



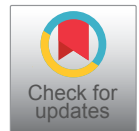
Implementation of Nursing Process and Its' Associated Factors among Nurses' Working at Public Hospitals of Central Ethiopian, 2020; Institutional Based Cross-sectional Study

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Abstract

Introduction: Nursing process is the scientific problem-solving framework that constitutes the foundation for nursing practice. Incorrectly and inconsistently using the nursing process as functional guideline especially in the acute care setting contributes to disorganized patient care which in turn leads to poor patient outcome. Assessing and identifying the extent to which nurses utilize nursing process in patient care helps to determine the strategies for improving its implementation.

Methods: Institutional-based cross-sectional study design with multiple methods of data collection was conducted among 222 nurses from May 20 to June 19/2020. Data were entered into Epi-Info version 7.2 and analyzed using SPSS version 25. Bivariate and multi variable analysis was done to select associated and control confounding factors with the implementation of nursing process respectively. Level of statistical significance was declared at p-value < 0.05.

Results: Two hundred ten respondents were involved which makes response rate of 94.5%. 65.7% of study participants had implemented nursing process always for all patients. Nurses who had bachelor degree (AOR = 8.30, 95% CI: (1.75-8.80)), had on job training on (AOR = 5.25, 95% CI: (1.87-14.60)), giving care for more than six patient per day (AOR = 0.10, 95% CI: (0.02-0.40)), dissatisfaction on their job (AOR = 0.15, 95% CI: (0.40-0.61)), perceived availability of materials supply (AOR=3.00, 95% CI: (1.76-4.70)) and perceived organized working environment (AOR = 4.01, 95% CI: (1.43-11.20)) were factors associated with implementation of nursing process.

Conclusion: Despite that the implementation of nursing process is a standard of nursing care practice only 65.7% of nurses implement it for all patients. Level of education, on job training, workload of nurses, organization of the work environment and material supply were significantly associated with implementation of nursing process. There is a need to think on different strategies that will help for the maximum implementation of nursing process at hospitals.

Keywords

Ambo town; Implementation; Nurse; Nursing process, patient care

Abbreviations

AGH: Ambo General Hospital; AURH: Ambo University Referral Hospital; CI: Confidence Interval; FMOH: Federal Ministry of Health; MRR: Medical Record Review; NANDA: North America Nursing Diagnosis Association; NP: Nursing Process; SD: Standard Deviation

Introduction

Nowadays, nursing is the most important professions in the health care industry, which ensures the successful implementation of interventions that enable people to improve, maintain or recover health, to cope with health problems and to achieve the best possible quality of life, whatever their disease or disability, until death [1]. Professional nursing practice is interpersonal, assumes

human beings as holistic, thereby acknowledging mind, body, emotion, spirit and environment are not separated but function as a whole to provide a rationale for decision-making, judgments, interpersonal relationships and actions. These concepts and theories provide the framework for nursing care called nursing process [2,3].

Nursing process is a dynamic, systematic, client-centered and universally acceptable frame-work that encompasses six sequential and interlinked steps that begins with

assessment, involving a systematic collection of subjective and objective data about the patient's condition, nursing diagnosis, that encompasses the actual or potential health problems that nurses deal with, planning which involves prioritizing the problems, setting goal and expected outcome, implementation plans, and implementation of care involves skillful and competent actions taken to meet the needs of the client. Finally, evaluation is done to determine the success of the implemented care [1,3].

Nurses are the key caregivers in hospitals; they can significantly influence the quality of care provided and patient outcomes. Nursing care quality is closely interrelated to a healthcare system's effectiveness. The quality of health services in Ethiopia public health institutions is low and patients are dissatisfied with nursing care services. In order to achieve high quality of health care service, quality of nursing care is the crucial element. Therefore, in order to improve the quality of healthcare, nursing services must be improved. The quality of nursing care improves when nurses implement the nursing process, the standards of nursing practice [4,5].

