

Original Article

Challenges Regarding Application of Nursing Process among Pediatric Nurses at Governmental Pediatric Hospitals in Khartoum State, Sudan

Madiha AbdulKader SalehAlSharmani¹, Amal Abdelgadir Ali², Hanadi Mohammed Elhassen³, Egbal Abbashar Algamar Almkay⁴

¹ University of Hadramout for Science and Technology's in Pediatric Nursing & Child Health

² PhD in Pediatric Nursing & Child Health University of Technology

³ PhD in Pediatric Nursing & Child Health-Head Department of Pediatrics Nursing Al Neelain University.

ORCID ID00000000290927090

⁴ PhD in Pediatric Nursing & Child Health- Al Neelain University

Corresponding author: Egbal Abbashar Algamar : email aaalaaa2009@gmail.com

Abstract

Background: The use of nursing process in clinical settings facilitates with high quality nursing care, improves client health outcomes and promotes nursing as a professional and scientific discipline. The biggest problem currently facing the nursing profession is the implementation of nursing process.

The overall aim of this study is to assesses the challenges regarding the application of nursing process. **Method:** the present study is a descriptive cross-sectional hospital-based study, conducted in 2018 on nurses working at three governmental pediatric hospitals in Khartoum State – Sudan. 138 nurses from different departments were enrolled as the sample of the study. As the major instrument of collecting primary data, the researcher developed a structured questionnaire which consisted of three parts. A Likert scale was used to measure the level of nurses' knowledge about nursing process. The collected data were analyzed by using the Statistical Package for Social Sciences (SPSS) version 25. The data were presented in form of tabulation and graph.

Results: the findings revealed that: one third (33.3%) of the respondents were aged between (24 – 34) years; half (50.0%) of the respondents had a BSc. in Nursing and most of them had work experience of more than 10 years in various departments. The results also indicated that 60.9% of

the nurses were responsible for more than 10 patients per shift. They further show that while (37.0%) of the nurses had excellent knowledge in nursing process, (63%) of them did not apply nursing process properly. It was also found out that (19.6%) of the respondent nurses applied nursing process all the time to patients who were present in the hospital.

The researcher **concluded** that the level of nurses' practice is poor, whereas the level of knowledge is excellent. Significant factors which affected the application of nursing process were: workload, time and resources.

Key terms: nursing process, factors, application, pediatric hospitals.

Introduction:

Global reports indicate that nurses constitute the largest proportion of health care workforce and provide up to 80% of all health care services. Therefore, the quality of nursing care is critical to the overall quality of health care services. It is important for nurses to be critical thinkers because they are always dealing with the lives of their patients and they are also faced with challenges in their daily practice which require their ability to make rational and crucial critical decisions. When used for its intended purpose the nursing process

has been described as a powerful scientific vehicle to facilitate critical thinking ⁽¹⁾. Research evidence showed positive relationship between practicing nursing process and decreased hospital stay, and increased satisfaction.

An intervention study on the effect of training nurses on nursing process implementation showed that the practice resulted in decreased hospital stay from 6.44 to 5.37, increased mean quality of discharge education practice from 2.24 to 12.2, increased mean quality of documentation by staff from 2 to 23.4, increasing quality of care, increasing level of nurses' satisfaction, changing nurses' attitude regarding nursing care, decreasing energy consumed during care and increasing the ability of patients for self-care. Results of previous studies indicated that patients who received care according to nursing process were more satisfied than patients who received usual nursing care, as a result of nurses spend more time with patient and patient had more participation in their care ⁽²⁾

According to current American and Canadian practice standards, nursing practice demands the efficient use of the nursing process and professional participation in activities that contribute to the permanent development of knowledge about this methodology. Implementing a new methodology to guide nursing care delivery implies facing a series of challenges, which requires a priori acknowledgement of the institution's and the nursing team's possibilities and limits. Because application of the nursing process in patient care is conspicuously absent in most healthcare facilities.⁽³⁾ Many countries have adopted the nursing process as the standard of care to guide nursing practice; however, the problem is its implementation. If nurses fail to carry out the necessary nursing care through the nursing process; the effectiveness of patient progress may be compromised and can lead to preventable adverse

events. ⁽²⁾ However, little is known about factors affecting the implementation of nursing and the majority of nurses have knowledge of the nursing process, but they do not apply it in practice. However, in practice, the implementation of this process is faced with numerous challenges.⁽³⁾

