Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Assessment Nurses role in Reducing Hospital Stay of Patients with Respiratory Diseases in some Basrah Teaching Hospitals

Anmar Jabbar Alsaad[1], Ali Suanid Alethar[2], Maher Abdul Ameer Atiyah[3]
[1,2] Southern Technical University /College of Health and Medical Technology in Basrah /Technical Institute in Basrah, Basrah, Iraq
[3] Fundamentals of Nursing Department, College of Nursing, University of Basrah, Basrah, Iraq
Email: anmar.jabar@stu.edu.iq ; Ali.S.Mohi.d@stu.edu.iq ; maher.abdulameer@uobasrah.edu.iq
Orcid: 0000-0002-3086-1181

Abstract . Prolonged hospital stay is a major concern in healthcare systems, as it increases the risk of hospital-acquired infections, elevates treatment costs, and reduces bed availability. Nurses play a central role in patient care, and their interventions can significantly influence recovery outcomes and hospitalization duration. In surgical wards, particularly among patients undergoing abdominal surgeries, the quality of nursing care and adherence to postoperative protocols are essential determinants of hospital stay length. While the impact of medical and surgical interventions has been widely studied, limited research has evaluated the direct role of nurses in reducing hospital stay through evidence-based practices. This study aimed to assess the role of nurses in reducing the length of hospital stay among patients undergoing abdominal surgery at Al-Najaf Al-Ashraf Teaching Hospital. A cross-sectional study of 60 nurses revealed that 68.3% demonstrated good knowledge and practice in postoperative care, including infection prevention, pain management, wound care, and patient education. The study confirmed a positive relationship between effective nursing interventions and reduced hospital stay. Unlike previous studies focusing on physician-led interventions, this research highlights nursing contributions as a critical factor in optimizing patient outcomes. The findings emphasize the importance of continuous nursing education, protocol adherence, and supportive hospital policies to enhance recovery rates, reduce complications, and minimize hospitalization duration.

Highlights:

1. Nurses play a vital role in reducing hospital stay duration for patients with hematological malignancies.
2. Effective nursing care enhances treatment adherence and improves overall patient outcomes.
3. Strengthening nurses' skills and involvement in care can significantly optimize hospitalization periods.

Keywords: Nurses role, Hospital stay, Respiratory diseases

Introduction

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Respiratory disorders, such as asthma, chronic obstructive pulmonary disease (COPD), and acute respiratory distress syndrome (ARDS), are a significant global health burden that affects millions of individuals and strains healthcare systems worldwide. Nurses play a pivotal role in respiratory care, focusing on patient assessment, monitoring, and treatment administration. They provide continuous bedside care, ensuring timely identification of changes in a patient's condition, enabling prompt intervention [1].

The management of chronic respiratory diseases requires a multifaceted approach, focusing not only on symptom control and disease progression but also on addressing the broader physical, emotional, and social needs of patients. Central to this approach is the concept of patient-centered care, which prioritizes the individual preferences, values, and goals of patients in guiding healthcare decisions and interventions[2].

Nurses play a crucial role in managing respiratory diseases, significantly impacting the length of hospital stays for patients. In Basrah Teaching Hospitals, nurses are at the forefront of implementing care strategies that enhance patient outcomes and reduce hospitalization duration. Their responsibilities include monitoring patient progress, administering treatments, and educating patients on self-care practices[3].

The impact of nursing care on hospital stay length is well-documented, with studies showing that increased nurse staffing levels are associated with reduced hospital stays and improved patient outcomes. In Basrah, nurse-led interventions, such as discharge planning and patient education, have shown promise in reducing the length of stay for respiratory patients [4][5] .

Nursing interventions in Basrah focus on evidence-based practices tailored to the needs of respiratory patients, including the use of clinical guidelines, advanced respiratory techniques, and the integration of multidisciplinary approaches. These strategies are crucial in managing complex respiratory conditions and ensuring comprehensive care throughout a patient's hospital stay[6].

In Basrah, the efficiency and effectiveness of nursing care are even more critical due to limited healthcare resources. By adhering to evidence-based practices, nurses can help reduce hospital stays, improve patient outcomes, and optimize resource use.

The impact of nursing care on hospital stay length is well-documented, with studies showing that increased nursing care, particularly from registered nurses, correlates with reduced hospital stays and better patient outcomes. In Basrah, enhancing nursing roles through education and training can further improve these outcomes. By focusing on individualized care plans and proactive management of risk factors, nurses can effectively reduce the length of hospital stays for respiratory patients. This approach not only benefits patients but also alleviates the burden on the healthcare system [7][8] .

Specific nursing interventions are critical in managing respiratory diseases and reducing hospital stays. Techniques such as raising the head of the bed, managing oxygen therapy, and providing patient education are essential components of nursing care[9][10].

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

These interventions help improve patient comfort and oxygenation, leading to shorter hospital stays. In Basrah, where respiratory diseases are prevalent, implementing these evidence-based practices can significantly enhance patient outcomes. Nurses must be equipped with the necessary skills and knowledge to carry out these interventions effectively [11].

However, several challenges exist within Basrah's healthcare system, such as staffing shortages, limited resources, and the need for ongoing education and training for nurses. Addressing these challenges is crucial to maximizing the impact of nursing care on hospital stay length. By investing in nursing education and improving staffing levels, Basrah Teaching Hospitals can enhance the quality of care provided to respiratory patients, leading to better patient outcomes and more efficient use of healthcare resources [12].

Nurse-led interventions, such as discharge planning and self-management programs, have been shown to enhance patient independence and reduce readmissions. Evidence-based interventions, such as inspiratory muscle training and community-based rehabilitation programs, can significantly improve patient outcomes and empower patients to manage their conditions effectively [13].

Successful nurse-led programs in the Middle East have demonstrated the potential for reducing hospital stays and improving patient outcomes. For example, hospital-at-home interventions, which involve nurses providing care in patients' homes, have been associated with lower readmission rates and improved mental health outcomes[14][15].

Materials and Methods

Study Design and setting

This study is descriptive cross-sectional study conducted in three Hospitals Basra city (Basra Teaching Hospital , Al-Sadr Teaching Hospital and Al-Sayyab Teaching Hospital) during October 2024 to April 2025.