Effective implementation of nursing process improves client health outcomes and in doing so increases patient satisfaction, increases service utilization and minimizes hospital stay which also has an economic aspect. It also lead to satisfaction of clients as the main customers of the hospital, minimize dangerous errors or omissions in care giving and avoid time-consuming repetition in care and documentation [6-8].

It is witnessed that, many of the nurses working at public hospitals in Ethiopia simply comply with the medical care practice by missing the very important complement care, nursing care. In addition, in different health care settings, the implementation of nursing process is not well developed [9]. Different studies has revealed different patient and health service related problems that may be attributed to the poor implementation of nursing process, these problems include perception of poor quality of nursing care, disorganization of the service, conflicting roles, medication error, poor diseases prognosis, readmission, dissatisfaction with the care provided, and increased mortality [10-12].

Identifying the extent of nursing process implementation and its associated factors may be mandatory for determining its improvement strategies. Therefore, this study was aimed to assess the extent of nursing process implementation and its associated factors among nurses working at public hospitals in Ambo town. The findings of this study will give insight for policymakers and different concerned bodies to determine the possible strategies of nursing process implementation enhancement.

Methods

Study area and period

The study was conducted at public hospitals in Ambo town from May 20 to June 19/2020. Ambo town the capital city of West Shoa Zone, which is located at 114 km to the west of Addis Ababa, Ethiopia.

Study design

Institutional-based cross-sectional study design was conducted that used multiple data collection method.

Study population

Nurses who were working at public hospitals found in Ambo town.

Sample size determination

All nurses who were working at Ambo General Hospital and Ambo University Referral Hospital were included (n = 222).

Operational Definitions

Implementation of nursing process

Nurses who answer correctly for the six nursing process implementation questions and reported that they did documentation in the patient's record were considered as implementing the nursing process properly [6,9]. To determine the knowledge of nurses about nursing process, ten related questions were provided and score of greater or equals to eighty (80%) correct answer is considered as knowledgeable otherwise not knowledgeable. Similarly to determine the attitude of nurses towards implementing nursing process, nine [9] attitude related questions with a five [5] Likert scale responses options (ranging from 1 labeled for strongly disagree to 5 labeled for strongly agree) were distributed. For the purpose of interpretation the responses were converted to dichotomous (as favorable and not favorable). The scales 1-3 (strongly disagree, disagree and unidentified) were represented as unfavorable and the remaining 4 and 5 (agree and strongly agree) were represented as favorable attitudes.

Data collection tools and procedure

The structured questionnaire was adapted from the relevant review of literatures [6,9,11-13]. Data were collected by using self-administered structured questionnaire and Medical record review checklist. The self-administered questionnaire was used to collect data regarding the socio-demographics characteristics, organizational and nurse's factors, extent of nursing process Implementation, knowledge, and attitude -related data. The checklist containing six items was included for reviewing the medical records of patients regarding the implementation of nursing process. The check

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lists are used to assess the actual implementation of nursing process.

Data quality control and management

Training and orientation were given for data collectors and supervisors by the principal investigator for one day on data collection methods and the tools. Pre-test of the questionnaire was done on 10% of participants working at similar study population outside the study area.

Data processing, analysis and interpretation

The data were checked for completeness, cleaned manually, coded and entered into Epi-info version 7.2 and then exported into SPSS version 25 for further analysis. Descriptive analysis was done by using frequency and percentages of the variables. Bivariate analysis was performed primarily to assess the association of each independent and dependent variables. Variables that were found to have a significant association with the implementation of nursing process (p-value < 0.2) were entered into multivariate Logistic regression for controlling the possible effect of confounder. The variable that have an association at a p-value of < 0.05 and 95% confidence interval in the final model were reported.

Ethical and Legal Consideration

Ethical approval was obtained from the research ethical review committee of Ambo University College of Medicine and Health Sciences and the study participants were informed by the information sheet attached to the questioner that the

participation is based on voluntary.

