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Factors Influencing Appropriate Patient-to-Nurse Ratio in the Selected Tertiary Hospitals in South-South Nigeria

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Abstract

This study examined the reported patient-care outcomes of patient-to-nurse ratio in selected tertiary hospitals in south-south Nigeria. The study adopted a cross-sectional survey design, with a population which comprised of 1,489 registered nurses working in three selected tertiary hospitals. The sample size was 440 selected using a multi-stage sampling procedure. Data was collected using structured questionnaires with a reliability coefficient of 0.78. Analysis was done using frequencies, percentages, mean, chi-square tests and one-way analysis of variance. The findings showed that overall, 121 (29.6%) respondents were classified within the optimal staffing category and 288 (70.4%) within the not-optimal category. Staffing category differed significantly across hospitals, $\chi^2(2) = 15.303$, $p < .001$, and patient-to-nurse ratio scores also differed significantly across hospitals, $F(2,406) = 7.931$, $p < .001$. Major staffing challenges included recruitment difficulties, turnover, absenteeism, budget constraints, workload pressure and inadequate staffing support. The study concluded that the factors influencing the attainment of appropriate patient-to-nurse ratio are turnover, absenteeism, workload, patient volume, peak-period workload, shift-related shortages, recruitment difficulties, staff shortages, and staffing policies. It was recommended that relevant health authorities should address persistent nursing shortages through timely recruitment and replacement of staff lost through retirement, resignation, migration or other forms of attrition. Also, hospitals should improve welfare, incentives, supportive working conditions and opportunities for professional development to reduce avoidable turnover and migration.

Keywords: *Appropriate, Influencing factors, Nurse Ratio, Patient.*

Introduction

Healthcare systems depend substantially on the availability, competence, distribution and effective utilisation of health professionals. Although advances in medical technology, therapeutics, diagnostics and health information systems have transformed contemporary healthcare delivery, these innovations cannot independently ensure safe and effective patient care without an adequate and appropriately deployed health workforce. Indeed, the World Health Organisation (WHO, 2025) recognises the health workforce as a fundamental component of functioning health systems and identifies nurses as the largest occupational group within the global health workforce. Consequently, the availability and appropriate deployment of nurses have major implications for healthcare accessibility, continuity, quality, safety and health-system resilience.

Conceptually, therefore, a higher patient-to-nurse ratio means that one nurse is responsible for a larger number of patients, whereas a lower ratio means that fewer patients are assigned to each nurse. However, although numerical ratios are relatively simple to describe, their interpretation requires caution because the workload created by five stable ambulatory patients, for example, cannot reasonably be assumed to be equivalent to that created by five critically ill or highly dependent patients. Therefore, the adequacy of a patient-to-nurse ratio depends not only on numbers but

also on patient characteristics, clinical complexity, nursing activities, professional skill mix and organisational context.

The importance of nurse staffing has been recognised for decades. Foundational research demonstrated associations between nurse staffing and important patient outcomes. Needleman et al. (2002), for example, reported associations between higher proportions of nursing care provided by registered nurses and several favourable patient outcomes. Similarly, Aiken et al. (2002) demonstrated that increasing nurse workloads were associated with higher odds of patient mortality and failure to rescue, as well as higher levels of nurse burnout and job dissatisfaction. Although these earlier studies were conducted predominantly within high-income health systems, they established an important empirical foundation for subsequent research investigating whether differences in nursing workforce availability translate into measurable differences in patient outcomes.

More recent research has strengthened this evidence by using longitudinal and quasi-experimental designs. In a systematic review of longitudinal studies, Dall'Ora et al. (2022) evaluated 27 studies examining nurse staffing and patient outcomes in acute-care settings. Despite considerable methodological heterogeneity, the findings supported the proposition that higher registered-nurse staffing is associated with better patient outcomes, particularly reduced mortality. Importantly, longitudinal evidence provides greater temporal credibility than purely cross-sectional studies because staffing exposure can be examined before subsequent outcomes occur.

Similarly, Musy et al. (2021), using shift-level longitudinal data, demonstrated an association between exposure to lower registered-nurse staffing and increased inpatient mortality. Furthermore, Griffiths et al. (2024), in a large patient-level longitudinal study involving 185 wards across four acute hospital organisations, found that low registered-nurse staffing was associated with an increased risk of patient death. Their findings also demonstrated that staffing adequacy cannot be reduced solely to numbers because nursing-team composition, experience, temporary staffing and skill mix may influence outcomes. Nevertheless, the adverse effects associated with low registered-nurse staffing remained prominent, reinforcing the importance of maintaining sufficient numbers of appropriately qualified nurses.

