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Association Between Work-Life Balance and Nursing Service Quality Among Inpatient Nurses in Jember, Indonesia

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ABSTRACT

Background: Work-life balance refers to an individual's ability to effectively manage and balance time and energy between professional responsibilities and personal life. An imbalance between these roles may affect the quality of nursing services, particularly in inpatient care settings characterized by high work demands. This study aimed to determine the associationbetween work-life balance and the quality of nursing services among nurses in the Inpatient Unit.
Methods: A quantitative correlational design with a cross-sectional approach was employed. The study population consisted of 52 staff nurses working in the Inpatient Unit, with 47 respondents selected using stratified random sampling based on educational level. Data were analyzed using Spearman's Rho test with a significance level of $\alpha = 0.05$.
Results: The results demonstrated a statistically significant association between work-life balance and the quality of nursing services, with a p-value of 0.001 ($p < 0.05$) and a correlation coefficient of $r = 0.493$, indicating a moderate positive correlation.
Conclusion: In conclusion, a significant positive association was found between work-life balance and the quality of nursing services. Based on these findings, hospitals may consider supporting nurses' work-life balance as part of broader strategies to promote high-quality nursing care.

Keywords: ***nursing service quality; inpatient nurses; work-life balance***

INTRODUCTION

Nurses play a strategic role in the healthcare system as frontline providers responsible for delivering comprehensive nursing care. Their responsibilities place them under substantial workload demands, particularly in inpatient units that provide continuous 24-hour care through rotating morning, afternoon, and night shifts.[1,2] Maintaining high-quality nursing care under these conditions requires nurses to cope with considerable physical, emotional, and psychological demands. Recent studies have reported that Indonesian nurses frequently experience work-related stress, emotional exhaustion, and burnout due to heavy workloads, prolonged working hours, rotating shift schedules, and inadequate organizational support. These occupational challenges have also been associated with difficulties in maintaining

work-life balance, lower job satisfaction, poorer psychological well-being, and potential reductions in the quality and safety of nursing care.[3,4]

Work-life balance refers to an individual's ability to effectively allocate time, energy, and commitment across occupational, personal, and family responsibilities.[5] Maintaining an appropriate balance is essential for preserving nurses' physical and psychological well-being, enhancing job satisfaction, reducing work-related fatigue, and supporting optimal work performance.[6] Previous studies have also demonstrated that better work-life balance is associated with lower absenteeism, reduced turnover intention, and fewer service-related errors, thereby contributing to the delivery of high-quality healthcare services.[7]

A preliminary study involving five inpatient nurses at a hospital in Jember provided initial evidence of work-life balance challenges in the local setting. Three of the five nurses reported difficulties in balancing their professional responsibilities with their personal lives. They described experiencing fatigue after extended work shifts, limited time with their families, and heavy workloads, particularly during night shifts. These findings suggest that work-related demands may pose challenges to nurses' well-being and may also influence the quality of nursing services delivered to patients.

Previous research has predominantly explored the association between work-life balance and nurse-related outcomes, including job satisfaction, burnout, psychological well-being, work engagement, and job performance.[8] Overall, these studies indicate that nurses with better work-life balance tend to experience lower levels of burnout, higher job satisfaction, and better psychological well-being. Nevertheless, relatively few studies have examined whether work-life balance is associated with the quality of nursing services as a patient care outcome, particularly among nurses working in inpatient units. Furthermore, evidence addressing this association in Indonesian hospital settings remains limited. Therefore, this study aims to examine the association between work-life balance and the quality of nursing services among inpatient nurses. By addressing this research gap, the findings are expected to contribute to the existing body of evidence and provide practical insights for workforce management and quality improvement initiatives in hospital settings.

METHODS

This study employed a quantitative correlational design with a cross-sectional approach involving nurses working in the inpatient unit of a Level III hospital in Jember Regency, East Java, Indonesia. The study population consisted of 52 registered staff nurses, comprising 15 nurses with a Diploma III (DIII) qualification and 37 nurses with a Professional Nursing (Ners) qualification. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in 47 respondents. Stratified random sampling was applied based on educational level to ensure representation of both educational groups. The final sample consisted of 15 DIII nurses and 32 Ners nurses.