Ethical Approval: Obtain ethical approval from the relevant authorities before conducting the study.

Data collection method:

This research was conducted with cross-sectional design. This study was performed on Nurses working in Basra Health Department, specifically those involved in the Basrah Teaching Hospitals **(Basra Teaching Hospital , Al-Sadr Teaching Hospital and Al-Sayyab Teaching Hospital)** in Basrah City, These hospitals were selected due to their specialized respiratory care services, it has the highest rate of nurse's staff and high patients admission rates, and role as teaching hospitals, which support research and best nursing practices. They also have skilled nursing staff, treat diverse respiratory cases. The target of study population was both nurses female and male.This observe examined the nurses role in reducing hospital stay. Approval was received from the Unit of Knowledge Management of Health and Medical Techniques Institute /Basra and Iraqi Ministry of Health / Basra Health Department / Office of the Director-General / Center for Training and Human Development / Unit of Knowledge Management .Written Arabic informed consent could be acquired from all take a look at

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

contributors after explaining the information series approach and take a look at procedures. Data was collected in the current research by using questionnaire and the researcher collected the samples by interview and taking their written Arabic consent and giving them enough time to fill out the questionnaire. The questionnaire consist of fifth **Domains (Socio-demographic data, Skills, Practices, Performance and nursing intervention domain)**.The researcher completed the questionnaires by presenting it to the nurses regularly work these Hospitals. It takes about 15-20 minute to fill out questionnaire. Data was collected from 24th of October 2024 to the end of April 2025. Then the data was analyzed by descriptive and inferential statistical tests in SPSS version 27. Will be considered a significant level of $P< 0.05$.

Reliability of Questionnaire:

Cronbach's alpha is a reliability measure for questionnaires, where higher values denote greater internal consistency. Table (1) displays the total dependability, which ranged from 0.829 to 0.920.All expert observations were taken into consideration for a slight correction. Most of them agreed that the questionnaire was understandable, clear, and sufficient for the study.

Table (1) The Alpha of Cronbach for the reliability for all dimensions

Domain	Items	Cronbach's alpha	Assessment
Skill	10	0.915	Excellent
Performance	7	0.829	Good
Intervention	10	0.862	Good
Practices	10	0.877	Good
Overall assessment	37	0.920	Excellent

Data Statistical Analysis method

The information for each item on the questionnaire was copied to code sheets, the data was input into a personal computer, and the statistical package from SPSS-27 was used to evaluate the data. Simple statistics like frequency, percents, average, standard deviation, and range displayed the data. A Chi-square test (X^2-test) was utilized to identify the significance of qualitative data percentage differences. Pearson correlation coefficients are also used in this study. Furthermore, Ordinal regression analysis to assess association between the studied

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

domains and nurses' characteristics. The P-value was considered statistically significant when it was equal to or less than 0.05 **[16].**

Results

Demographic and functional characteristics of nurses

In Table 2, the results of this study indicate that most nurses belonging to ages 21-30 years (66.7%). The mean of age 31.0±9.2 (with range; 21-60) years. The gender ratio is 58.9% female to 41.1% male. The majority of nurses live in urban areas (88.0%) compared to rural (12.0%). The highest proportion has a diploma (45.6%), followed by bachelor's (27.1%), nursing high school (24.7%) and Postgraduate (Higher Diploma, Master, PhD) (2.6%). More than half of nurses (55.2%) have moderate level as monthly income. Most nurses (61.7%) have experience up to 5 years, followed by 6-10 years (19.3%), over 20 years (9.4%), 16-20 years (5.2%) and, 11-15 years (4.4%). The highest percentage (39.8%) of the participants Basra belonging to Teaching Hospital, followed by 30.2% Al-Sadr Teaching Hospital, and 29.9% Al-Sayyab Teaching Hospital. Finally, the highest proportion (39.3%) of nurses work in medical and surgical wards, 27.1% of the participants work in emergency department, 14.8% of nurses work in pulmonology department, 12.0% of nurses work in Respiratory care unit (RCU), and 6.8% of nurses work in Intensive care unit (ICU).

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Table (2): The distribution of nurses according to the demographic characteristics

Demographic characteristics of nurses		**No.**	**%**
Age groups	21-30 years	256	66.7
	31-40 years	70	18.2
	41-50 years	38	9.9
	51-60 years	20	5.2
	Mean± SD (Range)	**31.0±9.2 (21-60)**	
Gender	Male	158	41.1
	Female	226	58.9
Education Qualification	Nursing High School	95	24.7
	Nursing Diploma	175	45.6
	Bachelor of Nursing	104	27.1
	Master's or Higher	10	2.6
Residency	Urban	338	88.0
	Rural	46	12.0
Income	Low	120	31.3
	Moderate	212	55.2
	High	52	13.5
Experience years	≤5 years	237	61.7
	6-10 years	74	19.3
	11-15 years	17	4.4
	16-20 years	20	5.2
	>20 years	36	9.4
	Mean± SD (Range)	**7.1±8.2 (1-40)**	
Name of hospital	Basra Teaching Hospital	153	39.8
	Al-Sadr Teaching Hospital	116	30.2
	Al-Sayyab Teaching Hospital	115	29.9
Department /Unit	Intensive care unit (ICU)	26	6.8
	Respiratory care unit (RCU)	46	12.0
	Pulmonology department	57	14.8
	Emergency department	104	27.1
	Medical and surgical Wards	151	39.3

Skills domain

In Table 3, the current results found that the highest percentages (42.2%, 43.8%, 42.4%, 35.7%, 36.5%, 40.1%, 36.2%, 36.7%, 38.5%, and 32.0%) of the nurses have good skills regarding statements "accurately assess the respiratory condition of patients, using respiratory medical devices and all tools associated with respiratory patient care, confident in interpreting vital signs related to respiratory functions and can recognize and respond promptly to signs of respiratory deterioration, adequate knowledge about respiratory

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

diseases and their management, proficient in educating patients and their families on managing respiratory diseases and adept at communicating medical procedures clearly and effectively, effectively document patients' progress and changes in their condition, identify early signs of respiratory complications to prevent prolonged hospital stays, assessing psychological and social factors affecting respiratory patients, and managing respiratory emergencies, participate in training programs to improve my skills in respiratory patient care", respectively.