Nevertheless, establishing an appropriate patient-to-nurse ratio is more complex than prescribing a uniform numerical standard. Twigg et al. (2021), in a systematic review of nurse-staffing methodologies, observed that mandated minimum ratios and nursing-hours-per-patient-day approaches have been implemented in some settings, but evidence comparing the effectiveness of specific staffing methodologies remains limited. Likewise, Griffiths et al. (2020), in a systematic scoping review of nursing workload and staffing tools, demonstrated substantial variation in how nursing workload is assessed and how staffing requirements are determined. Therefore, the central issue is not simply whether patient-to-nurse ratios matter, but how staffing should be determined in a manner that reflects patient-care requirements.

The WHO Regional Office for Africa (2021a) developed regional guidance for determining health-workforce staffing norms and standards for health facilities. The guidance reflects recognition that staffing standards should relate to service-delivery requirements, levels of care, workload and professional responsibilities. Consequently, workforce optimisation should be understood as a process of achieving an appropriate alignment between patient-care requirements and available nursing capacity rather than merely pursuing the lowest possible numerical ratio.

Patient acuity represents one particularly important determinant of nursing workload. Patients differ considerably in the intensity and complexity of care they require. A patient requiring continuous monitoring, repeated clinical interventions, assistance with multiple activities of daily living or complex medication management consumes substantially more nursing time than a relatively stable patient requiring minimal assistance. Therefore, staffing based solely on bed occupancy or patient census may fail to reflect the true burden of nursing work. Ross et al. (2023), in a systematic review examining nursing workload and patient-focused outcomes in intensive care, further demonstrated the importance of workload measurement within high-dependency clinical environments.

Similarly, clinical specialty influences the interpretation of staffing ratios. Intensive care units, emergency departments, medical wards, surgical wards, paediatric units and other specialised services differ in their patterns of patient dependency, care intensity and unpredictability. For instance, Drennan et al. (2024), in a systematic review of nurse staffing within emergency departments, found that lower staffing was generally associated with poorer quality indicators, including longer waiting periods, prolonged time to medications and therapeutic interventions, increased length of stay and greater risk of some adverse outcomes. Therefore, the consequences of inadequate staffing may vary across clinical environments, reinforcing the need for context-sensitive rather than universally uniform staffing recommendations.

health-worker migration has increased concern regarding retention. Studies among Nigerian health workers report high levels of intention to emigrate, with workplace conditions, burnout, workload and staffing inadequacy implicated in these intentions (Ajayi et al., 2025; Osonuga

et al., 2026). Consequently, even where hospitals have approved staffing establishments, vacancies, migration, retirement, leave, absenteeism and recruitment delays may reduce the number of nurses actually available to provide care on individual shifts.

The challenge is likely to be especially important within tertiary hospitals because such institutions manage complex patients and provide specialised referral services. The workload generated by a tertiary hospital cannot therefore be represented adequately by patient numbers alone. A smaller number of clinically unstable or dependent patients may require substantially more nursing time than a larger number of relatively stable patients. Accordingly, staffing decisions that rely exclusively on bed numbers or historical staffing establishments may fail to reflect contemporary workload. Thus, the need to investigate the factors influencing appropriate patient-to-nurse ratios in the selected tertiary hospitals in south-south Nigeria. The study provided answers to the following research questions:

1. What nurse-, ward- and institutional-level factors facilitate or constrain appropriate patient-to-nurse ratios in the selected tertiary hospitals?
2. Do patient-to-nurse ratios differ significantly across the selected tertiary hospitals in South-South Nigeria?

H_{02}: There is no statistically significant difference in patient-to-nurse ratios across the selected tertiary hospitals in South-South Nigeria.

Methodology

Research Design: The study adopted a cross-sectional survey design. This design was considered appropriate because data on existing patient-to-nurse ratios, staffing patterns, staffing inadequacy,

Study Area: The study was conducted in the South-South geopolitical zone of Nigeria. The South-South zone, which forms a substantial part of the Niger Delta region, comprises six states: Rivers, Bayelsa, Delta, Edo, Akwa Ibom and Cross River States. Three tertiary hospitals located in three states within the geopolitical zone participated in the study. These were Rivers State University Teaching Hospital in Rivers State, Delta State University Teaching Hospital in Delta State, and University of Uyo Teaching Hospital in Akwa Ibom State.