Within each educational stratum, eligible nurses were assigned identification numbers, and participants were selected using a lottery method by randomly drawing the identification numbers until the required number of participants in each stratum was achieved. Eligible participants were nurses who voluntarily agreed to participate by providing written informed consent, had at least one year of work experience, and held either a Diploma III in Nursing or a Professional Nursing (Ners) qualification. Nurses who were on leave during the data

collection period were excluded from the study.

The study and data collection were conducted in March 2026. Data were collected using two structured self-administered questionnaires completed by the nurses to assess work-life balance and nursing service quality. Both questionnaires were adapted and modified directly by the authors to suit the context of inpatient nursing services.

The work-life balance questionnaire was adapted and modified based on the work-family balance concept proposed by Greenhaus, Collins, and Shaw (2003). The adaptation involved adjusting the wording of the items to the context of nurses' work and life conditions while retaining the three dimensions of time balance, involvement balance, and satisfaction balance. The questionnaire consisted of 12 items measured using a four-point Likert scale. Total scores ranged from 12 to 48 and were classified into three categories: poor work-life balance (<23), moderately balanced work-life balance (23–35), and balanced work-life balance (36–48). Previous testing of the instrument demonstrated acceptable validity, with corrected item-total correlation coefficients ranging from 0.302 to 0.593, and good internal consistency, with a Cronbach's alpha coefficient of 0.804.[9] No pilot testing or repeat validity and reliability testing was conducted for the adapted version in the present study because a hospital with characteristics comparable to the study setting was not available for instrument testing.

The nursing service quality questionnaire was adapted and modified directly by the authors from the SERVQUAL instrument developed by Parasuraman, Zeithaml, and Berry (1988). The adaptation involved adjusting the wording and content of the items to reflect the context of nursing services provided to inpatients while retaining the five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The questionnaire consisted of 25 items measured using a four-point Likert scale, with total scores converted to a scale ranging from 0 to 100. Based on the predetermined scoring criteria, respondents were classified into three categories: poor nursing service quality (<50), moderate nursing service quality (50–75), and good nursing service quality (76–100). Previous testing demonstrated that all questionnaire items had item correlation coefficients exceeding the critical *r*-table value of 0.279, indicating acceptable validity. The instrument also demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of 0.900.[10] No pilot testing or repeat validity and reliability testing was conducted for the adapted version in the present study because a hospital with characteristics comparable to the study setting was not available for instrument testing.

Questionnaires were distributed to eligible participants after obtaining institutional permission and coordinating with the head nurse of each inpatient ward. Participants completed the self-administered questionnaires independently, requiring approximately 10–15 minutes to complete. The collected data underwent editing, coding, data entry, and data cleaning before statistical analysis. Univariate analysis was performed to summarize respondents' characteristics and describe the distribution of each study variable. Bivariate analysis was conducted using Spearman's rank correlation test (Spearman's rho) to examine the association between work-life balance and the quality of nursing services. A *p*-value of <0.05 was considered statistically significant.

Ethical approval for this study was obtained from the Health Research Ethics Committee, Faculty of Health Sciences, Universitas Muhammadiyah Jember, Indonesia (Approval No. 0020/KEPK/FIKES/XI/2025).

Institutional permission to conduct the study was obtained from the hospital management (Permission No. B/110/11/2026) prior to data collection. Before participating in the study, all eligible nurses received a full explanation of the study objectives, procedures, potential benefits, and their rights as research participants. Written informed consent was obtained from all participants before data collection. Participation was entirely voluntary, and the confidentiality and anonymity of all participants were strictly maintained throughout the study.

RESULT

A total of 47 nurses participated in this study. As presented in **Table 1**, most respondents were female (70.2%), aged 25–35 years (63.8%), married (78.7%), held a Professional Nursing (Ners) degree (68.1%), and had 1–5 years of work experience (53.2%).

