

Knowledge on Nursing Process among Nurses in Selected County Referral Hospitals in Kenya

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DOI: 10.29322/IJSRP.8.11.2018.p8305
<http://dx.doi.org/10.29322/IJSRP.8.11.2018.p8305>

Abstract: *Nursing process promotes communication between nurses in relation to various aspects of patient care. Through this nursing care strategy, the patient receives holistic care, hence satisfaction to both the nurse and the client. All this will be possible if the nurses are knowledgeable in regard to nursing process. However, utilization of nursing process has been poor in the country. This formed the basis of this study to determine the nurses' knowledge on nursing process in selected health care facilities in Kenya. The study involved collecting data from 249 nurses using self-administered questionnaires. Descriptive statistics and score computations were performed. The results showed that more than two thirds of the nurses had poor knowledge on nursing process, hence the need to implement measures to promote the nurses' knowledge on nursing process in the country.*

Index Terms: *Nursing process, knowledge, Nurses, Hospitals, patient care*

I. INTRODUCTION

Nursing process is a patient care strategy which is composed of five distinct steps. The steps emphasize on the essential activities that must be taken to address client's needs and manage any collaborative problems or complications [1]. Nursing process forms an efficient and effective method through which the nurse organizes the nursing knowledge and clinical decision making in the provision of planned client care [2]. Through nursing process, communication between nurse colleagues is enabled, especially in relation to different professional topics from all clinical specialties and practice settings. Documentation of the nursing care provided is simplified since nurses utilize standardized nursing care plans, hence promoting the quality of care since errors and omissions are minimized [3].

The foundation of the nursing profession is the nursing process, hence the need for all nurses to be knowledgeable on the patient care strategy and documentation using the same [4]. This means that for a nurse to effectively implement nursing process strategy in patient care, he/she possess the requisite knowledge on different aspects of the strategy. In this regard, a study carried out in a psychiatric hospital in Port Harcourt (Nigeria) to evaluate the utilization of nursing process by the nurses in the provision of care to patients in the hospital showed that staff's knowledge on nursing process affected implementation of nursing process [3]. Studies conducted in relation to nurses' knowledge on nursing process demonstrated varying results. For example, a study carried out in Federal Medical Center (Owerri-Nigeria) showed that out of 100 randomly sampled nurses, only 41% had good knowledge on nursing process [5]. Similarly, a study carried out to evaluate the factors that affect application of Nursing Process among 200 nurses in Mekelle Zone Hospitals (Ethiopia) showed that 90% of them had poor knowledge on nursing process [6]. Another study carried out to assess the barriers on the implementation of nursing Process among nurses working at Machakos level 5 Hospital showed that 43.3% of the respondents rated their knowledge on nursing process as good with 35% of them rating their knowledge as average [7]. On the contrary, a case study carried out to evaluate the nurses' utilization of nursing process in a Psychiatric hospital in Port Harcourt (Nigeria) showed that 92% of the nurses had good knowledge on nursing process [3]. Among the nurses, 81.3% of them said that they required additional information and tutorials in order to use nursing process in the provision of patient care. Likewise, a study carried out to evaluate the implementation of nursing process and associated factors among nurses working in Debremarkos and Finoteselam Hospital in North West Ethiopia established that 88.7% of the respondents were knowledgeable in terms of its implementation while 11.3% were not. The researchers concluded that nurses who were knowledgeable on nursing process were more likely to implement it compared to those who were not knowledgeable [8]. On the same aspect, a study conducted to establish the determinants towards implementation of nursing process among nurses in Arbaminch general hospital (Ethiopia) demonstrated that nurses who were highly knowledgeable were more than eight times likely to implement the patient care strategy than the ones who were not knowledgeable [9]. Corresponding findings were realized in a cross-sectional study to assess the factors that affect implementation of nursing process among nurses in selected governmental hospitals in Addis Ababa (Ethiopia) which showed that the nurses who were highly knowledgeable on nursing process were 27 times more likely to implement it than the low knowledge group of nurses. Results of the study also established that moderately knowledgeable nurses were 4.9 times more likely and significantly associated with implementation of nursing process [10]. However, a study to determine the factors that influence utilization of the nursing process among nurses in Ogun state (Nigeria) established that the nurses' personal factors which were specific to knowledge in terms of

