

Nursing Care Audit Based on Nursing Process Model and Ensuring Patient Safety among Staff Nurses

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Abstract

The nursing process model involves assessing, diagnosing, planning, implementing and evaluating patient situations. In this study to audit nursing care, using a nursing process model, nursing audit checklist was designed based on nursing process model. The demographic questionnaire contained nurses' age, gender, work experience, type of employment, education level, and work shift. Nurses' performance was assessed using the audit checklist during a single work shift. Some indicators were assessed through a review of documents and nursing notes. Sample size was 100. The results showed that the majority of nurses (about 80%) worked in rotational shifts, 70 percent had 5 - 10 years of experience and 90 percent had GNM qualification. The rate of least compliance with nursing process indicators was 12.6, confirming that the majority of nursing care was not carried out based on the nursing process. The mean overall compliance score significantly differed between nurses with a BSc and those with GNM ($p=0.04$). This difference was also found in the mean compliance scores for three domains, diagnosis ($p=0.001$), implementation ($p=0.02$), and evaluation ($p=0.01$). In addition, the overall mean score did not significantly differ between nurses with permanent and non-permanent employment ($t=0.123$, $p=0.42$). The finding revealed that the knowledge of nurses on the nursing process is not adequate to be put into practice and high patient nurse ratio affects its application.

Quality is a judgement of what constitutes good or bad. Audit is a systematic and critical examination to examine or verify. Nursing audit is the assessment of the quality of nursing care and uses a record as an aid in evaluating the quality of patient care. Nursing Audit is an important component of medical audit. Nursing documentation constitutes an integral part of the nurse's daily work (Heartfield, 1996). Meticulous nursing documentation is an important part of multi professional patient care. The delivery of good care and the ability to communicate effectively about patient care depends on the quality of information available to all health care professionals. One important part of this information is nursing documentation in nursing care plans (Saranto & Kinnunen, 2014).

The nursing process model has been used as a framework for nursing and nursing documentation. The nursing process model involves assessing, diagnosing, planning, implementing and evaluating patient situations, with the ultimate goal of preventing or resolving problematic situations (Yura & Walsh,

1978). Earlier studies have reported that nursing documentation has conformed to the nursing process and the use of the nursing process has been shown to improve legislative compliance and entire nursing documentation (Waneka & Spetz).

Care plans provide direction and path for individualised care of the client. A care plan flows from each patient's unique list of diagnoses and can be organised by the individual's specific needs. The care plan is a means of communicating and organising the actions of a constantly changing nursing staff. As the patient's needs are attended to, the updated plan is passed on to the nursing staff at shift change and during nursing rounds. Care plans help teach documentation. The care plan should specifically outline which observations to make, what nursing actions to carry out, and what instructions the client or family members require. They serve as a guide for assigning staff to care for the client. There may be aspects of the patient's care that need to be assigned to team members with specific skills (Hooks, 2016). The medical record is used by the insurance companies to determine what they will pay in relation to the hospital care received by the client. If nursing care is not documented precisely in the care

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plan, there is no proof the care was provided. Nursing process enables nurses to perform their activities with logical justification. It safeguards the rights of both the patient and the nurse. Nursing process implementation could be highly influenced by different factors that can lead to poor quality of nursing care, disorganisation of the service, conflicting roles, medication error, poor diseases prognosis, readmission, dissatisfaction with the care provided, and increased mortality. These problems are manageable if a nurse can properly implement nursing process.

Review of Literature

Hagos et al (2014) conducted a cross-sectional design employing quantitative and qualitative methods in Mekelle zone hospitals in March 2011. Qualitative data was collected from 14 head nurses of six hospitals and quantitative data was collected from 200 nurses selected by simple random sampling technique. SPSS version 16.1 and thematic analysis was used for quantitative and qualitative data respectively. Majority i.e. 180 (90%) of the respondents had poor knowledge and 99.5 percent of the respondents have a positive attitude towards the nursing process. All of the respondents said that they did not use the nursing process during provision of care to their patients at the time of the study. Majority (75%) of the respondent said that the nurse to patient ratio was not optimal to apply the nursing process.

Zamanzadeh et al (2015) assessed the databases of Iran medix, SID, Magiran, PUBMED, Google scholar, and Proquest using the main keywords of nursing process and nursing process. The articles were retrieved in three steps including searching by keywords, review of the proceedings based on inclusion criteria, and final retrieval and assessment of available texts. Systematic assessment of the articles showed different challenges in implementation of the nursing process. Intangible understanding of the concept of nursing process, different views of the process, lack of knowledge and awareness among nurses were found related to the execution of process, supports of managing systems. Problems related to recording the nursing process were the main challenges.

Melin & Linda (2017) reviewed the characteristic of registered nurses' intuition in clinical settings, in relationships and in the nursing process. Literature searches were conducted in the databases CINAHL, PubMed and PsycINFO, and literature published 1985 – 2016 that the characteristics of intuition in the nurse's daily clinical activities included application, assertiveness and experiences; in the relationships with patients' intuition it included unique connections, mental and bodily responses,

and personal qualities; and in the nursing process included support and guidance, component and clues in decision-making, and validating decisions.