Table 1. Characteristics of Respondents (n = 47)

Characteristics	Category	n	%
Gender	Male	14	29.8
	Female	33	70.2
Age	<25 years	4	8.5
	25–35 years	30	63.8
	36–45 years	7	14.9
	>45 years	6	12.8
Marital status	Single	10	21.3
	Married	37	78.7
Education	Diploma III in Nursing	15	31.9
	Professional Nursing (Ners)	32	68.1
Work experience	1–5 years	25	53.2
	>5 years	22	46.8

As shown in **Table 2**, based on the predefined work-life balance classification described in the Methods section, 34 respondents (72.3%) were classified as having balanced work-life balance, whereas 13 respondents (27.7%) were categorized as having moderately balanced work-life balance. No respondents were classified as having poor work-life balance.

Table 2. Distribution of Work-Life Balance (n = 47)

Work-Life Balance	n	%
Moderately Balanced	13	27.7
Balanced	34	72.3
Total	47	100.0

According to **Table 3**, based on the predefined nursing service quality classification described in the Methods section, the majority of respondents (43; 91.5%) were classified as having good nursing service quality, whereas 4 respondents (8.5%) were categorized as having moderate nursing service quality. No respondents were classified as having poor nursing service quality.

Table 3. Distribution of Nursing Service Quality (n = 47)

Nursing Service Quality	n	%
Moderate	4	8.5
Good	43	91.5
Total	47	100.0

The results of the Spearman's rank correlation analysis are presented in **Table 4**. Association between work-life balance and nursing service quality was analyzed using Spearman's rank correlation based on the composite questionnaire scores. The analysis demonstrated a statistically significant moderate positive correlation ($r = 0.493$, $p = 0.001$), indicating that higher levels of work-life balance were associated with better nursing service quality.

Table 4. Association Between Work-Life Balance and Nursing Service Quality (n = 47)

Variables	n	*p*-value	(*r*)	Interpretation
Work-Life Balance and Nursing Service Quality	47	0.001	0.493	Moderate positive correlation

DISCUSSION

The findings indicated that most nurses reported a balanced level of work-life balance and good quality of nursing services. A significant positive association was also identified between work-life balance and the quality of nursing services. This finding suggests that nurses who reported better work-life balance also tended to report higher quality of nursing services. In the context of nursing practice, the ability to manage professional and personal responsibilities may help nurses cope with the demands of shift work, workload, and family responsibilities. Better management of these demands may support psychological well-being and work engagement, which are relevant to nurses' ability to maintain consistent and patient-centered nursing care.

This finding is consistent with previous studies reporting that shift work, excessive workload, and limited organizational support are associated with work-life balance among nurses.[7,8] Better work-life balance has also been associated with lower work-related stress and higher job satisfaction [11], as well as better psychological well-being, lower burnout, and greater work engagement.[12] These findings provide a possible explanation for the positive association observed in the present study, as nurses who are better able to manage work and personal demands may be more capable of maintaining their engagement and professional performance. In addition, nursing service quality has been associated with patient satisfaction, particularly in relation to nurses' competence, interpersonal care, and service efficiency.[13] Although patient satisfaction was not assessed in the present study, this evidence provides contextual support for the importance of nurses' performance and interpersonal aspects of care in perceived nursing service quality.

The correlation between work-life balance and nursing service quality was moderate ($r = 0.493$) and statistically significant ($p = 0.001$), indicating that better work-life balance was associated with higher reported nursing service quality. The moderate strength of this association suggests that work-life balance is associated with, but does not solely determine, nursing service quality. Other organizational and individual factors, including workload, staffing adequacy, organizational support, work environment, communication, competence, motivation, work engagement, and job satisfaction, may also be related to the quality of nursing services. A supportive nursing work environment, including adequate staffing, effective communication, and organizational support, has been recognized as an important factor associated with nurses' performance and quality of care.[14] Higher work engagement and job satisfaction have also been associated with better quality of care and lower intention to leave among nurses.[15] In addition, a positive nursing practice environment has been associated with better quality of care and patient safety, highlighting the relevance of organizational conditions to healthcare service delivery.[16] Thus, nursing service quality may be understood as a multidimensional outcome associated with work-life balance as well as various organizational and individual characteristics. Because this study employed a cross-sectional design and both variables were assessed using self-administered questionnaires completed by the same participants, the findings should be interpreted as an association rather than evidence of a causal association.

