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Research Article

Knowledge, attitude, practice and associated factors towards nursing care documentation among nurses in West Gojjam Zone public hospitals, Amhara Ethiopia, 2018

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Abstract

Background: In health care systems nursing care documentation is a vital and powerful tool that ensures continuity of care and communication between health personnel for better patient outcomes. Knowledge, attitude and practice of nurses' towards nursing care documentation affect the quality and coordination of patients' care. Hence, this study aimed to assess knowledge, attitude, practice and associated factors towards nursing care documentation among nurses in West Gojjam Zone public hospitals, Amhara Ethiopia.

Method: Institutional based cross sectional study was conducted among 246 nurses in West Gojjam Zone public hospitals from February to March 8, 2018. The study participants were selected by simple random sampling technique. Data were collected by using pre-tested and validated self-administered structured questionnaire with internal reliability of Cronbach's Alpha values 0.912, 0.784 and 0.713 for knowledge, attitude and practice questions respectively. Epi data version 3.1 and SPSS version 20 was used for data entry and analysis respectively. Descriptive statistics and binary logistic regression model were used.

Result: The overall response rate was 97.56%. Among 240 respondents 54.6% of them had good knowledge, 50% of study participants had favorable attitude and 47.5% of study participants had good nursing care documentation practice. Sex and monthly salary were found to be statistically significant with knowledge of nurses. Work setting, work experiences and knowledge of nurses had significant association with nurses' attitude towards nursing care documentation. Availability of operational standards, knowledge and attitude of nurses had significant association with nursing care documentation practice.

Conclusions and Recommendation: Results of this study showed that knowledge, attitude and practice of West Gojjam zone public hospital nurses on nursing care documentation were poor. Therefore; in order to solve this problem each hospital should recruit nurses until hospitals are saturated enough. It is recommended to avail nursing care documentation standards/guidelines in each hospital and to give training about it and also it is recommended to conduct multisite studies especially qualitative type to increase its quality.

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Abbreviations

AOR: Adjusted Odds Ratio; BSc: Bachelor of Science; CI: Confidence Interval; CNE: Comprehensive Nursing Education; COR: Crude Odds Ratio; ETB: Ethiopian Birr; FHRH: Hiwot Referral Hospital; FMOH: Federal Ministry Of Health; ICT: Information Communication Technology; KAP: Knowledge, Attitude, Practice; Km: Kilometer; LTC: Long Term Care; MSC: Master of Science; OPD: Out Patient Department; OR: Operation Room; PI: Principal Investigator; PPS: Probability Proportion to Sample; RH: Reproductive Health; RN: Registered Nurse; SD: Standard Deviation; SPSS: Statistics Package for Social Science: WGPH: West Gojjam Public Hospitals

Introduction

The history of nursing care documentation has been started since the early days of Nightingale and defined as the record of nursing care that is planned and given to individual patients and clients by nurses [1]. The quality and coordination of care depend on the communication between nurses with each other, with other members of the healthcare team for continuity of care about their patients. However, its value as an important source of reference in the health-care system is undermined because there is much confusion and lack of knowledge about the exact nature of quality nursing documentation [2,3].

A number of frameworks are currently available to assist nursing documentation including narrative charting, problem orientated approaches, clinical pathways and focus notes. However many nurses' still experience barriers to maintaining accurate and legally prudent documentation like poor attitudes, lack of knowledge towards nursing documentation, time shortage and workload. This brings in-sufficient cooperation between health care team members and services that have a negative impact on nursing care documentation [4,5].

Even though both paper based and electronic based nursing documentation have various principles including objectivity, specificity, clearing and consistency, comprehensive, respecting confidentiality and factuality, but nurses' inadequate attitude and knowledge to document nursing care by using these principles makes nursing records usually of low quality [6].

Nursing care documentation is essential for early recognition of patients' deteriorating condition followed by effective communication and response by members of the interdisciplinary care team leads to decreased hospital mortality. Nurses should document what they see, not what they think [7]. Nurses bear a large burden in both managing and implementing the interdisciplinary team's plan for documenting the care and progress towards goals since documentation is a working framework which provides a comprehensive account of care provided to a patient [8,9].

