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Assessment the Quality of Nurses' Performance at Pediatric Wards in Mosul hospitals

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Abstract

Background and Objectives : Nursing workload is an important factor associated with nurses' performance and the quality of care provided to pediatric patients. Nurses working in pediatric wards play a vital role in providing safe, effective, and continuous care, as children often require close monitoring and timely nursing interventions. Excessive workload may contribute to fatigue, reduced work efficiency, decreased job satisfaction, and consequently affect the quality of nurses' performance. Therefore, this study aimed to assess the quality of nurses' performance in pediatric wards in Mosul hospitals and to identify the relationship between nursing workload and the quality of nurses' performance.

Methods: cross-sectional study was conducted among 207 nurses in pediatric departments of Mosul hospitals from November 2025 to January 2026. Data were collected using a researcher-developed, self-administered questionnaire and analyzed using SPSS version 27.

Results: Documentation showed the highest performance score (Mean = 2.87, SD = 0.40, RII = 95.68%), while workflow had the lowest (Mean = 2.48, SD = 0.60, RII = 82.72%). Workload was significantly negatively associated with overall nurses' performance quality ($\beta = -0.54$, $R^2 = 0.78$, CR = -6.35, $p = 0.007$).

Conclusion: Higher workload was significantly associated with lower nurses' performance quality. Adequate staffing, optimized scheduling, administrative support, and professional training are recommended to improve care quality and nurses' well-being.

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INTRODUCTION

Pediatric departments are sensitive hospital settings that require safe, effective, and high-quality nursing care. Pediatric nurses manage complex care needs, continuous monitoring, and prevention of complications, making nursing workload an important factor in quality care (Pappa et al., 2024).

Nursing workload includes the physical, psychological, and organizational demands placed on nurses. High workload, particularly with staff shortages, patient acuity, and administrative responsibilities, may increase fatigue, stress, clinical errors, and reduce the quality of nursing care (Browne & Braden et al., 2020; Kelly Dayane Velozo et al., 2021). Studies in pediatric and neonatal settings have also linked increased workload with reduced nursing care and poorer patient outcomes (Kalu et al., 2021; Tubbs-Cooley et al., 2025).

Nursing performance is an important indicator of patient safety and quality of care. Excessive workload may contribute to burnout, reduced job satisfaction, and decreased performance, affecting essential activities such as patient monitoring, documentation, and timely interventions (Dall'Ora et al., 2020).

Although workload and nursing performance have been studied internationally, limited evidence is available in Iraq, particularly in pediatric departments of governmental hospitals in Mosul. Therefore, this study aims to assess the relationship between nursing workload and nurses' performance in pediatric departments of hospitals in Mosul. The findings may support workload management, professional development, and strategies to improve the quality and safety of pediatric care.

METHODS

1. Study Selection Criteria:

Inclusion Criteria:

- 1) Nurses employed in neonatal and pediatric wards at the time of data collection.
- 2) Nurses who consented to participate and were present during the scheduled data collection visits

Exclusion Criteria:

- 3) Nurses who declined participation or were absent during any of the three data collection visits.
- 4) Individuals who had previously taken part in the pilot study.

2. Methods

Study Design and Setting:

- 1) cross-sectional study design was used.
- 2) The study was conducted in pediatric departments of governmental hospitals in Mosul, Iraq.
- 3) Data were collected from November 1, 2025, to January 15, 2026.

Study Sample and Sampling:

- 1) A purposive sampling method was used to select eligible nurses.
- 2) A total of 207 nurses participated in the study.
- 3) Nurses working in the selected pediatric departments were included according to the study criteria.

3. Data Collection:

- 1) Data were collected using a structured, self-administered questionnaire constructed by the researcher.
- 2) The questionnaire assessed nurses' performance and workload.
- 3) Data were collected through direct administration of the questionnaire to participating nurses.

4. Validity and Reliability:

- 1) Content validity was assessed by a panel of 16 experts.
- 2) The reliability of the questionnaire was evaluated using Cronbach's alpha.
- 3) The overall reliability coefficient was 0.87.

5. Data Analysis:

- 1) Data were coded and analyzed using SPSS version 27.
- 2) Descriptive statistics included frequencies, percentages, means, and standard deviations.
- 3) Inferential statistics were used to examine differences and associations between study variables.
- 4) Statistical significance was considered at $p < 0.05$.

6. Ethical Considerations:

- 1) Ethical approval was obtained before data collection.
- 2) Participation was voluntary, and confidentiality and privacy of participants were maintained.
- 3) Participants were informed about the purpose of the study before completing the questionnaire.

RESULTS

Search Results

A total of 207 nurses participated in the study. Most participants were under 30 years of age (60%, n = 125), and females represented 57% (n = 119) of the sample. Regarding marital status, 48.79% (n = 101) were single and 47.34% (n = 98) were married. Bachelor's degree holders represented 43% of the participants, while 37% held a diploma. Nurses with 1–5 years of work experience constituted the largest group (55%, n = 114).

Workload showed a significant negative association with all dimensions of nurses' performance quality. The regression coefficients

were -0.65 for hygiene and safety, -0.88 for nursing care, -0.90 for documentation, and -1.05 for workflow interruption, with all associations statistically significant ($p = 0.013, 0.012, 0.007$, and 0.007 , respectively). The strongest negative association was observed for workflow interruption ($\beta = -1.05, p = 0.007$).

Regarding nurses' performance quality, documentation of nursing care ranked first (Mean = 2.87, SD = 0.40, RII = 95.68%), followed by nursing care (Mean = 2.83, SD = 0.45, RII = 94.36%) and hygiene and safety (Mean = 2.82, SD = 0.45, RII = 93.88%). Workflow interruption recorded the lowest score (Mean = 2.48, SD = 0.60, RII = 82.72%).