Thus, there are problems associated with the nursing process such as decline in the quality of care and ineffectiveness of nursing services. Similarly, it is difficult to bring significant improvement in nursing care if nurses do not use nursing process to assess, plan, implement, and evaluate clinical conditions of the clients. Moreover, malpractice of nursing process will negatively affect the quality of nursing care as a result of various factors. Assessing the determinant factors which affect the nursing process implementation has a vital role in the proper implementation of the nursing process.⁽³⁾ Implementation of the nursing process in practical nursing can be achieved in accordance with the principles of action research. A prerequisite of the action research is knowledge of the basic principles and the component areas of the nursing process and knowledge of the opportunities for applying the nursing process to practical work, but knowledge of nurses on this process is not studied yet.⁽⁴⁾

Research Methodology: This study is a descriptive cross-sectional hospital-based study conducted at three government pediatric and maternity hospitals in Khartoum State. These three hospitals are: **Ahmed Gasim Hospital**, which is located in Khartoum North (Bahri); **Dr. Jaa'far Ibn Auf Specialized Pediatric Hospital**, which is located in Khartoum Locality, next to Khartoum Dermatology Hospital, and it is considered as referral hospital; **Mohammed Al-Amin Hamid Hospital** for pediatric emergency, which is located in Omdurman Locality opposite to Omdurman Teaching Hospital,

and it provides pediatric health services for all residents of Omdurman Locality.

Methodology

Population: the population of the study comprises all nurses who work in the various units in the abovementioned hospitals as permanent staff, with their different academic qualifications (Diploma, BSc, MSc, PhD.), working at morning, afternoon and night shifts.

Sample size: the population of the study consists of 138nurses – that was less than 200 participants, which is considered a census sample. According to Glenn D. Israel, a census is attractive for small populations – 200 or less. A census eliminates sampling errors and provides data on all the individuals in the population.⁽⁵⁾

Data collection tool: The relevant data of the study were collected using a structured interview questionnaire which was constructed in English and was translated into Arabic to determine the nurses' knowledge and practice regarding nursing process and its challenges. Likert scale was used to measure the level of nurses' knowledge about nursing process. The information collected included, in addition to the personal and demographic data, the knowledge and practice regarding nursing process and last part includes patients and administration

factors that may affect nursing process implementation. A pilot test was conducted to test the validity of the questionnaire on 21nurses with the same criteria of the study population, and the questionnaire was found to be valid.

Data analysis plan: after the required data were collected, they were coded and transferred into specially designed formats so as to make them suitable for computer feeding. Following data entry, checking and verification processes were carried out to avoid any errors during data entry. Data analysis was carried out by the Statistical Package for Social Sciences (SPSS) version 25, and the measures included percentage and mean, and the binary outcome variable was created. Methods of graphical presentation included bar graphs and pie graphs. The level of significance selected for this study was p-value equal to or less than (0.05).

Ethical clearance

The study proposal was ethically cleared by the Ethical Committee of Al-Neelain University and a written agreement was taken from the Ministry of Health of Khartoum State – Department of Research Management, and the respective managers of the hospitals in which the study was conducted. Furthermore, a verbal consent was obtained from each of the participants before administering the questionnaire

Results:

Table 1: Demographic variables of the nurses

Variables		Study Result	
		Frequency	Percent
Age	Less than 24	21	15.3
	24 – 34	46	33.3
	35 – 45	42	30.4
	More than 45	29	21.0
Total		138	100.0
Qualification		Secondary Certificate	7
			5.1

	Diploma	56	40.6
	B.Sc.	69	50.0
	M.Sc.	4	2.9
	Ph.D.	2	1.4
Total		138	100.0
Unit	NICU	14	10.1
	PICU	31	22.5
	HDU	14	10.1
	Other Units	79	57.2
Total		138	100.0
Experience	Less than 5 years	50	36.2
	5-10 years	19	13.8
	more than 10 years	69	50.0
Total		138	100.0