As many studies indicated globally most of nurses had inadequate attitude, knowledge regarding documentation as well as insufficient information and their actions are either not documented or not properly documented and thus creates a great problem when it comes to evaluation of client care [10-12]. In Africa, nurses viewed nursing documentation as an important practice towards patient care; though the act of documentation remains problematic due to lack of pre and post-service training, lack of resources and supplies, lack of comprehensive nursing education (CNE), lack of time and overcrowding [12,13].

Nurses' low knowledge, attitude and practice on nursing care documentation have negative impacts on the health care of patients, the health care providers and on the profession and associated with the problem, omitting of medications, improper or double medication administrations and risk of legal harm become high [5,14,15]. In Ethiopia, even though it is declared that nursing care outlines; the assessment, planning and evaluation of care must be clearly documented but still now nurses' knowledge, attitude and practice on nursing care documentation is in question [14,15].

Even though nurses' general knowledge, attitude and practice towards nursing care documentation stops the impact of poor nursing documentation, no attention was given for West Gojjam Zone public hospitals concerning this issue. Therefore, this study quantified level of nurses' KAP on nursing care documentation; identified factors associated with nursing care documentation KAP, assessed current status of nursing care documentation, compared the findings to other country, and recommended effective solutions for the identified problems.

Methods and Materials

Study area and period

The study was carried out in public hospitals that are under West Gojjam Zone from February to March 8, 2018. West Gojjam is one of the eleven zones found in Amhara regional state. Its major city administration is Finote Selam town located on the main road of Addis Ababa-Bahir-Dar and 387 km away from Addis Ababa, capital city of Ethiopia and 178 km from Bahir-Dar, capital city of Amhara regional state. A tour from Addis to West Gojjam comes across the Abay River and its fantastic surrounding mountain. The peoples of West Gojjam Zone mostly generate income through agriculture. There are about 8 public hospitals in West Gojjam Zone; Finote-Selam, Burre, Dur Bete, Merawi, FHRH, Addis-Alem, Adet and Feres Bet which comprises 91,20,7,32,310,32,18 and 22 nurses respectively. Totally West Gojjam zone public hospitals comprise 532 nurses.

Study design

Institutional based cross sectional study design was used which is appropriate for this study to assess the proportion and associated factors.

Populations

Source population: All nurses who were working in West Gojjam Zone public hospitals.

Study population: Nurses who were working in West Gojjam zone public hospitals and fulfilled the inclusion criteria.

Eligibility criteria

Inclusion criteria: Nurses with work experience of at least 6 months in each public hospital were included because in Ethiopia newly employed nurses (till 6 months) cannot allowed to perform their duty alone and have no full responsibility.

Exclusion criteria: Nurses who were on annual leave, maternity leave, unable to participate in the study due to illness at the time of data collection were excluded.

Sample size determination

The sample size was calculated by using StatCalc function of Epi Info version 7 software for each objective with the assumptions of: 95% confidence interval, 80% power, unexposed to exposed ratio, percent outcome in unexposed group and adjusted odds ratio of each major factors from the previous study. The maximum calculated sample size was taken for this study which was 246.

Sampling procedure

There were a total of 8 public Hospitals in West Gojjam zone, based on number of nurses; the total sample size was distributed for each hospital by the probability proportion to sample size (PPS) sampling technique. For each hospital the proportionate number of study subjects were determined by using, n=nf/N *ni Where, ni= Number of nurses in each hospital, nf= Total sample size, N= Total number of nurses in WGPH hospitals. Therefore number of nurses from each hospital by proportional allocation

was 144 nurses from FHRH, 15 nurses from Merawi hospital, 15 nurses from Addis Alem hospital, 8 nurses from Adet hospital, 9 nurses from Burre hospital, 3 nurses from Dur Bete hospital, 10 nurses from Feres Bet hospital and 42 nurses from Finote Selam hospital. Then after proportional allocation of sample size to each hospital, simple random sampling technique was used to select nurses from sampling frame (lists with serial number) received from matrons.