Results

Socio-demographic characteristics

A total of 210 nurses gave complete response making response rate of 95.45%. Of the respondents 117(55.7%) were females, 108(51.4%) were married and 149(71.0%) were in the age group of less than or equal to 28 years and their mean age was 28.15 ± 4.03(± SD) years. Ninety-five (45.2%) nurses had 5 to 10 years of work experience and, 193(91.9%) nurses were Bachelor degree holders in their education (Table 1).

Jobsatisfaction, knowledge and attitude of nurses towards the nursing process implementation

Seventy-one (33.8%) of the nurses were dissatisfied with their job; of which 25(35.4%) were dissatisfied due to the management system of the hospital and 180 (85.7%) nurses reported that dissatisfaction of nurses have affected use of nursing process. Majority of study participants 154(73.3%) had ever strain during work time, 163(77.6%) were knowledgeable about nursing process, 184(87.6%) had favorable attitude towards nursing process (Table 2).

Organizational related factors

One hundred seventy-seven (84.3%) of the nurses had a work load of more than six patients per day with a mean of eight ± 2 (SD) patients per day. Majority of participants 193(91.9%) were working greater than eight hours per day

Table 1: Socio-demographics characteristics of nurses working at public hospitals in Ambo town, June 2020 (N = 210).

Variables	Categories	Frequency(N)	Percentage (%)
Sex	Female	117	55.7
	Male	93	44.3
Age in years	≤ 28	149	71.0
	> 28	61	29.0
Ethnicity	Oromo	204	97.1
	Amhara	6	2.9
Marital status	married	108	51.4
	Single	97	46.2
	others*	5	2.4
Educational level	Degree (BSc)	193	91.9
	Diploma	17	18.1
Working unit	medical ward	61	29.0
	surgical ward	55	26.2
	pediatrics ward	53	25.2
	Others**	41	19.5
Working experience in years	≤ 4	93	44.3
	5-10	95	45.2
	11-15	14	6.7
	≥ 16	8	3.8

* - Widowed, Divorced and Separated ** - OPD, ART and TB clinic

Table 2: Job satisfaction, Knowledge and Attitude of nurses' of nurses working at public hospitals in Ambo town. June 2020.

Variables	Categories	Frequency (N)	Percentage (%)
Have dissatisfaction to their job	Yes	71	33.8
	No	139	66.2
Reasons for dissatisfaction to job	Management system of hospital	25	35.4
	Caring for so many patients	22	30.4
	Payment not enough for a job	19	26.7
	Communication with ward staff	5	7.5
Perception that Job dissatisfaction have effect on the practice of NP implementation	Yes	180	85.7
	No	30	14.3
Have over strain(stress) during work	Yes	154	73.3
	No	56	26.7
Perceived reason of overstrain	Coworker don't do their task	38	24.7
	Rude(offensive) physicians	34	22.1
	Unsympathetic manager	34	22.1
	High patient load	27	17.5
	Harassing coworker	21	13.6
Nurses knowledge	High knowledge	163	77.6
	Low knowledge	47	22.4%
Nurses attitude	Favorable	184	87.6
	Unfavorable	26	12.4

Table 3: Organizational related factors, June, 2020 (N = 210).

Variables	Category	Frequency (N)	Percentage (%)
Working hours	≤ 8	17	8.1
	> 8	193	91.9
Work load per day	≤ 6 patients	33	15.7
	> 6 patients	177	84.3
Worked overtime	Yes	209	99.5
	No	1	0.5
Payment enough	Yes	10	4.8
	No	200	95.2
Material supply for execution of NP	Yes	95	45.2
	No	115	54.8
Hospitals recognize nurses for applying NP	Yes	28	13.3
	No	182	86.7
Monitoring and Evaluate by hospitals	Yes	102	48.6
	No	108	51.4
Working environment	Stressful	51	24.3
	Negligent	34	16.2
	Disorganized	58	27.6
	Organized	67	31.9
Training	Yes	175	83.3
	No	35	16.7
Nurse turnover	Yes	65	31
	No	145	69
Reason for nurse turnover	Bad management system of hospital	31	47.7
	Less/no recognition for the work done	20	30.8
	NGO's attractive payment	14	21.5

and almost all of them worked overtime with payment. Almost half (54.8%) of participants reported shortage of relevant tool to perform a nursing care and 102(48.6%) mentioned that there is a regular monitoring and evaluation done by hospital management. Twenty-eight (13.3%) of participants reported that hospital administrations recognize nurses for those apply the nursing process in their practice 175(83.3%) of nurses have training on nursing process and 24.3% reported as working in a stressful environment (Table 3).