Population of the Study: The population of the study comprised registered nurses working in the three selected tertiary hospitals. The total nursing population across the three institutions was 1,489. **The inclusion Criteria** included registered nurses who: were employed in Rivers State University Teaching Hospital, Delta State University Teaching Hospital or University of Uyo Teaching Hospital; were available during the period of data collection; and provided informed consent to participate in the study.

Sample and Sampling Technique: The sample size of 440 was determined using the Cochran formula for estimating a population proportion: $n_0=Z^2p(1-p)/d$. Where: n_0 = initial minimum sample size; Z = standard normal deviate at 95% confidence level = 1.96; p = estimated population proportion = 0.50;1-p = 0.50; and = margin of error = 0.05. Because a multistage sampling technique was employed, a design effect of 1.5 was applied to account for the potential loss of statistical efficiency.

A multistage sampling technique was used to select respondents for the quantitative component of the study. At the first stage, the South-South geopolitical zone of Nigeria constituted the study region. The zone comprises Rivers, Bayelsa, Delta, Edo, Akwa Ibom and Cross River States. The states were grouped geographically, after which three states were selected to provide representation within the zone. At the second stage, one tertiary hospital was selected from each of the three participating states. The selected institutions were Rivers State University Teaching Hospital (RSUTH), Rivers State; Delta State University Teaching Hospital (DELSUTH), Delta State; and University of Uyo Teaching Hospital (UUTH), Akwa Ibom State. At the third stage, the calculated sample of 440 respondents was allocated proportionately to the three hospitals according to their respective nursing populations. Within each selected hospital, eligible nurses were recruited from the relevant wards and clinical units in accordance with the study inclusion criteria until the required allocation was attained.

Instruments for Data Collection: A researcher-developed structured questionnaire was used to collect quantitative data from the nurses. The questionnaire was designed to address the aim and specific objectives of the study. The instrument contained items covering sociodemographic and professional characteristics, existing patient-to-nurse ratios, staffing inadequacy, staffing patterns, workload, selected reported patient-care outcomes, factors affecting appropriate staffing and recommendations for guideline development. The questionnaire obtained information on respondents' current patient-to-nurse ratio using categories such as 1:4, 1:5, 1:10, greater than 1:10 and unsure.

Validity of the Instruments: The questionnaire was subjected to face and content validation. Draft copies of the instruments were given to three experts in nursing for review. The experts assessed the relevance of the items to the study aim and objectives, clarity of wording, appropriateness of the response formats and the extent to which the items adequately covered the concepts being investigated.

Reliability of the Instrument: A split half method of reliability was used to evaluate the reliability of the instrument. The internal consistency of the quantitative instrument was assessed using Cronbach's alpha. The questionnaire was administered to 44 nurses from a comparable population who were not included in the main study. The reliability analysis was conducted on 90 questionnaire items using SPSS version 27. The instrument yielded a Cronbach's alpha coefficient of 0.787. The coefficient indicated acceptable internal consistency and supported the use of the questionnaire for the main study.

Method of Data Collection: Data were collected through direct administration of the structured questionnaire to eligible nurses in the participating hospitals. The researcher was assisted by two trained research assistants. The researcher and assistants visited the selected hospitals and approached eligible nurses within the relevant wards and clinical units. Before administration of the questionnaire, the purpose of the study was explained to prospective participants. Participants were informed that participation was voluntary and that they could decline participation without any adverse consequences. Questions raised by potential participants were addressed before informed consent was obtained. Questionnaires were then administered to consenting respondents and retrieved after completion. A total of 440 questionnaires were distributed. Of these, 409 were adequately completed and suitable for analysis, giving a response rate of approximately 93.0%.

Method of Data Analysis: Quantitative data were coded, entered and analysed using the Statistical Package for the Social Sciences, version 27. Descriptive statistics were used to summarise the data. Categorical variables were presented using frequencies and percentages. Where applicable, quantitative or analytically coded variables were described using appropriate summary statistics. Data analysis was conducted in accordance with the specific objectives and hypotheses of the study.

Ethical Considerations: Ethical principles governing research involving human participants were observed throughout the study. A letter of introduction was obtained from the Department of Nursing and submitted to the relevant research and administrative authorities. Ethical approval was obtained from the appropriate research and ethics committees associated with Faculty of Basic Medical Sciences, Rivers State University.