nursing process did not significantly influence its implementation. The researchers related the findings to the fact that all the nurses have attained a high level of understanding of the nursing process during their basic training and hence they are able to appropriately implement it given the right working conditions [11]. Similar findings were realized in a study carried out in health care institutions in Ogbomoso town (South West Nigeria) to assess the factors affecting the utilization of nursing process. The results revealed that knowledge factor had the highest predictive value of 0.350 in utilization of nursing process [12].

Researchers in a study on the professional nurses' perception of the nursing process at the University of Calabar Teaching Hospital (Nigeria) recommended that in service nursing education programmes focusing on the existing knowledge gaps on nursing process should be organized. The nursing regulatory bodies should also collaborate with nurse training institutions and health care facilities to address the low levels of knowledge of nursing process among the nurses through conferences and other on job learning approaches. Nurses who have upgraded the level of nursing through different training programmes should be identified to serve as focal persons in each patient care units so as to speed up the implementation of nursing process. This should be beefed up by collaboration between nursing education institutions and health care facilities to bridge the gap between theory and practice [13]. All these efforts are geared towards harnessing the benefits of nursing process which are enormous to the nurse, the profession and the client. The process allows the nurse to provide an organized and systematic method of problem-solving, hence avoiding errors or omissions in the provision of care. By utilizing the nursing process, a lot of time is saved since repetition of tasks is eliminated through proper documentation [14]. Despite these universal benefits of the nursing process, its utilization has remained minimal in most of the health care facilities in Kenya, which formed the basis of this study to determine the knowledge on nursing process among nurses in selected county referral hospitals in Kenya.

II. DATA COLLECTION METHODS

The study involved 249 nurses from five randomly selected county referral hospitals in Kenya. The nurses included in this study were the ones who were providing direct care to patients in the wards. In each of the selected health care facilities, the inpatients wards were stratified according to their specialties. The number of nurses to be interviewed in each of the specialties was calculated proportionally from the hospital's sample size, with proportionate sample size calculation being used again to calculate the number of nurses to be selected from each of the wards in a given specialty. Descriptive cross-sectional study design was used to collect data from the nurses using self administered questionnaires. Descriptive statistics such as frequencies and percentages for categorical data were computed. Since the respondents' questionnaire was mainly based on the Likert scale (ranging from score 1 to 5), scores for each of the responses were computed to draw inferences.

III. STUDY FINDINGS

All the 249 questionnaires were received back, giving a response rate of 100%.

A. Respondents' Socio-demographic characteristics

The study results showed that most [73.9% (184)] of the study respondents were females, while males were 65, comprising 26.1% of the study population. In relation to the respondents' designation, majority [38.2% (95)] of them were nursing officers I, 28.1% (70) were nursing officers III while 18.1% (45) were nursing officers II. Senior nursing officers were 19 comprising 7.6% of the study respondents, enrolled nurses were 6% (15), with chief nursing officers being 1.2% (three) while assistant chief nursing officers were 0.8% (two). The study results also showed that most 69.1% (172) of the respondents acquired their knowledge on nursing process during their basic training in their respective colleges/ universities as part of their course work, 23.3% (58) of them acquired the knowledge in their post basic / post graduate trainings, while 4% (10) acquired it during seminars, conferences and continues medical education sessions in their work areas. About 3.6% (nine) of the respondents cited the nursing process workshop which was organized by the ministry of health (through the office of the nursing services director) as their source of their knowledge on nursing process. About 60.2% (150) of the respondents had a working experience of more than six years, 17.7% (44) had a working experience between one to three years, 17.3% (43) had worked for four to six years, while 4.8% (12) of the respondents had worked for less than one year. Majority 73.5% (183) of the respondents were diploma holders, 18.9% (47) were holders of Bachelor of Science in nursing, 6.4% (16) were certificate holders while 1.2% (three) of them had attained masters degree in nursing (table 1).