Fig I: The responses of nurses about the application of nursing process

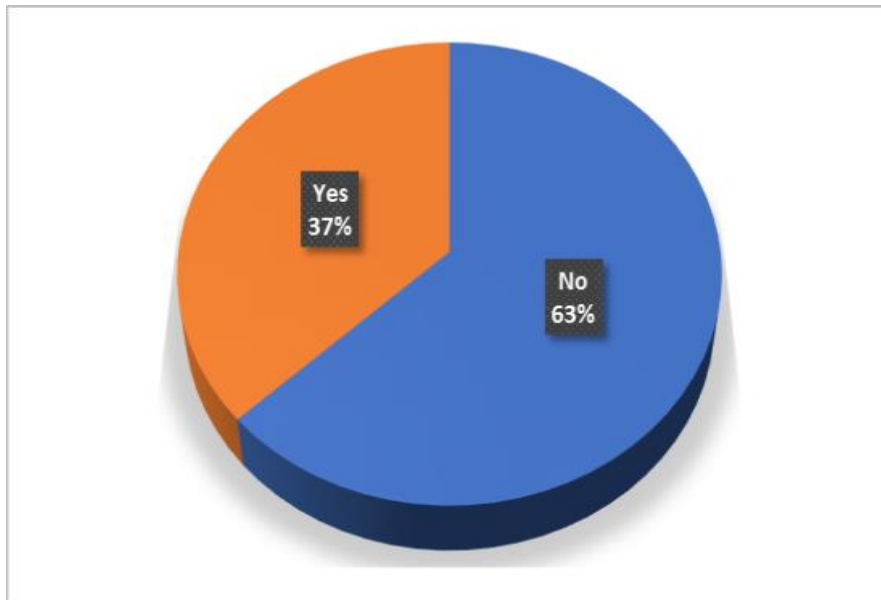
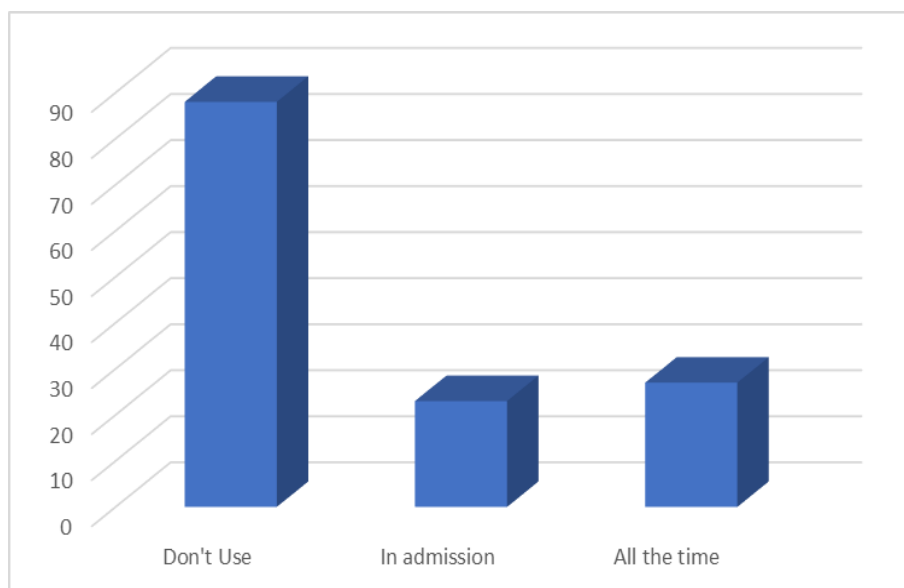
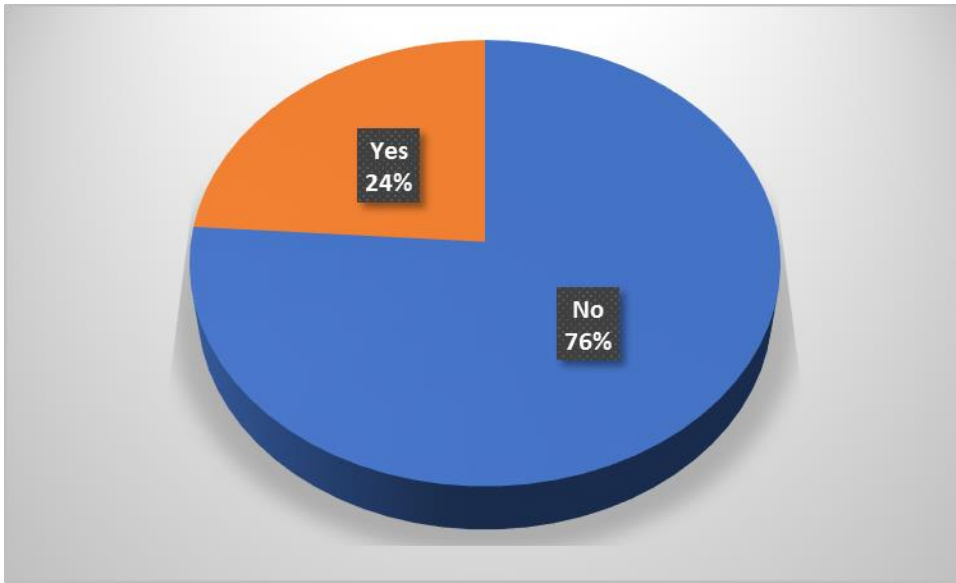