Table (1.1): Sociodemographic Characteristics of Participants

Age	No.	%
Less than 30 years	125	60
30-40 years	55	27
41-50 years	24	12
More than 50 years	3	1
Total	207	100%
Gender		
Male	88	43
Female	119	57
Total	207	100%
Marital status		
Single	101	48,79
Married	98	47,34
Divorced / Widowed	8	4
Total	207	100%
Educational level		
Nursing Preparatory School	35	17
Diploma)Technician nurse(	76	37
Bachelors (university nurse(	88	44
Higher Diploma of Nursing	5	2
Master	3	1
Total	207	100%
Service years		
Less than 1 years	25	12
1-5 years	114	55
6-10 years	26	13
11 years and more	42	20

Total	207	100%
Monthly income		
Less or equal to 500 000 thousand IQD	34	16
600000-1000000 IQD	149	72
1000001 – 1500000 IQD	24	12
Total	207	100%
Weekly working hours (h)		
40 hours or less	181	87
41-50 hours	26	13
Total	207	100%

Table (1.2): Effect of Workload on Dimensions of Nursing Performance

	Dimensions	Arithmetic mean	Standard Deviation	Relative Important	Rank
1	Documentation of Nursing Care	2.87	0.40	0.957	First
2	Nursing Care	2.83	0.45	0.943	Second
3	Hygiene And Safety	2.82	0.45	0.940	Third
4	Workflow Disruption	2.48	0.60	0.827	Fourth

Table (1.3): Ranking of Nurse Performance Quality Dimensions by Relative Importance

Independent Variable	Direction of Effect	Dependent Variable	Regressin Coefficiet Estimate(β)	Standard Error cofficit regression SE.(β)	Coefficient of Determination R-square	Critil Value C.R.	P-value
Workload	→	Hygiene and Safety	-0.65	0.106	0.74	-6.13	0.013
	→	Nursing Care	-0.88	0.110	0.90	-8.00	0.012
	→	Documentation of Nursing Care	-0.90	0.100	0.80	-9.00	0.007
	→	Workflow Interruption	-1.05	0.097	0.94	-10.82	0.007

DISCUSSION

The present study included 207 nurses working in pediatric departments of governmental hospitals in Mosul. Most participants were younger than 30 years (60%), and females represented 57% of the sample. The predominance of younger nurses may reflect the relatively young nursing workforce in pediatric settings and is consistent with previous studies reporting a high proportion of young nurses (Osman et al., 2022; Kaya & İşler Dalgıç, 2022). The predominance of female nurses is also consistent with international evidence showing that nursing remains a predominantly female profession (Ruga et al., 2022; Soto-Castellón et al., 2023). Most participants had a bachelor's degree. This is consistent with (Yi-Tsao Chen, et al. 2022, Nemati-Vakilabad, et al. 2022) and 1–5 years of work experience, indicating a relatively young and academically qualified workforce.

The findings showed that documentation of nursing care had the highest performance score (Mean = 2.87, SD = 0.40, RII = 95.68%), followed by nursing care and hygiene and safety. This may indicate strong professional awareness of documentation, patient care, and safety practices. Previous studies have emphasized the importance of accurate nursing documentation for communication, continuity of care, and patient safety (Khwaji et al., 2025; Mohamed et al., 2025). In contrast, workflow interruption recorded the lowest performance score (Mean = 2.48, SD = 0.60, RII = 82.72%), suggesting that organizational factors, resource limitations, and interruptions may represent challenges to nursing performance. This is consistent with (Altamimi, M. H. 2020). Similar findings have highlighted the role of organizational factors in creating workflow barriers and reducing healthcare efficiency (Al Moteri et al., 2024).

The study demonstrated a significant negative association between workload and all dimensions of nurses' performance quality. The regression coefficients were -0.65 for hygiene and safety, -0.88 for nursing care, -0.90 for documentation, and -1.05 for workflow interruption, with all associations statistically significant ($p < 0.05$). These

findings suggest that increased workload is associated with poorer performance across several essential nursing activities. Similar evidence indicates that higher workload may reduce compliance with infection-control practices, contribute to missed nursing care, and negatively affect documentation and patient safety (Rosenberg, 2023; Kassahun et al., 2024). The strongest negative association was observed for workflow interruption, highlighting the importance of adequate staffing, appropriate task distribution, and organizational support in maintaining efficient nursing processes (Gabe et al. (2024), Grealish et al., 2022). Overall, the findings support the need for workload-management strategies to promote nurses' performance, patient safety, and quality of pediatric care.

RECOMMENDATIONS AND FUTURE DIRECTIONS

Hospitals should ensure adequate nurse staffing, effective workload management, sufficient equipment and supplies, and better coordination to reduce workflow interruptions. Ongoing training, psychological support, and adequate rest are also recommended to improve nurses' performance and quality of pediatric care. Further research is needed to examine factors such as leadership, work environment, and organizational support, and to conduct comparative studies across hospitals to strengthen the generalizability of findings.

Declarations

Author contributions

MG conceived and designed the study, developed the research methodology and questionnaire, collected and analyzed the data, interpreted the findings, and prepared, reviewed, and approved the final manuscript.

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Competing interests

The author declares that there are no competing financial interests or personal relationships that could have influenced the work reported in this study.

Availability of data and materials.

The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

Ethical Approval

Ethical approval was obtained from the Scientific and Ethical Committee of the University of Mosul (Approval No. CCMRE-Nur-26-13, dated February 16, 2026).

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