Study variables

Dependent variables: Knowledge, Attitude and practice towards nursing care documentation.

Independent variables: Sociodemographic factors: age, sex, educational status, work setting, years of experience and monthly Salary.

Organizational factors: availability of operational standards, in-service training, time in which training had been taken, nurse– patient ratio, availability of nursing care plan sheets.

Operational definitions

Good Knowledge: Refers for those study participants who scored more than or equal to 55 % of knowledge questions.

Poor knowledge: Refers for those study participants who scored below 55% of knowledge questions.

Favorable Attitude: Refers to those study participants who scored greater than or equal to the mean of attitude questions.

Unfavorable Attitude: Refers to those study participants who scored less than the mean of attitude questions.

Good Practice: Refers to those study participants who scored to practice questions above or equal to the mean value.

Poor Practice: Refers to those study participants who scored to practice questions below mean value.

Data collection tools and procedures

Data were collected through structured and pretested self-administered questionnaire which was adapted from different reviewed literatures [4,14,15]. Internal reliability was checked which gave Cronbach's Alpha value of 0.912, 0.784 and 0.713 for knowledge, attitude and practice questions respectively. Content validity was done for this instrument by one senior nurse and one nursing educator. Eight experienced data collectors (BSC nurses), one for each hospital and three BSc nurses for supervision activities who were not employees of the study hospitals were selected to reduce bias.

The training was given for data collectors and supervisor for two days on method of extracting the needed information and the ethical aspect in approaching the participants as well as the aim of the study and contents of the instruments. Therefore, the data collectors informed participants that participating and not participating is their full right and can stop from participation in the study at any time. Any information forwarded is kept private and his/her name is specified to keep confidentiality.

Data quality control

To assure the data quality, the pre-tested questionnaires were used. Data were collected by BSC nurses were not employees of the study hospitals after two days training on the techniques of data collection. The completeness of data was checked by principal investigator and two trained supervisors.

Data processing and analysis

The collected data were checked visually for completeness and the responses were coded and entered into the computer using Epi data version 3.1 statistical package and 10% of the responses were randomly selected and check for the consistency of data entry and exported to windows of Statistical Package for Social Science (SPSS) version 20 for data analysis. Results were summarized using frequencies, percentage, mean, standard deviation, media and interquartaile range and presented using figures, tables and text.

Binary logistic regression was done to see the crude significant relation of each independent variable with dependent variables. Variables with P value <0.25 at 95% confidence interval during the bivariable analysis were entered to multivariable logistic regression analysis by using the backward likelihood ratio method to see the relative effect of confounding variables and interaction of variables. Odd ratio with 95% CI was performed on variables to determine the strength of association of variables. P-value less than or equal to 0.05 was taken as cut of value to be significant.

Results

Socio-demographic characteristics of the respondents

Out of the total 246 sampled nurses in public hospitals of West Gojjam Zone, two hundred forty of them were included in the study giving a response rate of 97.56%. The age of the study respondents ranged from 21 to 53 years with median age of 30 years (IQR=27-36) in which most of the respondents fall within the ranges of 21-30 years age group 137 (57.1%). Males were the majority of the respondents 139 (57.9%). As to the educational status of respondents, more than half of the participants 149 (62.1%) were BSC degree nurses. Most respondents were working in Regular OPD 51(21.3%) and surgical ward 50 (20.8%). Almost half 122 (50.8%) of respondents had 5 years or less work experiences by nursing profession. Thirty nine point six percent of study participants' monthly salary was in between 4447-6264 ETB (Table 1).

Table 1: Frequency and percentage distribution of socio-demographic characteristics of nurses in West Gojjam zone public hospitals, Amhara Ethiopia, 2018 (n=240).