Fig II: The responses of nurses about the application of nursing process during patients' stay in hospital.**Table 2: The responses of the nurses about the factors affecting nursing process application**

NO	Factors affecting nursing process application	Yes		No	
		F	%	F	%
1	Cannot understand it\ find it confusing	57	41.3	81	58.7
2	A nurse cannot see any purpose for writing the nursing process.	34	24.6	104	75.4
3	Workload does not allow nurses to practice the nursing process.	69	50	69	50
4	Need more information and tutorials to practice nursing process.	62	44.9	76	55.1
5	Shortage of staff.	68	49.3	70	50.7
6	No policy to apply it.	59	42.8	79	57.2
7	Nursing process is time consuming.	62	44.9	76	55.1
8	No motivation to do nursing process.	55	39.9	83	60.1
9	Difficulties in performing all the phases of the nursing process.	49	35.5	89	64.5
10	Others (please mention).	00	00	00	00
	Total	138	100	138	100

Fig III: The nurses' satisfaction with their profession in the three hospitals.**Table 4: Correlation between the application of the nursing process and the variable of experience among the respondents**

Experience/age group		Did you apply nursing process?		Total
		No	Yes	
Experience	Less than 5 years	24	26	50
	5-10 years	15	4	19
	more than 10 years	48	21	69
Total		87	51	138
P. value		0.017		

Table 5: The association between the application of the nursing process and the variable of level of qualification among the respondents

		Did you apply nursing process?		Total
		No	Yes	
Qualification	Certificate	3	4	7
	Diploma	40	16	56
	Bachelor of Science in Nursing	40	29	69
	Master in pediatric	3	1	4
	Ph.D. in pediatric	1	1	2
Total		87	51	138
P. value		0.397		

Discussion

The study findings revealed that about the third (33.3%) of the respondents were aged between (24 – 34) years: this indicates that young nurses have the highest the in rate in the Sudanese hospitals .Half of the respondents (50%) had experience for more than 10 years, and the majority of them worked in different units 57.2%, as shown in table 1.

Concerning academic qualification, the highest rate of the respondents (50 %) had Bachelor of Science in Nursing. This implies that this qualification is very high among nurses in Sudan in comparison to other qualifications, and they had a high level of knowledge in nursing science, a factor which makes the application of nursing process easier for them. These results are divergent from the Kenyan work force finding that revealed the majority of the nurses were registered nurses and similar findings were also observed in a study in Naivasha on the implementation of the nursing process which revealed that the majority of the nurses in that study had a diploma.⁽⁶⁾

The majority of the nurses had knowledge of nursing process (96%). On a four-point scale for measuring knowledge ranging from poor, good, very good and excellent knowledge, the highest rate had *excellent* knowledge in nursing process (37.0%), followed by *poor*(26.1%), then *very good*(21.7%), and finally *good*(15.2%) had good and (26.1%) had poor knowledge from attended colleges as well as from seminars and workshops, that's mean the level of nurse's knowledge was very high in compare with Saudi Arabia nurse's knowledge and what make knowledge level from facilitator factor of application of nursing process. Accordance to a study carried out in two hospitals in Saudi Arabia which revealed that majority of nurses had good knowledge of the nursing process from attended colleges as well as from seminars and workshops.⁽⁶⁾

