 2024). System-level initiatives to improve health-service organisation, including structured programmes to strengthen delivery, similarly depend on a stable and motivated nursing workforce for their success (D'souza et al., 2021). Table 3 summarises the economic, career, and migration factors and their influence on attrition and retention.

Table 3. Economic, career, and migration factors influencing nurse attrition and retention.

Factor	Direction of Influence	Representative Study
Salary / compensation	Low pay increases attrition	Cathrine (2019)
Financial system pressure	Economic strain destabilises	Bose et al. (2022)
Career development	Growth paths raise retention	Goyal & Kaur (2023)
Skills & progression investment	Reduces turnover	Haque (2024)
Migration opportunities abroad	Pull factor for attrition	Coustas (2019)

III. CONCLUSION

This review has synthesised the literature on the factors influencing attrition and retention of nursing staff in India, integrating domestic evidence with comparable international and cross-sectoral studies. Several clear conclusions emerge. First, nursing attrition is a multi-causal phenomenon: no single factor accounts for turnover, and effective analysis requires attention to demographic, organisational, economic, and migration-related influences simultaneously. The methodological literature confirms that a combination of survey, systematic-review, qualitative, and predictive-modelling approaches is needed to capture this complexity (Cathrine, 2019; Castro Lopes et al., 2017; Chakraborty et al., 2021).

Second, among the modifiable determinants, organisational and workplace factors offer the greatest leverage for institutions. Employee engagement, supportive leadership, manageable workloads, a positive culture, and a strong employer brand are repeatedly associated with improved retention (Gupta, 2017; Goyal & Kaur, 2023; D'souza et al., 2021). These are within the direct control of hospital management and therefore represent the most immediate opportunities for intervention. Third, economic and career factors—particularly competitive compensation and clear pathways for professional growth—are decisive, and their absence drives both domestic turnover and migration abroad (Cathrine, 2019; Coustas, 2019; Haque, 2024).

A further conclusion concerns the level at which action is required. While individual institutions can and should improve their internal conditions, some drivers of attrition—especially the wage differentials that fuel migration and the economic pressures on the health system—operate at the sector and policy level. Addressing these will require coordinated action by professional bodies, health administrators, and government, including investment in nursing education, rationalised staffing norms, and improved conditions of service. In this sense, retention is not solely a management problem but a workforce-planning and policy challenge that spans the entire health system.

Taken together, the evidence points to the need for holistic, evidence-based retention strategies that combine fair remuneration, humane working conditions, structured career development, and deliberate engagement practices. Piecemeal measures are unlikely to succeed against the strong pull of alternative employment and international migration. Indian healthcare institutions that invest simultaneously across these dimensions are best positioned to stabilise their nursing workforce, contain the substantial costs of turnover, and protect the continuity and quality of



patient care. Lessons drawn from adjacent sectors, such as information technology, reinforce that structured, sustained investment in people yields measurable reductions in attrition (Deshpande & Gupta, 2021; Hashim & Hameed, 2012).

IV. FUTURE WORK

Several avenues warrant further investigation. First, the field would benefit from longitudinal studies that track individual nurses over time, rather than relying predominantly on cross-sectional surveys. Such designs would clarify the temporal sequence of events leading to attrition and would allow researchers to distinguish causes from correlates. Second, there is considerable scope for expanding the application of predictive analytics and machine-learning models to Indian nursing data; early evidence from turnover-prediction studies suggests these tools can identify at-risk staff and enable timely, targeted retention efforts (Chakraborty et al., 2021).

Third, future research should evaluate the effectiveness of specific retention interventions through rigorous, ideally experimental or quasi-experimental, designs. While the literature identifies factors associated with retention, fewer studies test whether deliberate changes—such as revised staffing ratios, engagement programmes, or enhanced career pathways—actually reduce turnover in the Indian context (Gupta, 2017; Goyal & Kaur, 2023). Fourth, given the prominence of migration, comparative studies of source-and-host country dynamics would deepen understanding of what makes domestic positions competitive with opportunities abroad (Coustas, 2019; Castro Lopes et al., 2017).

Finally, as new models of care emerge—including technology-enabled and community-based interventions—research should examine their implications for nursing roles, workload, and job satisfaction (Fisher et al., 2024; De Vries & Pool, 2017). Understanding how workforce support must adapt to these innovations will be essential to ensuring that the drive for modernisation does not inadvertently accelerate attrition. Collectively, these directions would strengthen the evidence base and support the design of more effective, context-sensitive retention strategies for nursing staff in India.

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