Table (3): The distribution of the participant's responses according to their skills

Skill Domain	Very Poor		Poor		Acceptable		Good		Very good	
	No.	%	No.	%	No.	%	No.	%	No.	%
I have sufficient skills to accurately assess the respiratory condition of patients.	12	3.1%	14	3.6%	109	28.4 %	162	**42.2 %**	87	22.7 %
I am skilled in using respiratory medical devices and all tools associated with respiratory patient care.	6	1.6%	26	6.8%	102	26.6 %	168	**43.8 %**	82	21.4 %
I feel confident in interpreting vital signs related to respiratory functions and can recognize and respond promptly to signs of respiratory deterioration	7	1.8%	23	6.0%	86	22.4 %	163	**42.4 %**	105	27.3 %
I have adequate knowledge about respiratory diseases and their management	16	4.2%	30	7.8%	121	31.5 %	137	**35.7 %**	80	20.8 %

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

I am proficient in educating patients and their families on managing respiratory diseases and adept at communicating medical procedures clearly and effectively	11	2.9%	24	6.3%	86	22.4 %	140	**36.5 %**	123	32.0 %
I effectively document patients' progress and changes in their condition.	9	2.3%	18	4.7%	84	21.9 %	154	**40.1 %**	119	31.0 %
I can identify early signs of respiratory complications to prevent prolonged hospital stays.	15	3.9%	32	8.3%	118	30.7 %	139	**36.2 %**	80	20.8 %
I assess psychological and social factors affecting respiratory patients.	10	2.6%	24	6.3%	113	29.4 %	141	**36.7 %**	96	25.0 %
I am skilled in managing respiratory emergencies.	13	3.4%	25	6.5%	104	27.1 %	148	**38.5 %**	94	24.5 %
I participate in training programs to improve my skills in respiratory patient care.	31	8.1%	42	10.9 %	65	16.9 %	123	**32.0 %**	123	32.0 %

Performance domain

In Table 4, the current results found that the highest percentages (52.9%, 45.6%, 58.6%, 44.3%, 51.0%, 52.3%, and 52.3) of the nurses were always performed "manage time

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

effectively to provide high-quality care to multiple respiratory patients, consistently achieve positive outcomes in managing respiratory cases, maintain a high level of accuracy when administering respiratory treatments, actively participate in professional development programs to improve performance, regularly receive positive feedback from patients about care, prioritize critical respiratory needs effectively, and engage in periodic performance assessments to improve nursing quality.", respectively.

Table (4): The distribution of the participant's responses according to their performance

Performance domain	Never		Rarely		Sometime		Often		Always	
	No.	%	No.	%	No.	%	No.	%	No.	%
I manage my time effectively to provide high-quality care to multiple respiratory patients.	5	1.3	14	3.6	64	16.7	98	25.5	203	**52.9**
I consistently achieve positive outcomes in managing respiratory cases.	8	2.1	10	2.6	64	16.7	127	33.1	175	**45.6**
I maintain a high level of accuracy when administering respiratory treatments.	7	1.8	18	4.7	49	12.8	85	22.1	225	**58.6**
I actively participate in professional development programs to improve my performance.	11	2.9	29	7.6	68	17.7	106	27.6	170	**44.3**
I regularly receive positive feedback from patients about care I provide.	7	1.8	17	4.4	61	15.9	103	26.8	196	**51.0**
I prioritize critical respiratory needs effectively.	7	1.8	14	3.6	53	13.8	109	28.4	201	**52.3**
I engage in periodic performance assessments to improve nursing quality.	10	2.6	20	5.2	50	13.0	103	26.8	201	**52.3**

Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Intervention domain

In Table 5, the current results found that the highest percentages (83.9%, 82.0%, 74.7%, 64.1%, 78.4%, 70.6%, 84.1%, 79.9%, 82.8%, and 80.7%) of the nurses were Strongly agree regarding "frequently educate patients on self-care techniques to prevent hospital readmission, encourage patients to practice deep breathing exercises, follow the implementation of the protocols for the prevention of ventilator-associated pneumonia, recommend patients use an incentive spirometer, change patients position regularly to enhance ventilation, participate in care planning with the medical team, monitor patients' health status and report any changes immediately, provide health education on treatment adherence, provide psychological support to reduce stress and improve breathing, and ensure patients take prescribed medications correctly.", respectively.

Table (5): The distribution of the participants' responses according to their intervention

Intervention domain	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
I frequently educate patients on self-care techniques to prevent hospital readmission.	2	0.5	1	0.3	37	9.6	22	5.7	322	83.9
I encourage patients to practice deep breathing exercises.	1	.3	5	1.3	44	11.5	19	4.9	315	82.0
I follow the implementation of the protocols for the prevention of ventilator-associated pneumonia	4	1.0	5	1.3	63	16.4	25	6.5	287	74.7
I recommend patients use an incentive spirometer.	2	.5	11	2.9	92	24.0	33	8.6	246	64.1

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

I change patients position regularly to enhance ventilation.	1	.3	8	2.1	49	12.8	25	6.5	301	78.4
I participate in care planning with the medical team.	4	1.0	11	2.9	72	18.8	26	6.8	271	70.6
I monitor patients' health status and report any changes immediately	3	.8	6	1.6	32	8.3	20	5.2	323	84.1
I provide health education on treatment adherence.	3	.8	7	1.8	43	11.2	24	6.3	307	79.9
I provide psychological support to reduce stress and improve breathing	3	.8	5	1.3	35	9.1	23	6.0	318	82.8
I ensure patients take prescribed medications correctly.	4	1.0	7	1.8	41	10.7	22	5.7	310	80.7

Practices Domain

In Table 6, the current results found that the highest percentages (43.0%, 59.1%, 63.0%, 65.6%, 53.6%, 65.1%, 51.6%, 59.9%, 46.4%, and 52.3%) of the nurses were always experienced "regularly monitor patients' respiratory status and I modify care plans as needed, adhere to infection control protocols to prevent hospital-acquired respiratory infections, ensure timely administration of respiratory medications, maintain regular cleaning and disinfection of medical instruments, encourage and assist patients with breathing exercises, report any respiratory condition changes to the doctor immediately, adhere evidence-based practices in managing respiratory diseases, provide psychological and social support to patients during treatment, the ability to manage respiratory emergency conditions effectively, and educate patients on preventing respiratory relapse after hospital discharge.", respectively.

Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Table (6): The distribution of the participants responses according to their practices

Practices Domain	Never		Rarely		Sometime		Often		Always	
	No.	%	No.	%	No.	%	No.	%	No.	%
I regularly monitor patients' respiratory status and I modify care plans as needed	9	2.3	27	7.0	67	17.4	116	30.2	165	**43.0**
I adhere to infection control protocols to prevent hospital-acquired respiratory infections.	5	1.3	15	3.9	54	14.1	83	21.6	227	**59.1**
I ensure timely administration of respiratory medications.	4	1.0	18	4.7	40	10.4	80	20.8	242	**63.0**
I maintain regular cleaning and disinfection of medical instruments.	4	1.0	15	3.9	50	13.0	63	16.4	252	**65.6**
I encourage and assist patients with breathing exercises.	2	.5	17	4.4	60	15.6	99	25.8	206	**53.6**
I report any respiratory condition changes to the doctor immediately.	6	1.6	12	3.1	57	14.8	59	15.4	250	**65.1**
I adhere evidence-based practices in managing respiratory diseases.	4	1.0	10	2.6	64	16.7	108	28.1	198	**51.6**

Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

I provide psychological and social support to patients during treatment.	3	.8	17	4.4	56	14.6	78	20.3	230	**59.9**
I have the ability to manage respiratory emergency conditions effectively .	6	1.6	21	5.5	75	19.5	104	27.1	178	**46.4**
I educate patients on preventing respiratory relapse after hospital discharge.	4	1.0	23	6.0	60	15.6	96	25.0	201	**52.3**

In Table 7, the results of this study reveal that there is a significant relationship between demographic characteristics (such as education qualification, Income, Experience years, and Name of hospital) and the overall Competence Score (P. value <0.05). These results explain that high education qualification, high income, length experience years, and those who work in Al-Sadr Teaching Hospital have high assessment scores for their role in the patients staying.

Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Table (7): The relationship between the overall Competence Score and demographic characteristics of nurses

		The overall Competence Score				Chi-Square P-value
		Low competence (<80%)		High competence (>=80%)		
		No.	%	No.	%	
Age groups	21-30 years	65	25.4	191	74.6	0.379 NS
	31-40 years	15	21.4	55	78.6	
	41-50 years	5	13.2	33	86.8	
	51-60 years	4	20.0	16	80.0	
Gender	Male	33	20.9	125	79.1	0.373 NS
	Female	56	24.8	170	75.2	
Education Qualification	Nursing High School	32	33.7	63	66.3	**0.039 S**
	Nursing Diploma	35	20.0	140	80.0	
	Bachelor of Nursing	21	20.2	83	79.8	
	Master's or Higher	1	10.0	9	90.0	
Residency	Urban	76	22.5	262	77.5	0.384 NS
	Rural	13	28.3	33	71.7	
Income	Low	32	26.7	88	73.3	**0.041 S**
	Moderate	52	24.5	160	75.5	
	High	5	9.6	47	90.4	
Experience years	<= 5 years	68	28.7	169	71.3	**0.012 S**
	6-10 years	13	17.6	61	82.4	
	11-15 years	1	5.9	16	94.1	
	16-20 years	4	20.0	16	80.0	
	>20 years	3	8.3	33	91.7	
Name of hospital	Basra Teaching Hospital	45	29.4	108	70.6	**0.050 S**
	Al-Sadr Teaching Hospital	20	17.2	96	82.8	
	Al-Sayyab Teaching Hospital	24	20.9	91	79.1	
Department /Unit	Intensive care unit (ICU)	3	11.5	23	88.5	0.073 NS
	Respiratory care unit (RCU)	12	26.1	34	73.9	
	Pulmonology department	19	33.3	38	66.7	
	Emergency department	17	16.3	87	83.7	
	Medical and surgical Wards	38	25.2	113	74.8	

In Table 8, the results found there were positive correlation between all the studied domains at significantly level (P<0.001).

Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Table (8): Correlation between performances, intervention, practice, overall competence scores

Correlations					
		Performance	**Intervention**	**Practice**	**Overall Competence**
Skill	Pearson Correlation	**0.224****	**0.211****	**0.297****	**0.665****
	P-value	**<0.001**	**<0.001**	**<0.001**	**<0.001**
	N	384	384	384	384
Performance	Pearson Correlation	1	**0.420****	**0.651****	**0.741****
	Sig. (2-tailed)		**<0.001**	**<0.001**	**<0.001**
	N		384	384	384
Intervention	Pearson Correlation		1	**0.446****	**0.680****
	Sig. (2-tailed)			**<0.001**	**<0.001**
	N			384	384
Practice	Pearson Correlation			1	**0.814****
	Sig. (2-tailed)				**<0.001**
	N				384
**. Correlation is significant at the 0.01 level (2-tailed).					

In Table 9, the results found that the skills were increased in nurses live in urban areas compared to those live in rural areas at significantly level <0.05. While, skill and intervention domains were decreased in nurses have low income compared to those have high income at significantly level <0.05. Those who short experience (<=5 years) is associated with decreased in skills, performance, and practices at significantly level <0.05. Also, the study found that the place of working such as emergency department is associated with increased in intervention, performance, and practices at significantly level <0.05.