Variables		Frequency(n=240)	Percentage (100%)
Age in years	21-30	137	57.1
	31-40	73	30.4
	>=41	30	12.5
Sex	Male	139	57.9
	Female	101	42.1
Level of education	Diploma nurses	83	34.6
	Degree nurses	149	62.1
	MSC nurses	8	3.3
Current working setting	Medical ward	36	15.0
	Surgical ward	50	20.8
	Pediatric ward	29	12.1
	Oncology ward	13	5.4
	Intensive care unit	15	6.3
	Regular OPD	51	21.3
	Emergency OPD	27	11.3
	Pediatric OPD	11	4.5
	OR	8	3.3
Work experience	<=5 years	122	50.8
	6-10 years	68	28.3
	11-15 years	23	9.6
	>15 years	27	11.3
Monthly salary (ETB)	<=2628 Birr	8	3.3
	2629-4446 Birr	93	38.8
	4447-6264 Birr	95	39.6
	>6264 Birr	44	18.3

Organizational factors

Out of two hundred forty respondents 172 (71.7%) of them knew the presence of operational standard for nursing care documentation in their hospital. From total study participants 79 (32.9%) took in-service training about nursing standard, of them 48 (60.8%) received the training 2 or less years ago. Most of study participants 138 (57.8%) gave nursing care for 15 or less patients per a day and 177 (73.8%) of respondents easily got nursing care plan sheet in their work setting. Ninety eight (40.8%) of study participants who did not document nursing care for all patients mentioned the main reason that hampered documentation; lack of time was the main reason 50 (51.0%) (Table 2).

Nurses' Knowledge towards nursing care documentation

In order to determine level of nurses' knowledge regarding nursing care documentation 10 multiple choice questions with 35 correct responses were asked. The minimum and maximum score were 5 and 35 respectively with the mean score of 20.57 (SD: 7.46). Most of the study subjects 205 (85.4%) knew that nursing care should be documented according to guidelines. One hundred thirty three (65.2%) participants got this knowledge from nursing school, while 91 (44.6%), 82 (40.2%) participants got from friends and hospital management respectively. Among all study participants 20 (8.3%), 15 (6.2%) of them did not know about the potential consequences of inadequate documentation and the responsible body to document the care respectively (Table 3). By using 55% of correct responses as cut point that is 19.25, out of the total study participants 54.6%[n=131;95% CI (48.3% to 60.8%)] of the respondents had good knowledge and the remaining 45.4% [n=109;95% CI (39.2% to 51.7%)] had poor knowledge towards nursing care documentation.

Nurses' attitude towards nursing care documentation

As the result of attitude related questions showed, more than half 129 (53.8%) of study participants strongly agreed on equal importance of nursing care documentation as any other patient documentation while only 8 (3.3%) respondents disagree on this issue. Regarding to that nurses possess sufficient knowledge on documentation procedures; 82 (34.2%), 10 (4.2%) participants strongly agreed and strongly disagreed respectively. Most study participants 102 (42.5%) agreed on the importance of nursing care documentation to other health care providers 23 (9.6%) respondents neither agreed nor disagreed on the continuity of care by nursing care documentation (Table 4). The idea of nursing documentation enhances the exchange of information between

Table 2: Frequency and percentage distribution of organizational factors of nurses in West Gojjam Zone public hospitals, Amhara Ethiopia, 2018.

Variables	Responses	Frequency	Percent (%)
Availability of operational standard for nursing care documentation(n=240)	Yes	172	71.7
	No	68	28.3
In-service training(n=240)	Yes	79	32.9
	No	161	67.1
When did you receive the training (n=79)	<=2 years ago	48	60.8
	3-5 years ago	24	30.4
	>5 years ago	7	8.8
Average number of patients seen by one nurse per a day(n=240)	<=15 patients	138	57.5
	16-30 patients	62	25.8
	>30 patients	40	16.7
Availability of nursing care plan sheet(n=240)	Yes	177	73.7
	No	63	26.3
Self-reported reasons for not documenting all nursing care provided to patients (n=98)*	Inadequate documenting sheets	25	25.5
	Unfamiliarity with standard of nursing documentation	45	45.9
	Lack of skill	38	38.8
	No adequate staff	45	45.9
	Lack of time	50	51.0
	No obligation from the hospital	16	16.3
	No motivation from supervisors	26	26.5
	Unsatisfied monthly salary	21	21.4

NB: For reasons not documenting nursing care, frequencies cannot be added up to give n* as well percentage can't be 100% due to multiple responses.