Table 1: Respondents' socio-demographic characteristics

Characteristics	Frequency	Percentage
Gender		
Females	184	73.9
Males	65	26.1
Total	249	100
Designation		
Chief nursing officer	3	1.2
Assistant chief Nursing officer	2	0.8
Senior Nursing officer	19	7.6
Nursing officer I	95	38.2
Nursing officer II	45	18.1
Nursing officer III	70	28.1
Enrolled Nurse	15	6.0
Sources of knowledge on Nursing process		
Basic training	172	69.1
Post basic/ post graduate training	58	23.3
Seminars/ Conferences/Ward continuous medical education	10	4.0
Nursing process workshop	9	3.6
Respondents' years of experience (Years)		
Below one	12	4.8
1-3	44	17.7
4-6	43	17.3
Above 6	150	60.2
Total	249	100
Professional qualifications		
Masters degree	3	1.2
Bachelor's degree	47	18.9
Diploma	183	73.5
Certificate	16	6.4
Total	249	100

B. Respondents' self reported knowledge on nursing process

The respondents' were asked to rate various aspects of their knowledge on nursing process in a scale of 1 to 5. This was on a Likert scale whereby a score of 1 showed that the respondents strongly disagreed with the stated aspect, a score of 2 denoted that he/ she disagreed with the aspect indicated while a score of three showed an average level of agreement with the cited aspect. A score of 4 showed that the respondents agreed with the aspect on his/ her knowledge on nursing process while a score of 5 indicated that he/she strongly agreed with the aspect of knowledge. The study findings showed that 39.4% (98) of the respondents agreed that they had excellent knowledge on nursing process, while 30.5% (76) of the respondents strongly agreed that they had an excellent knowledge on the same. About 23.3% (58) of the respondents were on an average opinion in relation to their level of knowledge in nursing process, 4.5% (12) of them disagreed that they had excellent knowledge, while 2% (5) of them strongly disagreed with the stated aspect. The respondents were also asked to rate the level of knowledge in nursing process which lecturers in their basic training equipped them with, in which case 36.6% (91) of them strongly agreed that the lecturers equipped them with adequate knowledge, while 35.7% (89) agreed on the same. The respondents who scored an average in this response comprised 16.1% (40) of the total, 8.8% (22) disagreed, while 2.8% (7) strongly disagreed on the fact that they were equipped with adequate knowledge on nursing process by their lecturers. In relation to the period of time the respondents had been practicing nursing, majority of them, 47.4% (118) strongly agreed that their years of experience had increased their knowledge on nursing process, 36.2% (90) agreed, 10.4% (26) of them scored average, four percent (10) disagreed while two percent (five) of them strongly disagreed. Some nurses may improve their nursing knowledge from on-job trainings and seminars. In this case, 38.6% (96) of them agreed that the trainings and seminars had equipped them with the requisite knowledge on nursing process, 27.7% (69) strongly agreed, while 18.9% (47) had an average score on this aspect. Among the respondents, 8% (20) of them strongly disagreed while 6.8% (17) disagreed on the fact that seminars and trainings they had attended had equipped them with the required knowledge on nursing process. In terms of utilization of nursing process, literature has demonstrated that some nurses are only conversant with some of the steps on nursing process. As a result they only utilize and implement these steps, omitting the rest. In this regard, the researcher wanted to establish whether the same applied to the study respondents. To elicit their responses on this aspect, the respondents were asked to indicate their opinions on whether they had adequate knowledge to implement all the steps of nursing process. About a third [31.3% (78)] of them strongly disagreed that they are