Intuition is more than simply a 'gut feeling', it is a process based on knowledge and care experience and has a place beside research-based evidence. Nurses integrate both analysis and synthesis of intuition alongside objective data when making decisions. They should rely on their intuition and use this knowledge in clinical practice as a support in decision-making, which increases the quality and safety of patient care.

Objectives

The objective of this study was to assess the indicator score in nursing process techniques of nursing process model among nurses in selected hospitals of Pune to provide pragmatic evidence for educators, clinicians, programme planners, decision makers to design a new one and/or strengthen the existing nursing process to serve as a baseline for future researchers.

Methods

In this cross-sectional study carried out from April 2015 to October 2016 in four selected hospitals of Pune staff nurses were targeted care provider. First, a nursing audit checklist was designed based on a literature review and expert opinions obtained from in-depth interviews of 8 experts in nursing and accreditation. There were 25 items (indicators) in the checklist, covering the following domains: assessment (5 items), nursing diagnosis and identifying outcomes (5 items), planning (5 items), implementation (7 items), and evaluation (3 items). Most items were rated on a three-point scale (never = 0, sometimes = 50, and always = 100) depending on the level of nurses' compliance. Mean scores were calculated for each indicator as well as for each domain and for the full checklist. Higher scores indicated better performance. External consistency was assessed through the test-retest method with a two-week interval. The value of r was 0.954. Internal consistency was done by using Cronbach's α -method, the value of α was 0.889. The results show that the study checklists were more reliable to use for main study. Inclusion criteria were working full-time, having at least 2 years of clinical experience, and willingness to participate in the study; the sample size was 100.

Data was collected using a demographic questionnaire and the audit checklist. The demographic questionnaire contains nurses' age, gender, work experience, type of employment, education level, and work shift. Checklist was used by observations, interviews,

Table 1: Indicator score for assessment in the nursing process techniques (N=100)

Indicator	Score					
	Never 0		Sometimes 50		Always 100	
	Score	%	Score	%	Score	%
Comprehensive nursing assessment of the patient during the first 24 hours of admission	50	50	30	30	20	20
Collection and prioritisation of data using appropriate techniques, in accordance with patient safety and needs	51	51	30	30	19	19
Consulting the patient and family/friends (if needed) in data collection	50	50	32	32	18	18
Re-assessment in case there is any change in the patient's health-related behaviour	60	60	25	25	15	15
Recording and reporting assessment findings in the appropriate form correctly	54	54	30	30	16	16

Table 2: Indicator score for diagnosis and outcome determination in the nursing process techniques

Indicator	Score					
	Never 0		Sometimes 50		Always 100	
	Score	%	Score	%	Score	%
Extracting a nursing diagnosis from the data by using critical thinking and reasoning skills and previous experience	50	50	29	29	21	21
Prioritising diagnosis based on the interpretation of available data and the complexity and severity of a patient's condition	60	60	21	21	19	19
Extracting and recording expected outcomes from diagnosis	60	60	19	19	21	21
Estimating time to reach the target	59	59	18	18	13	13
Collaborating with families and team members to determine treatment, protection, rehabilitation, and palliative outcomes	55	55	19	19	26	26

and document evaluation methods to audit nursing care. Using a random number table, the required number of nurses was randomly selected from the list of nurses from PCMC Hospital. To determine the rate of compliance with indicators, all of the nursing activities were observed during a single work shift and nursing documents were evaluated. In some cases, interviews were conducted with nurses as explained in detail in the audit guide.

Nurses' performance was assessed using the audit checklist during a single work shift. Some indicators needed to be assessed through a review of documents and nursing notes (e.g. recording and reporting). Some indicators had to be assessed through observation (e.g., collaborating with the client/family in decision making for clinical practice). A few indicators were assessed through interviews of patients and their families (e.g. education about the home care plan). This study was approved by Medical superintendent of PCMC Hospital.

Results

Majority of nurses (about 80%) worked in rotational shifts. About 70 percent had 5 - 10 years of experience; 30 percent were non-permanently employed, about 90 percent had GNM qualification and 5 percent of them had ANM qualification and another 5 percent were BSc Nursing. The rate of least compliance with nursing process indicators was 12.6, confirming that the majority of nursing care was not carried out based on the nursing process. The mean overall compliance scores significantly differed between nurses with a BSc and those with an GNM ($p=0.04$). This difference was also found in the mean compliance scores for three domains: diagnosis ($p=0.001$), implementation ($p=0.02$), and evaluation ($p=0.01$). In addition, the overall mean score did not significantly differ between nurses with permanent and non-permanent employment ($t=0.123$, $p=0.42$).

Table 1 shows that only 20 percent of staff nurses perform comprehensive nursing assessment of the patient during the first 24 hours of admission and 50 percent of nurses do not perform assessment in 24 hrs of admission. Only 16 percent of nurses record and

report the findings of assessment whereas 54 percent of them do not report and record.