Nursing Process Implementation

From the total 210 respondents, one hundred thirty-eight (65.7%) of participants had implemented nursing process in their practice as shown in Figure 1.

Factors associated with implementation of nursing process

In the multivariate binary logistic regression analysis, six variables showed a significant association with implementation of nursing process. Participants who hold Bachelor degree were almost eight times more likely to implement nursing process than those diploma holders (AOR = 8.30, 95% CI: (1.75-8.8)). Respondents who had dissatisfaction to their job were 0.15 times less likely to implement nursing process than those nurses who have satisfaction to their job (AOR = 0.15, 95% CI: (0.40-0.60)). Nurses who care for greater than six patients per day were 0.10 times less likely to implement nursing process as compared to their counter parts (AOR = 0.10, 95% CI: (0.02-0.40)).

Similarly, nurses who had on job training on nursing process were 5 times more likely to implement nursing process than those who not attained training (AOR = 5.25, 95% CI: (1.87-14.60)). Respondents who had material supply were 3 times more likely to implement nursing process than those with no material supply (AOR = 3.00, 95% CI: (1.76-4.70)) and nurses working in an organized environment were 4 times more likely to implement nursing process than those who have been working in a stressful environment (AOR = 4.01, 95% CI: (1.43-11.20)) (Table 4).

Discussion

The current study found that 65.7%, (95% CI: 59.2-72.1) of nurses' implemented nursing process always for all patients. This finding is in line with the study done in Nigeria (64.22%) [14], slightly greater than the study done at Tikur Anbasa Specialized hospital (57.6%) [6] and afar region public

hospitals (42.2%) [10], and lower than the study done in Brazil (81.77%) [15]. This variation might be due to differences in study setting, training availability on practice of nursing process and standards of the hospitals.

The current study shows that participants who hold bachelor degree were more likely to implement nursing process than diploma holders which is indicates similarity with the study done in Tigray region [9] and Afar region [10] which have identified educational status as an independent factor. This supports the theoretical connection between education, knowledge and practice. Nurses who have attended on job training were also more likely to implement nursing process than their counter parts. This is in line with the study conducted at selected public health facilities in Kenya [16]. This may suggests that on job training can enhance the nurses knowledge and skill of practice. Work load also have a statistically significant effect on the implementation of nursing process. The odds of nurses who give care for greater than six patients per day were less likely to implement nursing process. This is in line with finding of the study conducted at selected hospital of Tigray region [9] and Tikur Anbasa specialized Hospital [6]. This may confirm the reality that high work over load of nurse contributes to impairment of quality of health care and patient safety.

In addition, satisfaction to job have shown a significant association with the implementation of nursing process which is also supported by the study conducted at Arbaminch General Hospital, Ethiopia [13]. This suggests that the management of hospital should play a role in the promotion of quality patient care through improving staff satisfaction.

The current study also has showed that, availability of materials supply for nursing care in the hospital has a significant association with implementation of nursing process. This finding is almost similar with the study conducted at Debre markos and Fenote selam Hospitals [11] and selected public hospitals in Addis Ababa [12]. This might insure the fact that non-availability of the nursing care relevant materials in the ward are barriers to nurses those who would have tried to put the acquired knowledge into practice.

According to the current study, nurses who perceived working in an organized environment were more likely to implement nursing process than those who were working in a disorganized. This is consistent with study done in Tikur Anbasa Specialized Hospital [6]. This suggest that working environments should be conducive to enhance quality of nursing care through the utilization of nursing process model.