Table 3: Association of knowledge towards nursing care documentation by selected variables among nurses working in west Gojjam zone public hospitals, Amhara Ethiopia, 2018(n=240).

Variables	Responses	Knowledge level		Odds Ratio with 95% CI		P-value
		Good knowledge N (%)	Poor knowledge N (%)	Crude OR	Adjusted OR	
Sex	Female	44(43.6%)	57(56.4%)	0.461(0.274-0.778)*	0.512(0.299-0.877)**	0.015
	Male	87(62.6%)	52(37.4%)	1.00	1.00	
Educational level	Diploma nurses	37(44.6%)	46(55.4%)	1.00	1.00	
	BSC nurses	89(59.7%)	60(40.3%)	1.844(1.072-3.173)*	1.150(0.552-2.395)	0.708
	MSC nurses	5(62.5%)	3(37.5%)	2.072(0.464-9.243)	1.279(0.214-7.654)	0.787
Years of working experiences in nursing	<=5 years	62(50.8%)	60(49.2%)	1.00	1.00	
	6-10 years	40(58.8%)	28(41.2%)	1.382(0.759-2.517)	1.017(0.527-1.959)	0.961
	11-15 years	10(43.5%)	13(56.5%)	0.744(0.303-1.827)	0.575(0.193-1.710)	0.320
	>15 years	19(70.4%)	8(29.6%)	2.298(0.935-5.648)*	1.725(0.590-5.044)	0.319
Monthly salary	<=4446Birr	45(44.6%)	56(55.4%)	0.495(0.294-0.834)*	0.538(0.315-0.918)**	0.023
	>4446 Birr	86(61.9%)	53(38.1%)	1.00	1.00	
In-service Training	Yes	46(58.2%)	33(41.8%)	1.246(0.724-2.147)*	0.960(0.512-1.800)	0.899
	No	85((52.8%)	76(47.2%)	1.00	1.00	
Availability of standards	Yes	101(58.7%)	71(41.3%)	1.802(1.022-3.176)*	1.744(0.974-3.125)	0.061
	No	30(44.1%)	38((55.9%)	1.00	1.00	

NB: *variables having (P<0.25) in bivariable analysis, **statistically significant at p-value ≤0.05 in the multivariable analysis.

Table 4: Association of attitude towards nursing care documentation and selected variables among nurses working in west Gojjam zone public hospitals, Amhara Ethiopia, 2018 (n=240).