Results

The results of the study are shown below:

Table 1: Reported Strategies and Facilitators for Improving Patient-to-Nurse Ratios (n = 409)

Strategy/facilitator	Frequency (n)	Percentage (%)
Recruitment of new employees	394	96.3
Recruitment incentives	253	61.9
Mandatory staffing ratios	208	50.9
Staff-retention programmes	168	41.1
Technology integration	159	38.9
Flexible scheduling	116	28.4

Multiple responses were permitted; therefore, percentages were calculated independently for each response option and do not sum to 100%.

Table 1 shows that recruitment of new employees was identified by 394 (96.3%) respondents. Recruitment incentives were identified by 253 (61.9%), while 208 (50.9%) identified mandatory staffing ratios. Staff-retention programmes were selected by 168 (41.1%), technology integration by 159 (38.9%), and flexible scheduling by 116 (28.4%). Regarding support for managing high patient volumes, 64 (15.6%) respondents reported receiving adequate support, 166 (40.6%) reported inadequate support, while 179 (43.8%) indicated that support was partial. Furthermore, 239 (58.4%) respondents indicated that flexible scheduling could improve staffing efficiency, 48 (11.7%) indicated that it would not, while 122 (29.8%) were unsure.

Table 2: Reported Barriers to Appropriate Patient-to-Nurse Ratios (n = 409)

Barrier	Frequency (n)	Percentage (%)
General shortage of staff	398	97.3
Recruitment difficulties	247	60.4
High turnover rates	150	36.7
Budget constraints	108	26.4
Lack of training	93	22.7
Absenteeism	80	19.6

Multiple responses were permitted; therefore, percentages were calculated independently for each barrier and do not sum to 100%.

Table 2 shows that 398 (97.3%) respondents identified general staff shortage as a barrier. Recruitment difficulties were identified by 247 (60.4%), high turnover rates by 150 (36.7%), budget constraints by 108 (26.4%), lack of training by 93 (22.7%), and absenteeism by 80 (19.6%). In addition, 237 (57.9%) respondents reported having experienced staffing shortages attributable to absenteeism, turnover or recruitment challenges. A total of 83 (20.3%) reported no such experience, while 89 (21.8%) were unsure.

Table 3: Ward Work Environment and Overtime Requirements among Respondents (n = 409)

Variable	Response	Frequency (n)	Percentage (%)
Perceived ward work environment	Very unsupportive	54	13.2
	Somewhat unsupportive	22	5.4
	Neutral	74	18.1
	Somewhat supportive	159	38.9
	Very supportive	100	24.4
Frequency of overtime requirement	Never	109	26.7
	Rarely	132	32.3
	Monthly	126	30.8
	Weekly	19	4.6
	Daily	23	5.6

Percentages were calculated using n = 409. The frequencies shown correspond to the reported percentages for the total sample. Ward work environment represents respondents' perception of organisational and workplace support within their clinical units, while overtime requirement refers to the reported frequency with which nurses worked beyond their usual scheduled hours.

The distribution of respondents according to their assessment of the ward work environment showed that 159 (38.9%) rated the environment as somewhat supportive, while 100 (24.4%) rated it as very supportive. A total of 54 (13.2%) rated the environment as very unsupportive, while 22 (5.4%) rated it as somewhat unsupportive. The remaining respondents reported a neutral work environment. Regarding overtime, 132 (32.3%) respondents reported that staff were rarely required to work overtime, while 126 (30.8%) reported monthly overtime. A total of 109 (26.7%) reported never working overtime, while 19 (4.6%) reported weekly overtime and 23 (5.6%) reported daily overtime.

Table 4: Nurse, Ward, and Institutional-Level Factors Influencing Patient-to-Nurse Ratios in the Selected Tertiary Hospitals (n = 409)