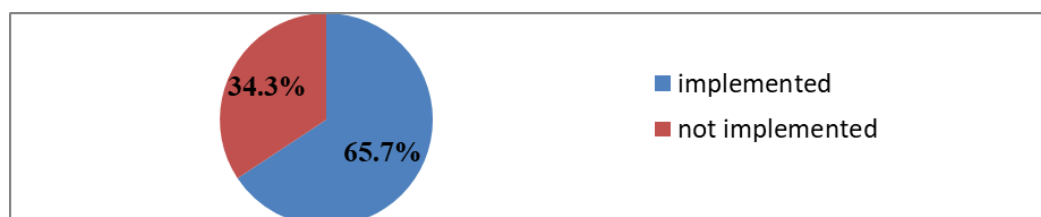


Figure 1: Overall the implementation of nursing process among nurses working at Public Hospitals found in Ambo town, June 2020 (N =210).

Table 4: Factors associated with implementation of nursing process among nurses working at public hospitals in Ambo town, June 2020. (N = 210).

Variables	Category	NP implementation status		COR (95% CI)	AOR (95%CI)
		Implement (N, %)	Not Implement (N, %)		
Age in years	≤ 28	96(45.7)	53(25.2)	1	1
	> 28	42(20.0)	19(9.0)	1.22(1.64-2.31)	0.99(0.44-18.5)
Educational level	Diploma	7(3.3)	10(4.8)	1	1
	Degree/Bsc	131(62.4)	62(29.5)	3.01(1.10-8.30)	8.30(1.75-8.8) *
Patient care per day	≤ 6 patients	30(14.3)	3(1.4)	1	1
	> 6 patients	108(51.4)	69(32.9)	0.16(0.36-0.97)	0.10(0.02-0.4) *
Material supply	No	66(31.4)	49(23.3)	1	1
	Yes	72(34.3)	23(11.0)	2.32(1.28-4.22)	3.0(1.76-4.70) *
Recognize staff	No	114(54.3)	68(32.4)	1	1
	Yes	24(11.4)	4(1.9)	0.27(1.03-7.74)	2.73(0.59-12.6)
Monitoring & Evaluate	No	105(50.0)	66(31.4)	1	1
	Yes	33(15.7)	6(2.9)	0.29(1.37-8.70)	0.81(0.21-3.16)
Working environment	Stressful	22(10.5)	29(13.8)	1	1
	Negligent	29(13.8)	5(2.4)	0.49(0.55-22.9)	0.89(0.85-9.30)
	Disorganize	39(18.6)	19(9.0)	1.74(1.24-5.90)	2.2(0.77-6.81)
	Organized	48(22.9)	19(9.0)	2.0(1.55-7.18)	4.0(1.43-11.2) *
Training	No	10(4.8)	25(11.9)	1	1
	Yes	128(61.0)	47(22.4)	6.81(3.04-15.2)	5.25(1.8-14.6) *
Nurses strain	No	43(20.5)	13(6.2)	1	1
	Yes	95(45.2)	59(28.1)	2.05(1.02-4.14)	2.30(0.65-8.12)
Nurses dissatisfaction	No	43(20.5)	6(2.9)	1	1
	Yes	95(45.2)	66(31.4)	0.71(2.00-12.3)	0.15(0.40-0.6) *
Nurses turnover	No	20(9.6)	10(4.8)	1	1
	Yes	52(24.9)	128(60)	4.92(0.96-11.2)	1.24(0.09-17.6)
Knowledge	Low	6(2.9)	11(5.2)	1	1
	High	113(53.8)	50(23.8)	0.24(1.45-11.8)	2.28(0.64-8.18)
Attitude	Unfavorable	10(4.8)	16(7.6)	1	1
	Favorable	128(61.0)	56(26.7)	0.28(1.55-8.49)	2.45(0.29-15.3)

COR=Crude Odds Ratio, AOD=Adjusted Odds Ratio, C.I- Confidence Interval, 1=Reference, * Significant at p-value < 0.05.