able to implement all the steps, 27.8% (69) disagreed, while 12% (30) had an average score in this regard. Among the few nurses who responded positively, 16.9% (42) agreed that they had adequate knowledge to implement all the steps of nursing process while 12 (30) disagreed. Regarding their utilization of each of the steps of nursing process, the respondents gave various responses. About 7.2% (18) of them strongly agreed that they only knew how to utilize the assessment step while 8.4% (21) agreed on the same. About 12% (30) of the respondents had an average score, 28.2% (70) disagreed while 44.2% (110) of them strongly disagreed, meaning that they also knew how to use other steps of nursing process. In relation to the second step of nursing process (nursing diagnosis), 6% (15) of the respondents strongly agreed that they only knew how to use this step, while 8% (20) agreed on the same. Among the respondents, 12.9% (32) scored average on this response, 28.9% (72) disagreed while 44.2% (110) strongly disagreed that they only knew how to utilize the nursing diagnosis step, meaning that they also knew how to utilize other steps of the nursing process. The third step of nursing process is the planning phase, whereby 6.8% (1) of the respondents strongly agreed that they were only capable of using this step, while 7.6% (19) agreed on the same. The respondents who scored average on their knowledge in relation to the utilization of this step were 12% (32), as opposed to 43% (107) who strongly disagreed that they were only able to use the planning step of nursing process. On the contrary, the respondents who disagreed that they only used the planning step comprised 29.7% (74) of the total which indicated that they also had competencies to utilize other steps of the nursing process. Implementation of the planned nursing interventions is the fourth step of nursing process, in which case 6% (15) of the respondents strongly agreed that they only used the implementation step, 8% (20) agreed, 12.5% (30) scored an average, 29.4% (73) disagreed while 44.6% (111) strongly disagreed. The study showed that very few respondents had knowledge on the utilization of the evaluation step. In this case, only 4% (10) of them strongly agreed that they only use the implementation step, 9.2% (23) agreed, 12.5% (31) scored average, 28.9% (72) disagreed, while 45.4% (113) strongly disagreed on the same.

When the respondents were asked whether they had difficulties in collecting patient assessment data, 5.6% (14) strongly agreed, 8% (20) agreed, 9.7% (24) had an average score. Among the respondents, 50.6% (126) of them strongly disagreed, while 26.1% (65) disagreed, showing that they did not have any difficulties in collecting patient assessment data. The respondents were also asked whether they knew how to develop nursing care plans, whereby 36.9% (92) of them strongly agreed, 32.9% (82) agreed with 15.4% (38) of them scoring average. On the contrary, 9.6% (24) strongly disagreed that they knew how to develop nursing care plans while 5.2% (13) of them disagreed. During the study, the respondents were also required to indicate whether they had difficulties in formulating nursing diagnoses, whereby 7.2% (18) of them strongly agreed that they had difficulties, 20.5% (51) agreed while 16.1% (40) of them scored an average. On the same aspect of formulating nursing diagnoses, 34.9% (87) of the respondents strongly disagreed, indicating that they did not have any difficulties in formulating nursing diagnoses while 21.3% (53) of them disagreed (table 2).

Table 2: Respondents' knowledge on nursing process

Responses	Respondents' scores				
	1	2	3	4	5
	No (%)	No (%)	No (%)	No (%)	No (%)
I have excellent knowledge on nursing process (NP)	5(2)	12(4.8)	58(23.3)	98(39.4)	76(30.5)
Lecturers in college/ university gave me adequate knowledge on NP	7(2.8)	22(8.8)	40(16.1)	89(35.7)	91(36.6)
My years of experience have increased my knowledge on NP	5(2)	10(4)	26(10.4)	90(36.2)	118(47.4)
Seminars /trainings have equipped me with requisite knowledge on NP	20(8)	17(6.8)	47(18.9)	96(38.6)	69(27.7)
I have adequate knowledge to implement all steps of NP	78(31.3)	69(27.8)	30(12)	42(16.9)	30(12)
I only know how to use the assessment step	110(44.2)	70(28.2)	30(12)	21(8.4)	18(7.2)
I only know how to use the nursing diagnosis step	110(44.2)	72(28.9)	32(12.9)	20(8)	15(6)
I only know how to use the planning phase	107(43)	74(29.7)	32(12.9)	19(7.6)	17(6.8)
I only know how to use the implementation step	111(44.6)	73(29.4)	30(12)	20(8)	15(6)
I only know how to use the evaluation step	113(45.4)	72(28.9)	31(12.5)	23(9.2)	10(4)
I have difficulties in collection of patient data	126(50.6)	65(26.1)	24(9.7)	20(8)	14(5.6)
I know how to develop the nursing care plans	24(9.6)	13(5.2)	38(15.4)	82(32.9)	92(36.9)
I have difficulties in the formulation of nursing diagnoses	87(34.9)	53(21.3)	40(16.1)	51(20.5)	18(7.2)