Furthermore, the study found that the majority (63%) of the interviewed nurses did not apply nursing process. This finding is in concord with a correspondent finding attained by a study conducted

in Ethiopia on the implementation of nursing process among nurses .in Addis Ababa selected government hospitals 100(52.1%) of nurses were practiced nursing process, while is in Arbaminch General Hospital 32(32.7%), in Mekele Zone Hospital all of the 200 respondents reported that they did not apply any of the nursing process steps.⁽⁶⁾

There were some factors that can affect the application of nursing process such as nurse-related factors, patient-related factors, workload, time factor and resources. A study conducted done in KSA also found out that the biggest problem currently facing the nursing profession is the implementation of the nursing process. The said study examined some of the factors that can affect it, and they included variables such as knowledge, profession, attitude and institution. Institutional factor, including work resources and management, ranked the highest predictive factor in the use of nursing process ⁽⁶⁾.

Moreover, the number of patients cared for by each nurse was one of factors that affected the application of nursing process, and the findings in the present study indicated that the majority of nurses (60.9%) cared for more than 10 patients per shift (eight hours). This finding significantly contrasts with a correspondent finding obtained by a study conducted in Kenya which found that the majority of the nurses drew care plans for between 0-2 patients per shift ⁽⁶⁾. This finding [of the present study] entails that the number of patients in the ward for each nurse would create overload on the nurses in every shift and may make the application of nursing process considerably difficult. Because of the various activities performed due to the demand for health care, time constraints and limited resources, the nurse is often distant from direct assistance and may omit important aspects of care. Therefore, the amount of missed care is directly

related to the increased workload, and those activities are generally considered as being exclusively within the competence of nurses. This omission indicates a deficiency in the quality of care and represents a potential risk for adverse patient events.

The study found that is a positive correlation exists between job dissatisfaction and non-application of the nursing process (the greater the lack of job satisfaction, the greater the non-application of the nursing process). The results showed that the majority of nurses 76.1% (105) were dissatisfied as a result of unsuitable atmosphere of the work place, followed by poor management of hospital, shortage of training and low payment. The finding contrasts with a finding by related study conducted by Zeray Baraki, and found that there is a positive relationship between practicing nursing process and increased satisfaction of training nurses on nursing process implementation that result in decreased hospital stay from 6.44 to 5.37, increased mean quality of discharge education practice from 2.24 to 12.2, increased mean quality of documentation by staff from 2 to 23.4, increasing quality of care, increasing level of nurses' satisfaction, decreasing energy consumed during care and increasing the ability of patients for self-care⁽²⁾. That means patients who received care with nursing process applied properly were more satisfied than patients who received usual nursing care, as a result of the nurse spending more time with the patient and the patient gets a fair share of care. In addition ,there is increase in nurses' satisfaction as the energy consumed during care decreases to a very low level, and that leads to increasing the quality of care ,in contrast of the absence of nursing process implementation.

On the other hand, as far as patient-related factors are concerned ,the study revealed that the respondents consider patients' early discharge

(73.9%), patient's non-cooperation(92%),and patients' level of education (89%)as decisive factors that affect the implementation of nursing process in the hospitals in which the present study is conducted. This finding is closely related to, and virtually in agreement with ,a correspondent result obtained by a study done at Addis Ababa which indicated that: early discharge, poor participation of patients associated with professional, organizational and patient related factors, working overtime (81.8%), working without payment (12%), misconduct (10.9%), high flow of patient, high employee turnover and for 35.4% less recognition, unsympathetic manager, 16.1% in a disorganized organizational structure are some of the factors which highly affect nursing process implementation. ⁽⁸⁾

So, according to the present study, shortage of the staff, high flow of the patients, lack of training of nurses on nursing process application, poor management of hospital, lack of time and resources and dissatisfaction with payment are the main challenges for the application of nursing process at three governmental pediatric hospitals enrolled in this study.

Conclusion

- The application of nursing process is affected by many factors such as knowledge, profession, and institution. Institutional factors, including workload, time factor, resources and management, ranked the highest predictive factor in the use of nursing process, and the majority of nurses did not apply nursing process in the three governmental hospitals.

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