

Investigation of nurses' readiness levels in different wards of the hospital

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ABSTRACT

Introduction: The level of nurses' readiness and knowledge can significantly influence on the quality of treatment and patients' health. Nurses should have a high level of knowledge and understanding of clinical care and its aspects. According to this issue, our study has been performed with the aim to compare the readiness of different wards of the hospital in evaluating important indicators of clinical care. **Methods:** This descriptive cross-sectional study was performed on 99 medical staff working in different wards of the hospital - during July 2020 to December 2021. Nurses in different wards of the hospital were compared in terms of care indicators. The tool used was a checklist for the effectiveness and evaluation of clinical care. The data were analyzed by SPSS statistical software. **Findings:** About 16.3% of the nurses were male, and 85.7% were female. Nurses in different wards were significantly different in terms of catheter and ligament care, blood transfusion and products, serum therapy and IV therapy, communication and training skills, pharmaceutical processes, and working with ventilators ($p < 0.05$). Emergency and general wards' nurses showed better readiness for pharmaceutical processes and emergency, and neonatal intensive care unit (NICU) ward nurses showed the best readiness in relation to catheter care and absorption and excretion processes and blood transfusion and products ($p < 0.05$). **Conclusion:** Despite an appropriate readiness in many wards, care readiness was placed on a lower extent in some wards. There were also limitations, strengths, and weaknesses in some aspects, including medication, care and standards, and infection control, which, because of this issue, can help improve nurses' performance in the future.

Keywords: Blood transfusion, clinical care and nursing skills, report-writing

Introduction

Nursing staff as an effective community in hospitals is one of the most important personnel groups that influence on patients' health and quality of treatment.^[1,2] Nurses' performance and readiness also affect the level of care quality and the therapeutic effectiveness.^[1] Despite the growing and dynamic nursing system, the presence of

professionally qualified nurses who can provide desirable care is felt more. In addition to having the ability of appropriate functional skills, nurses should have a high capacity in nursing awareness and knowledge.^[3,4] Providing quality services to hospitalised patients will increase patient satisfaction and the quality of services in hospitals.^[5] One of the factors that influence the quality of nursing is the provision of proper care with high awareness, which requires understanding the various aspects of working with equipment and proper performance.^[4] It is very important for nurses to pay attention to nursing processes, especially prescribing and consuming drugs in order to prevent medication errors.^[6] High nursing knowledge in relation to infection and germ control can also be widely used in all aspects of nursing care.^[6,7]

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Despite all the expressed cases, nursing processes and nursing care performance have many problems faced. Assessing and recognizing the working environment conditions and the level of nurses' skills and identifying their challenges affect nursing performance.^[3] Skills in performing nursing processes are related to their performance and play an important role in job satisfaction and the quality of nursing care.^[3,7] The criterion for the implementation of the nursing process is reporting systematic records and investigating nurses' performance and readiness in this field. Unfortunately, in our country, the nursing process and its quality rate in hospitals are given less attention, so there is no evidence to implement them correctly and completely. The nurses' readiness as an important part of the medical staff is an important issue in the treatment of the country. By empowering nurses, effective steps can be taken to address nursing challenges.^[7,8] So far, many studies have been conducted in relation to the readiness of nurses, but despite the increasing challenges of nursing and the need of patient health, attention and evaluation of nursing care are important issues. Also, the identification of these deficiencies in different wards of hospitals can be performed with the aim of comparing the readiness of nurses in the field of evaluation of clinical nursing care in different wards of hospitals.

Materials and Methods

Study design

In this descriptive cross-sectional study, 99 nurses working in different departments of the hospital – during July 2020 to December 2021 – were selected after reviewing the inclusion criteria. The sampling method in this study was based on samples available, and then, samples were selected from different wards of the hospital. Therefore, a questionnaire was designed to assess readiness based on the reporting recording approach. The system with a patient-centered structure was analyzed, designed, and implemented by the hospital's technology team and patient safety coordinator expertise.

Inclusion and exclusion criteria

The nurses from different wards who had completed reporting and professional care cases and were present in the hospital and willing to participate in the study were included in the study. Exclusion criteria included a history of chronic disease and unwillingness to participate in the study.

Ethical considerations

In an introductory session, the researcher introduces himself/herself, and then, the goals, nature, and process of the research were explained for the sample people. A written consent was received from individuals to participate in the research. It was assured to the sample people that their questionnaire information would be kept confidential, and it was reminded that the results of the research would be made available to them if they wanted.