As shown in Table 2, 21 percent of nurses have practice of extracting a nursing diagnosis from the data by using critical thinking and reasoning skills and 50 percent of staff nurses do not extract the nursing diagnosis. Table 3 indicates that 19 percent staff nurses had documented the care plan; 48 percent of nurses provided care to the patients according to his health condition; 2 percent had practice of designing a discharge care plan to meet the need for follow-up after discharge and 50 percent of them did not practice it. 20 percent of nurses documented the care plan in a reliable, understandable way that is accessible to all members of the healthcare team and 72 percent of them do not plan.

It was found that 20 percent of staff nurses implement interventions based on the care plan, 19 percent the implement planning as per the policies, 16 percent of them approached experts in case of doubts (Table 4). Only 13 percent of staff nurses

Table 3: Indicator score for planning in the nursing process techniques

Indicator	Score					
	Never 0		Sometimes 50		Always 100	
	Score	%	Score	%	Score	%
Designing and documenting a care plan in collaboration with patients, families, and other health care members	50	50	31	31	19	19
Adjusting daily care according to the patient's condition	50	50	02	02	48	48
Designing a discharge care plan to meet the need for follow-up after discharge	50	50	03	02	47	02
Documenting the care plan in a reliable, understandable way that is accessible to all members of the healthcare team, to minimise the possibility of errors	72	72	08	08	20	20

Table 4: Indicator score for implementation in the nursing process techniques

Indicator	Score					
	Never 0		Sometimes 50		Always 100	
	Score	%	Score	%	Score	%
Implementing interventions based on the care plan	70	20	10	10	20	20
Implementing interventions in line with the policies and procedures of the treatment centre and by using existing guidelines and instructions	75	75	6	6	19	19
Collaborating with other healthcare team members to implement the care plan	51	51	03	03	46	46
Before performing the clinical intervention, ensuring that the nurse has the necessary expertise	83	83	02	02	15	15
Getting help from the experts and competent colleagues in case of any doubts while performing any action or intervention	78	78	6	6	16	16
Collaborating with the client/family in decision making for clinical practice if necessary	50	50	35	35	15	15
Recording actions in reliable way that is understandable to all members of healthcare team	75	75	05	05	20	20

Table 5: Indicator score for evaluation in the nursing process techniques

Indicator	Score					
	Never 0		Sometimes 50		Always 100	
	Score	%	Score	%	Score	%
Recording patient reaction (response) to the actions taken	58	58	39	39	13	13
Evaluating the effectiveness of interventions/actions based on relevant outcomes	56	56	36	36	08	08
Participating with patients, families, health care providers, and other team members in the evaluation process if required	60	60	30	30	10	10

record patient reaction to the actions taken, 8 percent evaluate the interventions based on relevant outcomes and 10 percent of them participate with families and health care providers (Table 5).

Discussion

In the present study, an audit tool was developed and used to evaluate nursing activities in accordance with nursing process indicators. Mykkanen et al (2012) also audited nurse performance but mostly used nursing documentation as the only data source. In the present study, nurses obtained a relatively less score for compliance with the nursing process indicators, almost in all the domains of assessment, diagnosis, planning, implementation and evaluation. Rivas et al (2012) who investigated the implementation of the nursing process in primary healthcare reported that using the nursing process can improve the quality of care and people's health. Ledesma-Delgado et al (2009) studied nursing process presented as routine care actions: Building its meaning in clinical nurses' perspective, nurses attributed to the nursing process in their daily care practice, which was unveiled as routine care actions, performed differently from what they had learned in school. Lee (2005) studied the use of factors affecting nursing diagnoses in charting standardised care plans, using educational programmes for enhancing nurses' ability to use nursing diagnoses and exploring the process of diagnostic reasoning to improve the quality of patient documentation, its relevance to clinical practice and the trend in health care is to focus on chart audit to reveal indicators of quality of care.

Implications

In Nursing service, planned health teaching programmes need to be conducted to enhance the knowledge and skills of staff nurses on nursing process model. Nursing schools and colleges should enlighten the students and staff nurses with adequate knowledge on nursing process model.

Recommendations

A similar study can be replicated with larger sample to generalise the findings. Also, a study can be conducted to assess the barriers to maintain the nursing process model by staff nurses working in Government hospitals.

Conclusion

Majority of the study participants (90%) were poorly knowledgeable, not applying the nursing process model in their regular patient care. Participants reported that factors such as shortage of resources, lack of knowledge, high patient nurse ratio/work load, and lack of training and motivating factors such as salary affected the application of the nursing process. It is possible to recommend the hospitals as well as the nurses to seek means to upgrade the knowledge of their nurses on the nursing process and its implementation to improve their knowledge on the nursing process application respectively. The government must reemphasise on the provision of adequate resources such as materials, nursing human power, and adequate salary for the professionals so that the nursing process may be applied.

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