Level	Factor	Response/indicator	n	%
Nurse level	High turnover	Identified as a reason for staffing shortage	150	36.7
	Absenteeism	Identified as a reason for staffing shortage	80	19.6
	Overtime requirement	Monthly	126	30.8
		Weekly	19	4.6
		Daily	23	5.6
	Staff retention	Retention programmes identified as a staffing-improvement strategy	168	41.1
Ward level	High patient workload during peak periods	11–15 patients assigned to one nurse	121	29.6
		>15 patients assigned to one nurse	98	24.0
	Shift-specific staffing inadequacy	Afternoon shift	145	35.5
		Night shift	98	24.0
	Ward work environment	Very unsupportive	54	13.2
		Somewhat unsupportive	22	5.4
		Neutral	74	18.1
		Somewhat supportive	159	38.9
		Very supportive	100	24.4
Institutional level	General shortage of nurses	Identified as a staffing barrier	398	97.3
	Recruitment difficulties	Identified as a reason for staffing shortage	247	60.4

	Budget constraints	Identified as a reason for staffing shortage	108	26.4
	Lack of training	Identified as a reason for staffing shortage	93	22.7
	Institutional support for managing high patient volume	Adequate support	64	15.6
		Partial support	179	43.8
		No adequate support	166	40.6
	Recruitment of additional nurses	Identified as an optimisation strategy	394	96.3
	Recruitment incentives	Identified as an optimisation strategy	253	61.9
	Mandatory staffing ratios	Identified as an optimisation strategy	208	50.9
	Flexible scheduling	Identified as an optimisation strategy	116	28.4
	Flexible scheduling efficiency	Reported to improve staffing efficiency	239	58.4

n = frequency; % = percentage. Percentages were calculated using the total sample of 409 respondents. Some factors were obtained from multiple-response questions; consequently, percentages within those items are not expected to sum to 100%. Nurse-level factors relate principally to characteristics affecting the availability and sustainability of individual nursing personnel; ward-level factors relate to workload, patient assignment, shift demand and the immediate clinical work environment; institutional-level factors relate to recruitment, workforce availability, financing, organisational support and staffing policy. No composite percentage was calculated for each level because the questionnaire measured these factors as separate items rather than as validated nurse-, ward- or institutional-level scales.

Table 4shows that, at the nurse level, high turnover was reported by 150 (36.7%) respondents and absenteeism by 80 (19.6%). Regarding overtime, 126 (30.8%) respondents reported monthly overtime, while 19 (4.6%) and 23 (5.6%) reported weekly and daily overtime, respectively. Furthermore, 168 (41.1%) identified staff-retention programmes as a strategy for improving patient-to-nurse staffing. Similarly, at the ward level, 121 (29.6%) respondents reported that one nurse cared for 11–15 patients during peak periods, while 98 (24.0%) reported more than 15 patients per nurse. The afternoon shift was reported as the period of greatest staffing inadequacy by 145 (35.5%) respondents, followed by the night shift by 98 (24.0%). Regarding the ward work environment, 159 (38.9%) respondents rated it as somewhat supportive and 100 (24.4%) as very supportive, whereas 54 (13.2%) and 22 (5.4%) rated it as very unsupportive and somewhat unsupportive, respectively.

Furthermore, at the institutional level, general staff shortage was reported by 398 (97.3%) respondents, recruitment difficulties by 247 (60.4%), budget constraints by 108 (26.4%), and lack of training by 93 (22.7%). Only 64 (15.6%) respondents reported receiving adequate institutional support for managing high patient volumes, while 179 (43.8%) reported partial support and 166 (40.6%) reported inadequate support. Recruitment of additional nurses was identified as an optimisation strategy by 394 (96.3%) respondents, while recruitment incentives were identified by 253 (61.9%) and mandatory staffing ratios by 208 (50.9%).

Table 5: One-Way Analysis of Variance Comparing Patient-to-Nurse Ratio Scores Across the Selected Tertiary Hospitals

Source of variation	Sum of squares	df	Mean square	F-value	p-value	Decision
Between hospitals	24.928	2	12.464	7.931	<.001	Reject H_{02}
Within hospitals	638.035	406	1.572			
Total	662.963	408				

df = degrees of freedom; F = one-way analysis of variance statistic; α = .05. The significant omnibus test indicates that the mean patient-to-nurse ratio score differed among the three selected tertiary hospitals.

Table 5 shows a statistically significant difference in patient-to-nurse ratio scores across the selected tertiary hospitals, $F(2, 406) = 7.93$, $p < .001$. Since the p-value was below .05, the null hypothesis was rejected. Therefore, there was a statistically significant overall difference in patient-to-nurse ratio scores across the selected tertiary hospitals.