C. Respondents’ computed scores on their knowledge on nursing process

To calculate the overall respondents’ level of knowledge on nursing process, scores were generated based on the 13 items on respondents’ knowledge as shown in table 2. The items were arranged in a Likert scale, from 1 to 5. A score of 1 meant that the respondents strongly disagreed with the aspect in question, a score of 2 demonstrated agreeing, while 3 was an average. A score of 4 meant that the respondents were agreeing with the aspect being probed while a score of 5 meant that the respondents were strongly agreeing on the same. Since the items on the respondents’ knowledge were 13, this meant that the minimum score was 1x13 which was equal to 13. An average score was calculated as 3x13 which was equal to 39. The maximum score was calculated as 13x5 which was equal to 65. Therefore, in the aspect of the respondents’ knowledge on nursing process, a score below 39 was assumed to be poor while a score of 39 was rated as average. A score above 39 was rated as good. In this case, after the knowledge scores were grouped into class intervals, the class interval of 38-42 scores (the class interval in which score 39 belongs) corresponded to a cumulative percentage of 83.5%. However, before grouping the scores in to various class intervals, the ungrouped data showed that the total number of respondents who had scored below 39 were 68.7% (171). This means that the respondents’ knowledge on nursing process was poor (table 3).

Table 3: Computed scores on the respondents’ knowledge on Nursing Process

Score	Frequency	Percentage	Cumulative percentage
13-17	2	0.8	0.8
18-22	2	0.8	1.6
23-27	9	3.6	5.2
28-32	60	24.1	29.3
33-37	83	33.3	62.6
38-42	52	20.9	83.5
43-49	25	10.1	93.6
50-54	8	3.2	96.8
55-59	3	1.2	98
60-64	3	1.2	99.2
65	2	0.8	100
Total	249	100	

IV. DISCUSSIONS

Despite the fact that most of the respondents rated their knowledge on the various aspects of nursing process highly (above average), computation of their knowledge scores (table 3) showed that more than two thirds of them had poor knowledge on nursing process. These findings concur with the results of another study on the factors that militated against use of nursing process in Federal Medical Center (Owerri-Nigeria) whereby only 41% of the respondents had good knowledge on nursing process [5]. Similarly, a study carried out to evaluate the application of Nursing Process among nurses and its affecting factors in Mekelle Zone Hospitals, (Northern Ethiopia), established that 90% of the respondents had poor knowledge on nursing process [6]. Contrary to these findings a case study carried out to evaluate the nurses’ utilization of nursing process in a Psychiatric hospital in Port Harcourt (Nigeria) showed that most (92%) of the respondents had good knowledge on nursing process [3]. Likewise, results of another study on the implementation of nursing process and associated factors among nurses working in Debreworkos and Finoteselam Hospital in North West Ethiopia showed that that 88.7% of the respondents were knowledgeable in terms of its implementation [8].

V. CONCLUSION

The study results demonstrated that most of the respondents’ knowledge on nursing process was poor. This calls for measures to be implemented by the various stake holders in the nursing profession in Kenya to promote the nurses’ knowledge on the nursing care strategy (nursing process).

ACKNOWLEDGEMENT

The authors would like to appreciate the respondents who willingly accepted to take part in this study. The authors are also grateful to the management of the selected health care facilities for granting authority to collect data in their facilities.

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