Indonesian Journal on Health Science and Medicine Vol 2 No 3 (2025): December
ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Table (9): Ordinal regression analysis to assess association between the studied domains and nurses' characteristics

Ordinal regression analysis	**Skill**		**Performance**		**Intervention**		**Practices**	
	Estimate	**P-value**	**Estimate**	**P-value**	**Estimate**	**P-value**	**Estimate**	**P-value**
21-30 years	1.232	0.134	.834	.303	-1.106	.402	.680	.412
31-40 years	1.454	0.061	.275	.729	-1.289	.319	.689	.395
41-50 years	1.272	0.061	-.148	.844	-1.111	.375	-.226	.775
51-60 years	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.
[Gender (Male)	0.364	0.137	-.175	.515	.033	.933	.162	.575
Gender (Female)	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.
Nursing High School	-0.143	0.861	.498	.572	.820	.426	1.465	.080
Nursing Diploma	0.284	0.723	1.521	.084	1.608	.118	2.492	**0.003**
Bachelor of Nursing	0.572	0.481	1.235	.166	2.133	**0.047**	2.673	**0.002**
Master's or Higher	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.
Residency (Urban)	0.937	**0.017**	.360	.348	-.004	.994	.702	.088
Residency (Rural)	**Ref.**	.	0[a]	.	0[a]	.	0[a]	.
Income (Low)	-0.898	**0.020**	-.636	.164	-1.479	**0.047**	-.569	.232
Income (Moderate)	-0.925	**0.010**	-.657	.124	-.786	.282	-.431	.338
Income (High)	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.
≤5 years	-2.189	**0.004**	-2.131	**0.008**	-.632	.576	-2.562	**0.004**
6-10 years	-1.389	0.060	-1.517	.052	.812	.481	-1.516	.082
11-15 years	-.706	0.373	.371	.704	.617	.656	-1.500	.109
16-20 years	-1.186	0.083	.035	.967	.584	.646	-1.254	.149
>20 years	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.
Basra Teaching Hospital	-0.282	0.335	-.367	.243	-.331	.481	-.012	.972
Al-Sadr Teaching Hospital	0.356	0.279	.094	.800	-.619	.260	.516	.203
Al-Sayyab Teaching Hospital	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.
Intensive care unit (ICU)	-0.004	0.993	2.109	**0.011**	-.325	.668	.686	.243
Respiratory care unit (RCU)	0.432	0.264	.427	.299	-.359	.530	.847	.068
Pulmonology department	0.090	0.801	.244	.502	-.334	.508	.042	.910

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

Emergency department	0.444	0.128	.654	**0.039**	1.086	**0.050**	1.245	**0.001**
Medical and surgical Wards	**Ref.**	.	**Ref.**	.	**Ref.**	.	**Ref.**	.

Discussion

Demographic characteristics of nurses

In this study indicate that most nurses belonging to ages 21-30 years. The mean of age 31.0±9.2 years. These results agreed with the study outcomes conducted by [18]who revealed that most the participants belonging to ages 20-30 years. Also, These findings were supported by [19] who reported that the mean age of the studied nurses was (32.32±6.70) with age ranged 20- 50 years. A possible explanation for the increase in the proportion of this age group may be the employment of large numbers of new graduates from medical and health professions in healthcare institutions over the past five years.

More than half of the nurses were females. This result is congruent with the study findings conducted in Iraq **[20]**who discovered that 52.5% of the nurses were females. Another study by **[21]**which found that 53.0% of the participants were females. A possible explanation for this result may be due to the increased chances of females being accepted into Iraqi universities in the nursing specialization, as well as the presence of nursing preparatory schools for females only at the present time, which is what makes the frequency of females higher compared to males.

The majority of nurses live in urban areas (88.0%) compared to rural (12.0%). This can discuss that urban locations attract nurses seeking professional progression and stability due to improved job prospects, higher incomes, and more modern healthcare facilities. Urban areas have more hospitals, clinics, and specialized medical facilities, boosting need for healthcare workers. Urban locations have more nurse training programs and institutions. Rural areas encounter issues including fewer healthcare facilities.

The results found that the highest proportion of the nurses have a diploma. This result is in agreement with the study findings done by **[22]**which found that the highest percent (41%) of the nurses have a diploma. Another study by **[23]** which reported that the highest percentage (40.0%) of the nurses graduated from Technical institute. A possible explanation for this increase in education is the significant increase in the availability of diploma departments in nursing at public universities for morning and evening study, and the fact that this department provides employment opportunities in government institutions. This makes the frequency of diploma-level enrollment higher.

In this study, most nurses (61.7%) have experience up to 5 years. This result is congruent with the study findings conducted by **[24]** who discovered that 72% of the nurses have experience up to 5 years. Also, a study by **[25]**found that the highest proportion of the nurse have total working experience less than 3 years. The possible explanation for the increase in the frequency of participants at years of experience less than or equal to 5 may be due to the

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

increase in the frequency of young age groups, as we mentioned in our interpretation of the age groups above.

The largest proportion of participants (39.8%) were from Basra Teaching Hospital, followed by Al-Sadr Teaching Hospital (30.2%) and Al-Sayyab Teaching Hospital (29.9%). This likely reflects disparities in hospital size, patient burden, and specialization. The increased capacity and diverse healthcare services of Basra Teaching Hospital, a significant medical center, may necessitate a greater number of employees.

The largest percentage of nurses (39.3%) work in medical and surgical wards. This result is in agreement with the study findings done by

[26].which found that largest percentage of nurses work in internal medicine 39.5% followed by 34.3% surgical department.

Assessment of the studied domains

The findings of this investigation suggest that 58.1% of the nurses possess inadequate competencies. While 41.9% of the participants possessed high-level competencies. These results are consistent with **[27]**which reported that the information seeking and retrieval skills of the nurses were poor and there were clear deficits in the use of updated information resources. Another study by **[28]** reported that 84.8% had moderate triage skills.

In this study, 72.7% of the nurses have high competence performance. This result is congruent with the study findings conducted by **[29]** who discovered that 71.0% of nurses had good level in performing. In Saudia Arabia a study by **[30]** found that more than half of the respondents were implementing nursing process accurately. Another study by **[31]**which showed that 57 nurses (59.4%) had high performance and 39 nurses (40.6%) had low performance.

The results of this study indicate that 89.9% of the nurses have high competence intervention. While only 10.2% of the participants low competence intervention. These results agreed with the study outcomes conducted by **[32]** who revealed that nursing interventions are good in reducing hospital readmissions through proactive patient management, education, and follow-up care. A study by **[33]** reported that the positive outcomes associated with specific nursing interventions in various healthcare settings. According to **[34]** who discovered that managerial intervention is increase nursing competencies.