Data collection

The tool used for this study was a checklist for evaluation of clinical care and nurses' performance. This checklist was obtained with the help of data related to the nurses' reporting file. This checklist included 16 reporting areas. The first section had questions about nurses' performance in terms of absorption and excretion. The second section consisted of four questions related to dressing evaluation. The third section consisted of four questions about the gavage evaluation. The fourth section consisted of three questions in which the control of vital signs was identified. The fifth section included five questions about suction. The sixth section consisted of four questions about catheter care and fittings and transmission. The seventh section included three questions about blood transfusion and products. The eighth section consisted of five questions related to uniform. The ninth section included nine questions related to standard precaution and infection control. The tenth section included seven questions about validation. The 11th section included seven questions about communication skills and patient education. The 12th section included four questions about the trolley code. The 13th section included seven questions about medication. The 14th section included six questions about serum therapy and IV therapy. The 15th section included working with a ventilator, and the 16th section was about safety. Nurses for each correct function were obtained a 100 score, and for each incorrect function, they obtained a zero score. The questionnaire score was varied between 0 and 100. In this study, participants with scores above 80 showed a high level of readiness. As a result, those participants who obtained scores between 50 and 80 were in the moderate readiness, and those participants who obtained scores below 50 showed insufficient readiness. During the reporting process, access to the type, scope, date, and report description was provided in the system. Each section included menu options including safety items, nursing care, and patient health. The studied items were measured in different wards of the hospital and then compared in terms of different indicators.

Data analysis method

The information was recorded in pre-compiled collection forms and entered into SPSS statistical analysis software version 25 for analysis. The data were analyzed using Chi-square test; in all tests, the confidence level was equal to 95% and the significance level was less than 0.05.

Findings

In total, 99 people were examined more than 1 year. The average age of nurses was equal to 37.5 years. Among the participants, 16.1% were male and 83.9% were female. About 56.6% of the nurses had performed completely the nursing process [Table 1].

According to Table 2, readiness and performance related to absorption and excretion showed that a total of 81.3% of the nurses had performed completely this process and the nurses of the kidney ward had the lowest readiness in relation to absorption and excretion processes. The nurses of the emergency

ward showed the best readiness in relation to absorption and excretion processes ($p = 0.04$). Regarding the readiness of nurses in relation to dressing, the findings showed that 87.1% of them had performed completely this process. The operating room ward showed the lowest readiness in relation to dressing, and the emergency ward showed the highest readiness, but the wards did not show a significant difference ($p = 0.07$). About 79% of the nurses showed complete readiness in relation to gavage. The kidney ward showed the lowest readiness in relation to dressing, and the emergency ward showed the highest readiness ($p = 0.19$).

About 69.4% of the cases related to vital sign control were observed by nurses. Only 59.8% cases reported that if the symptoms were abnormal, the follow-up measures were mentioned in the nursing report. There was no significant difference between different wards in terms of observing vital sign control ($p = 0.12$). According to Table 2, 78.6% of the nurses had complete readiness in relation to suction. Nurses in different wards did not show significant differences in this regard ($p = 0.23$). About 84.3% of the nurses expressed the necessary readiness for catheter care and fitting and transmissions. The nurses of the emergency and NICU wards showed the best

readiness in terms of catheter care and fitting ($p = 0.03$). About 92.2% of the cases related to uniform were observed and aware of them. However, the wards did not show a significant difference in this regard ($p = 0.31$). The level of nurses' readiness for blood transfusion and products indicated that 85.7% of the nurses showed complete readiness in this regard. Emergency ward nurses showed the best readiness in relation to blood transfusion and products ($p = 0.02$). About 79.6% of the nurses performed the standard precaution procedure and infection control at a high level. Emergency and NICU wards showed better results in this regard, but standard precaution and infection control had no significant difference in various wards ($p = 0.38$). Regarding validation, 84.5% of the nurses performed this process completely, but no significant difference was observed between the wards ($p = 0.09$).

According to Table 3, the results of communication and training skills were complete in 68.7% of the cases. Emergency and NICU wards' nurses showed better performance in terms of these items ($p = 0.01$). Regarding the trolley code, 86.1% of the nurses performed this process completely within 1 year. Although the NISU ward reported better readiness, no significant difference was observed between wards in this regard ($p = 0.17$). Nurses in 79.6% of the cases had complete readiness compared to pharmaceutical processes. Nurses of the emergency ward and general ward showed better readiness compared to pharmaceutical processes, and different wards had a significant difference in this regard ($p = 0.02$). Findings related to the field of serum therapy and IV therapy showed that 87.5 of these processes were performed completely by nurses. However, kidney and surgery room wards showed lower readiness in this regard, and the statistical difference between different