Limitations of the Study

Qualitative study design was not applied in the study so that it might not address more associated factors.

Conclusion and Recommendations

Despite the fact that all nurses in all setting expected to apply nursing process for all patients, as a standard of practice, overall implementation of nursing process implementation at public hospitals in Ambo town is found low. Educational status, availability of on job training, dissatisfaction to job, high work overload on nurses, availability of materials supply and organization of working environment of institutions

were factors statistically significantly associated with implementation of nursing process.

- ✓ Hospital managements, policy makers and other concerned bodies to the quality of nursing care should consider, educational status of nurses, on job training, material supply, organization of the working environment, workers satisfaction and nurse to patient ratio in their strategies of nursing process implementation enhancement strategy.
- ✓ Next researchers may need to focus on the qualitative aspects of factors that affect the implementation of nursing process.

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References

1. (2017) Nursing care practices standards, comprehensive training manual for nurses and midwifery in Ethiopia. FMOH, Addis Ababa, Ethiopia, 139-216.
2. Wilkinson JM, Treas LS, Barnett K, et al. (2016) Fundamentals of Nursing. Davis Company, E.A, Philadelphia.
3. Carol J Bickford, Lucy Marion, Shena Gazaway ANA. (2015) Nursing: Scope and Standards of Practice, Third Edition.
4. Birhanu Z, Assefa T, Woldie M, et al. (2010) Determinants of satisfaction with health care provider interactions at health centres in central Ethiopia: a cross sectional study. *BMC health services research*;10: 78.
5. Hagos F, Alemseged F, Balcha F, et al. (2014) Application of nursing process and its affecting factors among nurses working in mekelle zone hospitals,Northern Ethiopia. *Nurs Res Pract*.
6. Tsiyon B, Teshome H, Yohannes A (2019) Implementation status of nursing process and associated factors among nurses Working in Tikur Anbessa Specialized Hospital Addis Ababa, Ethiopia, 2017. *American Journal of Nursing Science* 8: 81-91.
7. Catherine MW, Lucy WM, Ruth GM (2019)Utilization of the nursing process among nurses working at level 5 hospital, Kenya *International Journal of Nursing Science* 9: 1-11.
8. Soyinka OZ (2020) Determinants of utilization of nursing process among nurses in University College Hospital, Ibadan, Oyo State, Nigeria. *International Peer-reviewed Journal* 70.
9. Baraki Z, Girmay F, Kidanu K,et al. (2017) A cross sectional study on nursing process implementation and associated factors among nurses working in selected hospitals of Central and Northwest zones, Tigray Region, Ethiopia. *BMC Nurs* 16: 54.
10. Miskir Y, Emishaw S (2018) Determinants of nursing process implementation in North East Ethiopia: Cross-sectional study. *Nurs Res Pract*.
11. Abebe N, Abera H, Ayana M (2014) The implementation of nursing process and associated factors among nurses working in Debreworkos and Finoteselam Hospitals, Northwest Ethiopia, 2013. *J Nurs Care* 4-7.
12. Aseratie M, Murugan R, Molla M (2014) Assessment of factors affecting implementation of nursing process among nurses in selected governmental hospitals, Addis Ababa, Ethiopia; Cross Sectional Study. *Nursing Care* 3: 170.
13. Shewangizaw Z, Mersha A (2015) Determinants towards implementation of nursing process. *American Journal of Nursing Science* 4: 45-49.
14. DoubleGist (2013) Nursing process among nurses - factors affecting the implementation. *DoubleGist.com*.
15. Azevedo OA, Guedes ES, Magda M (2019) Documentation of the nursing process in public health institutions. *Rev Esc Enferm USP* 53: 03471.
16. Mbithi BW, Mwenda, Dr Catherine S, et al.(2018) Institutional factors affecting utilization of nursing process among nurses in selected public health care facilities in Kenya. *International Journal of Advances in Scientific Research and Engineering*; 4: 146-153.

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