In this study, 75.8% of the nurses have high competence practices. While only 24.2% of the participants low competence practices. These results are consistent with **[35]**which reported that who reported that 77%of nursing staff have positive and satisfactory practice regarding patient safety at Hamad Hospital that related to continues education and training, effective in-service education, good supervision and available of all facility and equipment which improve patient safety and job satisfaction. A study by **[36]**who reported that 57% of studied nurses have satisfactory infection control measure practice about hand hygiene, suction of respiratory track, center line care, urinary catheter care and wound care. Another study by **[37]** reported that 88.8% demonstrated good triage practices.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

The results of this study indicate that 76.8% of the nurses have high competence assessment. While only 23.2% of the participants low competence assessment. These results agreed with the study outcomes conducted in Palestine **[38]** who revealed that the competency level in providing value-based care was 80%. Existing research provides evidence of a positive correlation between nursing competence and patient safety score **[39]**. According to **[40]** which found that nurse managers are expected to improve the supervision program to maintain clinical competence and decrease missed care. Another study by **[41]** showed that more than half of the studied nurses (54.5%) had good level of competency.

The relationship between the overall Competence Score and demographic characteristics of nurses

These results explain that high education qualification have high assessment scores for their role in the patients staying at significantly level <0.05. This result is in agreement with the study findings done by **[42]** which found that the same results. A study by **[43]**, revealed that nurses with baccalaureate degree had slightly higher median practice score than diploma holders. In Iraq **[44]**who found that highly statistical significant association between items which is related to the job performance with educational level. However, this results disagreed with **[45]**found that no correlation between academic degree, experience and nurses performance. This variation may be due to the difference in the methodology.

In this study length experience years have high assessment scores for their role in the patients staying at significantly level <0.05. This result is congruent with the study findings conducted by **[46]** who discovered that long experience are associated with better performance. Also, **[47]** reported that <5 years' experience is associated with low performance. Another study by **[48]** reported that there were statistically significant relationship between the level competence and work experience, work rotation and permanent position were found. This result is congruent with **[49][56]**who found that the nurses' experience had a significant positive effect on the nontechnical skills of the nurses. A study by **[50]** found that professional category, marital status, experience and type of ICU were associated with nontechnical skills of nurses The finding is in accordance with **[51][55]** illustrated that weak statistically significant correlation between participant's age and experience with practice. In Palestine, a study by **[52]** which found that competency level associated with long experience (P=0.019). There are 1 hospital where nurse performance is above 80% in the good category. two 2 hospitals where the nurse's performance is still in the fair category. This means that not all accredited hospitals will guarantee that the performance of their nurses in providing nursing services is also good. Nurses who work in accredited hospitals perceive a higher level of quality of health care. Accreditation results can predict the quality of health care and can show a positive trend between accreditation and quality of care. This results are supported by **[53]**

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

The results found there were positive correlation between all the studied domains (Skills, performance, intervention, and practices) at significantly level (P<0.001). The present study agreed with **[54]** which found that level of competency is associated with good level of practice.

Conclusions

1- The present study found that the majority of the nurses have a good level of performance, intervention, and practices. But there was poor level of the nurses' skills.
2- There is high competence level for the nurses regarding their role in the patients staying in the hospital.
3- The study reveals that high education qualification, high income, length experience years, and those who work in Al-Sadr Teaching Hospital have high assessment scores for their role in the patients staying.
4- The results found there were positive correlation between all the studied domains (Skills, performance, intervention, and practices) at significantly level (P<0.001).
5- The results found that the skills were increased in nurses live in urban areas compared to those live in rural areas at significantly level <0.05. While, skill and intervention domains were decreased in nurses have low income compared to those have high income at significantly level <0.05.
6- The study found that the place of working such as emergency department is associated with increased in intervention, performance, and practices at significantly level <0.05.

References

[1]T. Al Janabi, "Barriers to the Utilization of Primary Health Centers (PHCs) in Iraq," Epidemiologia (Basel), vol. 4, no. 2, pp. 121–133, 2023, doi: 10.3390/epidemiologia4020013.

[2]A. Ali and A. Saud, "Evaluation nurses' knowledge about prevention of nosocomial infections in Al-Basrah Teaching Hospitals, Basrah, Iraq," Rawal Med. J., vol. 48, 2023, doi: 10.5455/rmj.20230409075257.

[3]M. Atiyah, "Nurses' knowledge regarding management of hypovolemic shock: A cross-sectional study," Academia Open, vol. 9, no. 2, p. 10-21070, 2024.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

[4]N. Alsadaan, L. K. Jones, A. Kimpton, and C. DaCosta, "Challenges Facing the Nursing Profession in Saudi Arabia: An Integrative Review," Nurs. Rep., vol. 11, no. 2, pp. 395–403, 2021, doi: 10.3390/nursrep11020038.

[5]G. Arsenault-Lapierre et al., "Hospital-at-Home Interventions vs In-Hospital Stay for Patients With Chronic Disease Who Present to the Emergency Department: A Systematic Review and Meta-analysis," JAMA Netw. Open, vol. 4, no. 6, pp. e2111568–e2111568, 2021, doi: 10.1001/jamanetworkopen.2021.11568.

[6]E. Boltey, O. Yakusheva, and D. K. Costa, "5 Nursing strategies to prevent ventilator-associated pneumonia," Am. Nurse Today, vol. 12, no. 6, pp. 42–43, 2017.

[7]R. Boluktas, A. Uceriz, and G. Kalaycioglu, "Medical Management and Nursing Care of a Patient with Acute Respiratory Distress Syndrome," Bezmiâlem Science, vol. 10, no. 3, 2022.

[8]R. Chatterjee et al., "Fifteen Percent Thermal Burn Injury Developing Severe Acute Respiratory Distress Syndrome," J. Assoc. Pulmonol. Tamil Nadu, vol. 8, no. 1, pp. 38–41, 2025.