Table 1: Demographic characterization

	Average/percentage	Number
Age	37.5±7.5	
Gender		
Female	83.9%	83
Male	16.1%	16
Nursing process		
Complete	56.6%	56
Incomplete	43.4%	43

Table 2: Findings related to nurses' readiness in different wards of the hospita

Variables	Category	Frequency (%)						Significance
		Average	Emergency	General	Picu	Nicu	Operating room	
Information related to absorption and excretion	Yes	80.3	84.1	78.4	80.4	83.5	73.4	0.04
	No	19.7	15.9	21.6	19.6	16.5	26.6	--
Dressing evaluation	Yes	89.3	86.2	85.9	87.7	81.6	80.2	0.07
	No	12.9	10.7	13.8	14.1	12.3	18.4	19.8
Gavage	Yes	79.0	82.1	78.2	80.6	81.3	77.9	0.19
	No	21.0	17.9	21.8	19.4	18.7	22.1	--
Vital Sign Control	Yes	69.4	73.8	67.5	69.3	71.4	70.2	0.12
	No	30.6	22.2	32.5	30.7	28.6	29.8	--
Suction	Yes	78.5	81.1	79.4	80.3	80.9	76.7	0.23
	No	21.5	18.9	20.6	19.7	19.1	23.3	--
Catheter care and fittings and transmission	Yes	83.3	88.4	81.2	80.9	84.7	77.4	0.03
	No	16.7	11.6	19.8	19.1	15.3	22.6	--
Uniform	Yes	92.2	94.1	89.1	91.8	93.5	90.1	0.31
	No	19.8	5.9	10.9	8.2	7.5	9.9	--
Blood transfusion and products	Yes	85.7	90.4	81.2	84.6	87.8	77.4	--
	No	15.3	9.6	19.8	15.4	12.2	22.6	24.4
Standard precaution	Yes	79.6	80.3	78.9	79.2	81.8	78.4	0.38
	No	20.4	18.7	21.1	20.8	18.2	21.6	20.1
Validation	Yes	84.5	86.1	83.4	85.3	81.4	83.1	0.09
	No	15.5	18.9	16.6	14.7	16.6	26.9	--

Table 3: Findings related to nurses' readiness and performance about drug and serum therapy, communication, and safety

Checklist cases	Category	Frequency (%)						Significance
		Average	Emergency	General	Picu	Nicu	Operating room	
Communication and training skills	Yes	78.7	92.8	97.4	66.4	86.7	--	0.01
	No	31.3	11.2	32.6	33.6	13.3	--	--
Trolley code	Yes	86.1	88.4	86.5	85.9	85.6	--	0.17
	No	13.9	12.6	13.5	14.1	14.4	--	--
Medication	Yes	79.6	96.1	71.0	91.2	84.7	--	0.02
	No	20.4	3.9	8.8	29.0	3.15	--	--
Serum therapy and intravenous therapy	Yes	87.5	97.8	94.5	89.3	91.2	71.7	0.03
	No	30.5	2.2	5.5	10.7	8.8	28.2	37.1
Working with ventilator	Yes	58.9	89.1	--	20.8	87.9	--	0.04
	No	41.1	10.9	--	79.2	12.1	--	--
Safety	Yes	82.3	88.4	81.2	80.9	84.0	79.4	0.03
	No	17.7	11.6	18.8	19.1	16.0	20.6	--

wards was statistically significant ($p = 0.03$). About 58.9% of the nurses performed completely the ventilator procedure so that this readiness was very low in the pediatric intensive care unit (PICU) ward nurses and the wards had a significant difference in this regard ($p = 0.04$). Regarding safety, 82.3% of the nurses performed completely the safety processes and no significant difference was observed between wards ($p = 0.09$). In general, the results show that in all items, emergency ward nurses had more readiness and awareness compared to the processes.

Discussion

Nurses are an important part of hospital staff. Performing the nursing processes in the best way is one of the most important factors affecting patients' health.^[9] Our research compares different wards of the hospital in terms of care processes. Our study showed that different wards had a significant difference. In general, a few studies have been performed in relation to compare different wards of the hospital in terms of care readiness. The present study has shown that nurses in different wards had a significant difference in terms of catheter and ligament care, blood transfusion and products, serum therapy and IV therapy, communication and training skills, pharmaceutical processes, and ventilator procedures. The nurses of the emergency ward and general ward showed better readiness compared to the pharmaceutical processes, and the nurses of the emergency ward and NICU showed the best readiness in terms of catheter care and absorption and excretion processes and blood transfusion and products. The findings of Heidari *et al.*^[10] showed the readiness of emergency nurses on an appropriate level. They reported that nurses' readiness had significant relationship with education, information resources, passing of training courses, age, and working experience in the emergency ward and general ward. They also stated that the readiness of emergency nurses for patients' care was considered more than two-thirds of the total and on a good level. In the present study, despite the difficulty of working in the emergency ward, the nurses of this ward showed an appropriate readiness in many areas. In general, the results of