Variables	Responses	Attitude level		Odds Ratio		P-value
		Favorable N (%)	Unfavorable N (%)	COR(95% CI)	AOR(95% CI)	
Age	21-30 years	74(54.0%)	63(46.0%)	1.00	1.00	
	31-40 years	30(41.1%)	43(58.9%)	0.594(0.334-1.055)*	0.435(0.193-1.119)	0.090
	>=41 years	16(53.3%)	14(46.7%)	0.973(0.441-2.148)	0.568(0.146-2.215)	0.416
Sex	Female	44(43.6%)	57(56.4%)	0.640(0.382-1.072)*	0.864(0.472-1.598)	0.671
	Male	76(54.7%)	63(45.3%)	1.00	1.00	
Educational level	Diploma nurses	38(45.8%)	45(54.2%)	1.00	1.00	
	BSC nurses	80(53.7%)	69(46.3%)	1.373(0.801-2.353)*	1.358(0.732-2.517)	0.332
	MSC nurses	2(25.0%)	6(75.0%)	0.395(0.075-2.071)	0.340(0.053-2.179)	0.255
Work setting	Out-patient department	61(62.9%)	36(37.1%)	2.412(1.420-4.097)*	2.483(1.399-4.406)**	0.002
	In-patient department	59(41.3%)	84(58.9%)	1.00	1.00	
Years of working experiences in nursing	<=5 years	54(44.3%)	68(55.7%)	1.00	1.00	
	6-10 years	43(63.2%)	25(36.8%)	2.166(1.178-3.981)*	2.088(1.086-4.015)**	0.027
	11-15 years	7(30.4%)	16(69.6%)	0.551(0.212-1.435)	0.608(0.219-1.692)	0.491
	>15 years	16(59.3%)	11(40.7%)	1.832(0.785-4.271)	1.335(0.540-3.302)	0.473
In-service training	Yes	44(55.7%)	35(44.3%)	1.406(0.818-2.415)*	1.513(0.808-2.831)	0.195
	No	76(47.2%)	85(52.8%)	1.00	1.00	
Availability of standards	Yes	94(54.7%)	78(45.3%)	1.947(1.097-3.456)*	1.508(0.795-2.858)	0.208
	No	26(38.2%)	42(61.8%)	1.00	1.00	
Knowledge level	Good	85(64.9%)	46(35.1%)	3.907(2.279-6.697)*	3.931(2.229-6.931)**	0.001
	Poor	35(32.1%)	74(67.9%)	1.00	1.00	

NB: *variables having a (P<0.25) in bivariable analysis, **statistically significant at p-value ≤0.05 in the multivariable analysis.

nurses was strongly agreed and agreed by 106 (44.2%), 96 (40.0%) respondents respectively, while 9 (3.8%) strongly disagreed on the benefit of documentation to show workload and tasks performed.

There were eleven positive attitude statements with the value of each option strongly disagree, disagree, neutral, agree and strongly agree 1, 2, 3, 4 and 5 respectively. The minimum and maximum score were 29 and 55 out of 55 respectively with the mean score of 45.63 and the standard deviation 5.61. Based on this mean value, half 120 (50%) of study participants had favorable attitude with 95% CI of 43.3% to 57.1% and the rest half had unfavorable attitude towards nursing care documentation.

Nursing care documentation practice

Among all the respondents 142 (59.2%) of them reported that they documented nursing care for all patients, while 98 (40.8%) did not document. More than half

167 (70.1%) of study participants document the care they provided immediately after the care rendered. Health education or advice provided to the patient was always documented by 88 (36.7%) participants but 18 (7.5%) of respondents never documented it. Thirty three (13.7%) nurses reported that they use computerized nursing care documentation system (Table 5).

The mean (+ standard deviation) score of practice questions was 9.45+3.23with the minimum score of 3 and maximum score of 18 out of 19 correct responses and 114 (47.5%) participants had scored above or equal to mean value or had good documentation practice and 126 (52.5%) had scored below mean value or had poor nursing care documentation practice with 95% CI of 41.7% to 53.7% and 46.3% to 58.3% respectively.

Discussion

Knowledge of nurses towards nursing care documentation

In this study 131 (54.6%) of the respondents had good knowledge on nursing care documentation which along with a studies conducted in Iraq 56% [16], Zambia 60% [17], Gondar 58.3% [15] and Addis Ababa public hospitals 50% [18]. This study finding was lower than result from study in Iran 86% [19]. This difference might be due to tool difference and accessibility of reading materials about nursing documentation. It was also low compared with study in Uganda 91.2% [20]. This discrepancy might be due to working environment and work load difference that was in the present study nurses had unfavorable working environment and high patient load as compared to previous study.

In contrast this study result was higher than findings from study in Iran 14.1% [11]. This might be due to instrument difference that this study used only self-administered questionnaires but the previous study included checklists and also the present study included all wards and outpatient departments but the previous study was conducted only on medical-surgical ward. Similarly the current study finding was higher than finding of Addis Ababa study 43% [14]. This discrepancy might be due to work load difference by which most of included hospitals of the present study were district that had a little bit low workload as compared to Addis Ababa study areas.

Table 5: Factors associated with nursing care documentation practice among nurses working in west Gojjam zone public hospitals, Amhara Ethiopia, 2018(n=240).