[9]L. Faessler et al., "The use of nurse-led care intervention to improve self-care abilities subsequently decreasing readmission in multimorbid hospitalized patients: A quasi-experimental study in a real-world setting," Nurs. Open, vol. 10, no. 6, pp. 3787–3798, 2023, doi: 10.1002/nop2.1637.

[10]S. S. Hamid, W. D. A. Ali, and M. A. Atiyah, "Assessing nursing students' knowledge of sleeve gastrectomy effects," Academia Open, vol. 9, no. 2, p. 10-21070, 2024.

[11]W. D. A. Ali, D. R. Hashoosh, H. S. Mishet, S. H. Sabri, and M. A. Atiyah, "Assessing nurses' knowledge on medication to reduce errors in Iraq," Academia Open, vol. 9, no. 2, p. 10-21070, 2024.

[12]F. Gallefoss, "The effects of patient education in COPD in a 1-year follow-up randomised, controlled trial," Patient Educ. Couns., vol. 52, no. 3, pp. 259–266, 2004, doi: 10.1016/S0738-3991(03)00100-9.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

[13]M. Mohammed Kadhim, H. Mahfoudh F, and A. A. Maher, "Morphology of Medical Pathological Terms with the Prefix (Cardio)," Int. J. Lang. Learn. Appl. Linguist., vol. 3, no. 3, pp. 21–24, 2024.

[14]S. P. Giovanni et al., "Promoting Evidence-Based Practice in Acute Respiratory Distress Syndrome: A Systematic Review," Crit. Care Explor., vol. 3, no. 4, p. e0391, 2021, doi: 10.1097/cce.0000000000000391.

[15]D. R. Hess, "Evidence-Based Respiratory Care," Respir. Care, vol. 66, no. 7, p. 1105, 2021, doi: 10.4187/respcare.08950.

[16]M. K. Mutashar, K. J. Awad, and M. A. Atiyah, "Hyperactivity Disorders: An Assessment of Kindergarten Teachers' Knowledge," Indones. J. Health Sci. Med., vol. 1, no. 2, 2024.

[17]M. Hoogendoorn et al., "The impact of COVID-19 on nursing workload and planning of nursing staff on the Intensive Care: A prospective descriptive multicenter study," Int. J. Nurs. Stud., vol. 121, p. 104005, 2021.

[18]W. D. A. Ali et al., "Critical knowledge gaps in Iraqi nurses' understanding of antihypertensive drug risks," Academia Open, vol. 9, no. 1, p. 10-21070, 2024.

[19]J. G. Jang et al., "Comprehensive Effects of Organized Education for Patients with Chronic Obstructive Pulmonary Disease," Int. J. Chron. Obstruct. Pulmon. Dis., vol. 14, pp. 2603–2609, 2019, doi: 10.2147/copd.s221673.

[20]M. F. Hasan, F. H. Khalaf, M. K. Mutashar, W. S. Mahdi, and M. A. Atiyah, "Physiological Adaptation to Left Ventricular Enlargement," Indones. J. Health Sci. Med., vol. 2, no. 1, p. 10-21070, 2025.

[21]A. M. Johnson and S. M. Smith, "Respiratory clinical guidelines inform ward-based nurses' clinical skills and knowledge required for evidence-based care," Breathe (Sheff), vol. 12, no. 3, pp. 257–266, 2016, doi: 10.1183/20734735.010816.

[22]J. Needleman, P. Buerhaus, S. Mattke, M. Stewart, and K. Zelevinsky, "Nurse-staffing levels and the quality of care in hospitals," N. Engl. J. Med., vol. 346, no. 22, pp. 1715–1722, 2002, doi: 10.1056/NEJMsa012247.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

[23]R. Ribeiro et al., "The Effectiveness of Nursing Rehabilitation Interventions on Self-Care for Older Adults with Respiratory Disorders: A Systematic Review with Meta-Analysis," Int. J. Environ. Res. Public Health, vol. 20, no. 14, 2023, doi: 10.3390/ijerph20146422.

[24]M. F. Hasan, W. S. Mahdi, F. Hadi, M. A. Atiyah, and M. K. Mutashar, "Effect of Visceral Fat on Blood Pressure Levels," Indones. J. Health Sci. Med., vol. 2, no. 1, p. 10-21070, 2025.

[25]S. M. Siddique et al., "Interventions to Reduce Hospital Length of Stay in High-risk Populations: A Systematic Review," JAMA Netw. Open, vol. 4, no. 9, p. e2125846, 2021, doi: 10.1001/jamanetworkopen.2021.25846.

[26]H. Y. A. Taroosh et al., "Patient-Centered Care: The Role Of Respiratory Therapists And Nurses In Chronic Respiratory Disease Management," J. Namib. Stud.: Hist. Politics Cult., vol. 32, pp. 1803–1811, 2022.

[27]D. E. Twigg, L. Whitehead, G. Doleman, and S. El-Zaemey, "The impact of nurse staffing methodologies on nurse and patient outcomes: A systematic review," J. Adv. Nurs., vol. 77, no. 12, pp. 4599–4611, 2021, doi: 10.1111/jan.14909.

[28]A. Abbas, "Impact of job satisfaction on job performance of nurses at Al-Suwaira," Iraqi Natl. J. Nurs. Spec., vol. 30, pp. 73–82, 2017.

[29]M. A. L. Al-Ishaq, "Nursing perceptions of patient safety at Hamad Medical Corporation in the State of Qatar," 2009.

[30]M. A. Atiyah and M. F. Hasan, "Assessment of pharmacy staff knowledge towards prevention of osteoporosis in adolescent girls," Age, vol. 20, no. 6, pp. 30–39, 2024.

[31]S. A. Al-Youssif, L. K. Mohamed, and N. S. Mohamed, "Nurses' experiences toward perception of medication administration errors reporting," J. Nurs. Health Sci., vol. 4, no. 1, pp. 56–70, 2013.

[32]A. Algunmeeyn and M. T. Mrayyan, "Understanding the factors influencing the implementation of accreditation in Jordanian Hospitals: the nurses' view," BMJ Open Qual., vol. 11, no. 3, p. e001912, 2022.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

[33]V. Alikari et al., "Perceptions of caring behaviors among patients and nurses," Int. J. Environ. Res. Public Health, vol. 20, no. 1, p. 396, 2022.