Discussion of Findings

The findings of the study were discussed below:

The most prominent barrier identified in the present study was the general shortage of nursing staff, reported by 97.3% of respondents. Recruitment difficulties were also identified by 60.4%, while turnover, budgetary constraints and absenteeism were additionally reported. The finding is consistent with Nigerian evidence. Ogbuabor et al. (2022) found that nurses identified inadequate staffing as a major problem and recommended improved staffing, compensation, training and participatory management. Similarly, the persistence of workload and staffing challenges across Nigerian settings suggests that workforce availability should be approached as a health-system planning issue rather than an isolated ward-management problem. Furthermore, recruitment alone is unlikely to provide a sustainable solution if newly recruited nurses

subsequently leave because of poor working conditions. This is supported by Bae (2024), whose systematic review found that inadequate and unsafe nurse staffing was associated with increased nurse turnover. In other words, inadequate staffing may create a self-reinforcing cycle: shortages increase workload, workload contributes to dissatisfaction and burnout, turnover then removes additional nurses, and the remaining staff become even more heavily burdened.

Migration emerged prominently in the qualitative findings, with participants describing the departure of nurses for employment opportunities outside Nigeria as contributing to staffing shortages. This finding is particularly important within the contemporary Nigerian context because international migration of health professionals has become an increasingly significant workforce issue. Badru et al. (2024), in a study of 513 Nigerian healthcare workers, reported that 80.1% intended to emigrate, while nurses demonstrated a higher intention to migrate than medical doctors. Burnout was independently associated with migration intention. Although intention does not necessarily translate into actual migration, such a high prevalence indicates substantial instability within the health workforce and supports the experiences described by respondents in the present study.

More recently, Ajayi et al. (2025) studied registered nurses working in government hospitals in South-West Nigeria and found high levels of burnout and strong intention to emigrate. Importantly, better work conditions were associated with lower burnout and reduced emigration intention, suggesting that retention is not determined solely by international salary differentials but also by the quality of the local working environment.

The present study also identified organisational support as an important issue. Only a small proportion of respondents indicated that they received adequate support for managing high patient volumes, while a much larger proportion described support as inadequate or only partial. Ogbuabor et al. (2022) similarly found that lack of participatory decision-making undermined nurses' quality of work life, while participation and supportive supervision were identified as potential improvements. Therefore, the current finding reinforces the importance of involving nurses in decisions that directly determine their workload and ability to provide care. Frontline participation may also improve implementation because staffing policies imposed without staff engagement can fail to reflect operational realities. Consequently, the developed guideline includes frontline nurse participation as a specific domain rather than treating it as a general managerial preference.

The study identified a statistically significant overall difference in patient-to-nurse ratio scores across the selected tertiary hospitals. This finding demonstrates that staffing conditions were not uniform across the participating institutions. Institutional differences in staffing may arise from variations in recruitment capacity, budgets, bed occupancy, patient volume, specialty mix, workforce attrition, internal deployment practices and local administrative policies. Therefore, an apparently similar tertiary-hospital designation does not imply identical staffing requirements or workforce circumstances. Twigg et al. (2021), in their systematic review of staffing methodologies, found that evidence regarding specific staffing methodologies remains limited and that different approaches, including mandated minimum ratios and nursing hours per patient day, have been used. Although mandated approaches may improve some nurse outcomes, the evidence concerning patient outcomes is not uniform. Similarly, WHO's workload-based approach emphasises locally measured service activity and available working time when determining staffing needs (WHO, 2023). Thus, the significant inter-hospital variation identified in the present study supports a guideline that establishes common principles and monitoring requirements while allowing operational staffing decisions to reflect local workload.

Conclusion

The study concluded that, several factors were identified as influencing the attainment of appropriate patient-to-nurse ratios. At the nurse level, turnover, absenteeism, workload, overtime and staff retention were important. At the ward level, patient volume, peak-period workload, shift-related shortages, staffing patterns and work environment were identified. At the institutional level, recruitment difficulties, staff shortages, budgetary constraints, organisational support and staffing policies were prominent.

Recommendations

Based specifically on the findings of the study, the following recommendations are made:

1. The participating hospitals and relevant health authorities should address persistent nursing shortages through timely recruitment and replacement of staff lost through retirement, resignation, migration or other forms of attrition.
2. Hospitals should improve welfare, incentives, supportive working conditions and opportunities for professional development in order to reduce avoidable turnover and migration.
3. Nurses working directly within clinical units should be represented in staffing-review meetings and workforce-planning processes because they have direct knowledge of patient workload and care requirements.

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