The positive association identified in this study is consistent with the work-life balance framework proposed by Greenhaus, Collins, and Shaw, which conceptualizes balance across work and personal roles in terms of time balance, involvement balance, and satisfaction

balance.[17] In the present study, nurses reporting better work-life balance also tended to report higher nursing service quality. Balance across these dimensions may support nurses in managing competing work and personal demands and maintaining their well-being, which may be relevant to their functioning in the workplace. This may include maintaining concentration, work engagement, communication, and consistent professional performance during nursing care. Thus, the findings are consistent with the theoretical perspective that balance across work and personal roles is related to individuals' functioning in the workplace. However, because of the cross-sectional design, this theoretical interpretation does not establish a causal pathway between work-life balance and nursing service quality.

The present findings are also consistent with previous research showing that better work-life balance is associated with higher job satisfaction, lower emotional exhaustion, and better nursing performance.[12] Conversely, work-life imbalance has been associated with poorer concentration, empathy, and responsiveness among nurses. These findings provide contextual support for the positive association observed in the present study, while other factors may also be involved in differences in nursing service quality.

The high level of nursing service quality observed in this study indicates that most nurses reported a high level of nursing service quality based on the questionnaire assessment. This finding is consistent with the service quality model proposed by Parasuraman, Zeithaml, and Berry, which identifies reliability, responsiveness, assurance, empathy, and tangibles as dimensions of service quality.[18] Previous research also reported an association between nursing service quality and patient satisfaction, particularly in relation to nurse competence, interpersonal care, and service efficiency.[13] Although patient satisfaction was not assessed in the present study, these findings provide contextual support for the relevance of nurses' competence, interpersonal communication, responsiveness, and professional behavior to perceived nursing service quality.

The findings also have implications for hospital management. Workplace practices such as balanced shift scheduling, appropriate workload distribution, supportive leadership, psychological support, and adequate opportunities for rest may be considered in efforts to support nurses' work-life balance. However, because the present study identified an association rather than a causal association, such strategies should not be interpreted as interventions proven by this study to improve nursing service quality.

This study has several limitations. First, the relatively small sample size and inclusion of participants from only one hospital may limit the transferability of the findings to nurses working in other healthcare settings with different organizational characteristics. Second, both work-life balance and nursing service quality were assessed using self-administered questionnaires completed by the same participants. This may introduce response bias and potential common method bias because both variables were measured using the same method and based on participants' subjective perceptions. Third, the cross-sectional design limits the interpretation of the temporal association between work-life balance and nursing service quality and does not permit causal conclusions. Finally, the study did not adjust for potentially relevant factors, such as workload, nurse-to-patient ratio, organizational support, leadership, burnout, job satisfaction, and years of clinical experience, which may also be associated with nursing service quality. Future studies should consider larger and

more diverse samples across multiple healthcare institutions, longitudinal or multicenter designs, objective or observational measures of nursing service quality where feasible, and adjustment for relevant confounding factors to provide a more comprehensive understanding of the association between work-life balance and nursing service quality.

CONCLUSION

This study identified a significant positive association between work-life balance and the quality of nursing services among inpatient nurses. Nurses reporting higher levels of work-life balance also tended to report better quality of nursing services. The moderate strength of the association (r = 0.493) indicates that work-life balance is related to nursing service quality, although other individual and organizational factors may also be associated with the quality of nursing services.

These findings provide additional evidence regarding the association between work-life balance and nursing service quality in hospital settings. Hospital management may consider workplace practices that support nurses' work-life balance, such as appropriate shift scheduling, fair workload distribution, and opportunities to support nurses' well-being. However, these considerations should not be interpreted as evidence of a causal association or the effectiveness of such practices in improving nursing service quality. Future studies should examine other factors associated with nursing service quality and consider longitudinal or multicenter designs, observational measures alongside self-reported questionnaires, and further evaluation of the psychometric properties of the research instruments.

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