the present study show that the nurses of the emergency ward had higher readiness and awareness compared to other wards of the hospital that should be considered. A study regarding the problems of general ward nurses who were recently transferred to the emergency ward showed that the emergency ward is associated with challenges for these nurses. These challenges included non-readiness for work in the emergency ward, verbal harassment on behalf of the patient's relatives, the lack of resources in the emergency ward of the hospital, the stressful nature and difficulty of working in the emergency ward, and over-crowding in the emergency ward. Despite these challenges, the emergency nurses have an appropriate performance, so paying attention to the factor affecting the readiness of emergency nurses can be effective in increasing the quality of nursing care.^[11] Our study showed that 85.7% of the nurses had complete readiness for blood transfusion and products. The present study also showed that the level of communication and training skills was complete in about 68.7% of the cases, and in 79.6% of the cases, they had complete readiness for pharmaceutical processes. Bayih *et al.*^[8] showed that that only half of the nurses performed the nursing processes completely during the patient care. They stated that paying attention to influential factors such as stressful environment, the lack of facilities, and access to education can be effective in improving care and nursing processes.

In the present study, findings related to serum therapy and IV therapy showed that 87.5% of these processes are performed completely by nurses. However, kidney and surgery operating rooms showed significantly lower readiness in this regard. Also, 58.9% of the nurses performed completely the ventilator procedure, and the readiness was very low in PICU ward nurses. Working with a ventilator is an important issue, especially during corona epidemic periods, where in many cases, nurses have shown low readiness in this regard. In relation to readiness of the hospitals' wards about working with a ventilator and serum therapy, no special research was performed, but the research studies have shown the importance of these processes. In unwell patients, the nurses' performance in relation to serum

therapy is very important. Also, during the corona epidemic periods, the nurses' readiness in relation to the ventilator is very important.^[12-14] The present study showed that the wards has a significant difference. The emergency and NICU wards were placed in a good position in this regard. The findings of Mansourian *et al.*^[15] showed that training of nursing processes in PICUs was effective in reducing disease progression and ultimately leads to a decrease of hospital re-admission and parental satisfaction. They stated that nurses are key elements in patients' care, especially in the NICU ward, so nurses' training can have a significant impact on their performance. In the present study, infection control and observance of safety standards were well considered in various wards. Similar studies by Anwar *et al.*^[16] in 2019 showed that most nurses were aware of the importance of injection safe measures to minimize blood-borne diseases with 95.2% of them by placing a sharp disposal box next to the injection site, and in general, infection control and observance of safety standards were placed on an appropriate level. Studies by Kim *et al.*^[17] have shown that for protection of patients, prevention and reduction of infection transmission of safety observance and use of appropriate personal protective equipment are necessary in the workplace. Also, educating these to students can be effective in their awareness and prevention of infection. Recent similar studies indicate that cases related to medication errors are an important issue that in many cases leads to patients' dissatisfaction and in critical cases can lead to many risks for patients,^[18] in the present study, the kidney and PICU wards had lower readiness in pharmaceutical cases compared to other wards. Findings have shown that the necessity to implement training programs and planning to empower and implement support programs to improve the performance of nurses in various fields can play an effective role in their efficiency.^[19]

Of course, paying attention to the psychological and emotional conditions and needs of nurses can be effective in increasing the quality of services and improving nursing processes. Studies in Iran have shown that nurses have the most interactions and contact with patients compared to other health care providers, and performing appropriate psychological interventions to manage workplace stressor factors and reduce nurses' burnout would be a step towards increasing the quality of nursing care.^[20] Despite the issues discussed, our study has focused on the performance and readiness of nurses in relation to nursing processes. The finding states that more recognizing the strengths and weaknesses of the nursing staff in relation to nursing care and performing the processes as well as providing educational facilities should be placed on a priority.

Conclusion

Findings of the study show that nurses had an appropriate readiness regarding many care processes and the percentage of readiness in emergency nurses was higher. Also, the nurses in the NICU ward had low readiness in relation to work with the ventilator. In addition, there were also limitations, strengths, and weaknesses in some aspects, including medication, care

and standards, and infection control, which could help improve nurses' performance in the future. It is suggested that in the future, during studies with a larger population, the cause of the difference in the readiness of nurses in different wards should be investigated.

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Conflicts of interest

There are no conflicts of interest.

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