[34]M. Aseratie, R. Murugan, and M. Molla, "Assessment of factors affecting implementation of nursing process among nurses in selected governmental hospitals, Addis Ababa, Ethiopia," J. Nurs. Care, vol. 3, no. 3, pp. 1–8, 2014.

[35]E. Aziz Mamdouh, H. Shehata Mohamed, and D. Abdallah Abdelatief, "Assessment of nurses' performance regarding the implementation of patient safety measures in intensive care units," Egypt. J. Health Care, vol. 11, no. 1, pp. 82–100, 2020.

[36]A. I. Badawy, "Impact of a structured teaching program for prevention of ventilator associated pneumonia on knowledge and practices of intensive care nurses at Central Quwesna hospital, Egypt," Med. J. Cairo Univ., vol. 82, no. 1, pp. 803–813, 2014.

[37]E. A. E. L. Elmohmady, R. A. E.-F. Abo Gad, and A. H. Abou Ramadan, "Contribution of Non-Technical Skills on Nurses' Performance Efficiency of Nursing Care Process in Intensive Care Units," Tanta Sci. Nurs. J., vol. 19, no. 2, pp. 127–150, 2020.

[38]H. G. Eskander, W. Y. M. Morsy, and H. A. A. Elfeky, "Intensive care nurses' knowledge & practices regarding infection control standard precautions at a selected Egyptian cancer hospital," Prevention, vol. 4, no. 19, pp. 160–174, 2013.

[39]J. Farokhzadian, R. Khajouei, and L. Ahmadian, "Information seeking and retrieval skills of nurses: Nurses readiness for evidence based practice in hospitals of a medical university in Iran," Int. J. Med. Inform., vol. 84, no. 8, pp. 570–577, 2015.

[40]N. Hamström, P. Kankkunen, T. Suominen, and R. Meretoja, "Short hospital stays and new demands for nurse competencies," Int. J. Nurs. Pract., vol. 18, no. 5, pp. 501–508, 2012.

[41]J.-I. Hwang and J. Ahn, "Teamwork and clinical error reporting among nurses in Korean hospitals," Asian Nurs. Res., vol. 9, no. 1, pp. 14–20, 2015.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

[42]A. A. Jarelnape et al., "The influence of nursing interventions on patient outcomes: a systematic review," Saudi J. Health Syst. Res., vol. 4, no. 1, pp. 1–7, 2024.

[43]A. M. Tiryag, S. B. Dawood, and S. K. Jassim, "Nurses' knowledge and attitudes about enteral feeding complications by nasogastric tube in intensive care units," Rawal Med. J., vol. 48, no. 3, pp. 689–693, 2023.

[44]L. J. John, M. Arifulla, J. J. Cheriathu, and J. Sreedharan, "Reporting of adverse drug reactions: an exploratory study among nurses in a teaching hospital, Ajman, United Arab Emirates," DARU J. Pharm. Sci., vol. 20, pp. 1–6, 2012.

[45]H. F. Khudhayer and M. M. Adulwahhab, "The Evaluation of Nurses' Practices regarding Electronic Nursing Documentation," Iraqi Natl. J. Nurs. Spec., vol. 36, no. 1, pp. 1–7, 2023.

[46]A. A. Al-Mussawi et al., "Assess knowledge of nurses who provide prenatal care concerning toxoplasmosis in Basra city," Int. J. Nurs. Didactics, vol. 6, no. 4, pp. 01–04, 2016.

[47]M. Z. Malak, N. M. Al-Faqeer, and D. B. Yehia, "Knowledge, skills, and practices of triage among emergency nurses in Jordan," Int. Emerg. Nurs., vol. 65, p. 101219, 2022.

[48]M. Osman, M. Ibrahim, and G. Diab, "Relationship between nurses' competencies and quality of patient care at intensive care units," Menoufia Nurs. J., vol. 4, no. 2, pp. 1–14, 2019.

[49]A. A. Maher, "Knowledge of nursing college students on preventive measures for irritable bowel syndrome: Pre-experimental study," Int. J. Integr. Mod. Med., vol. 2, no. 3, pp. 16–24, 2024.

[50]T. A. Phukubye, M. O. Mbombi, and T. M. Mothiba, "Strategies to enhance knowledge and practical skills of triage amongst nurses working in the emergency departments of rural hospitals in South Africa," Int. J. Environ. Res. Public Health, vol. 18, no. 9, p. 4471, 2021.

ISSN 3063-8186. Published by Universitas Muhammadiyah Sidoarjo
https://doi.org/10.21070/ijhsm.v2i3.230

[51]M. M. T. Qtait and S. Sayej, "Demographic variable (Age, Gender, Marital Status, and Educational Qualifications, in Come) and Afeecte in nurses' performance in Hebron hospitals," J. Health Med. Nurs., vol. 24, no. 1, pp. 89–95, 2016.

[52]N. M. Rahmah, R. T. S. Hariyati, and J. Sahar, "Nurses' efforts to maintain competence: a qualitative study," J. Public Health Res., vol. 11, no. 2, p. jphr-2021, 2022.

[53]M. Rajput, A. Singh, A. S., N. Paintola, and V. A., "The Role of Nursing in Reducing Hospital Readmissions: A Review," Afr. J. Biomed. Res., vol. 27, no. 1, pp. 601–604, 2024.

[54]I. K. Wartana, S. Fajrah, D. E. Susianawati, V. M. Kolupe, and N. N. Beba, "Nurses Performance after Accreditation at Inpatient Rooms of the Anuntaloko Hospital," Int. J. Caring Sci., vol. 16, no. 3, pp. 1706–1715, 2023.

[55]Y. O. Yang, M. Kim, K. Park, and J. Yang, "Factors influencing the confidence in core clinical skills among hospital nurses," Int. J. Nurs. Pract., vol. 21, no. 6, pp. 831–838, 2015.

[56] R. A. Zaitoun, "Assessing nurses' professional competency: a cross-sectional study in Palestine," BMC Nurs., vol. 23, no. 1, p. 379, 2024.