Variables		Practice level		COR(95% CI)	AOR(95% CI)	P –value
		Good practice N (%)	Poor practice N (%)			
Sex	Female	34(33.7%)	67(66.3%)	0.472(0.278-0.802)*	0.592(0.295-1.191)	0.142
	Male	72(51.8%)	67(48.2%)	1.00	1.00	
Work setting	Out-patient department	51(52.6%)	46(47.4%)	1.774(1.053-2.989)*	1.454(0.719-2.940)	0.297
	In-patient department	55(38.5%)	88(61.5%)	1.00	1.00	
Years of working experiences in nursing	<=5 Years	49(40.2%)	73(59.8%)	1.00	1.00	
	6-10 Years	34(50.0%)	34(50.0%)	1.490(0.820-2.708)*	0.756(0.329-1.737)	0.510
	11-15 Year	10(43.5%)	13(56.5%)	1.146(0.466-2.820)	1.652(0.490-5.564)	0.418
	>15 Years	13(48.1%)	14(51.9%)	1.383(0.599-3.195)	0.712(0.236-2.150)	0.546
In-service training	Yes	40(50.6%)	39(49.4%)	1.476(0.859-2.537)*	1.127(0.537-2.368)	0.751
	No	66(41.0%)	95(59.0%)	1.00	1.00	
Availability of nursing care plan sheet	Yes	85(48.0%)	92(52.0%)	1.848(1.013-3.371)*	1.465(0.663-3.236)	0.346
	No	21(33.3%)	42(66.7%)	1.00	1.00	
Availability nursing standards	Yes	101(58.7%)	71(41.3%)	17.924(6.864-46.807)*	22.832(8.021-64.993)**	0.001
	No	5(7.4%)	63(92.6%)	1.00	1.00	
Knowledge level	Good	85(64.9%)	46(35.1%)	7.743(4.266-14.054)*	7.638(3.768-15.484)**	0.001
	Poor	21(19.3%)	88(80.7%)	1.00	1.00	
Attitude level	Favorable	74(61.7%)	46(38.3%)	4.424(2.560-7.644)*	2.980(1.497-5.932)**	0.002
	Unfavorable	32(26.7%)	88(73.3%)	1.00	1.00	

NB: *variables having a (P<0.25) in bivariable analysis, **statistically significant at p-value ≤0.05 in the multivariable analysis.

This study identified factors significantly associated with knowledge on nursing care documentation. Sex was significantly associated with nurses' knowledge; females were less likely to have good knowledge on nursing care documentation than males. This finding contradicted with studies in Iran [11] and Zambia [17] that stated females had good knowledge than males in writing nursing care documentation. The possible reason might be due to male to female ratio difference in which most study participants of previous studies were females but for the current study males were greater in number and also it might be due to difference in working environment favorability.

Monthly salary of nurses was associated with knowledge of nurses on nursing care documentation; those nurses who had inadequate monthly salary were less likely to have good knowledge than those who had adequate monthly salary. This might be because of as the year of service increases, directly payment of their salary also increases that increases the knowledge of nurses on their competency of documentation. This was consistent with study in Bale, Ethiopia which stated "Low salary and duty payments created negligence among most nurses to enforce nursing process documentation" [21].

Attitude of nurses towards nursing care documentation

Nurses need to be encouraged to improve their attitude towards nursing care documentation as it renders the quality of services to patients. The results of this study indicated that 120 (50%) of nurses had favorable attitude towards nursing care documentation. This finding was almost similar with studies conducted in Zambia 54 % [17], Zambia 56% [22], Uganda 54% [12] and Addis Ababa 55.7% [14].

On the other hand the current study finding was lower than study conducted in United States of America 80% [23]. This discrepancy might be due to poor attention for nursing documentation and they don't consider it as part of professional duties and responsibility and also might be due to non-conducive working environment of nurses and lack of managerial and payment motivation in the present study. Similarly it was lower than study done in Iran 85.8% [19]. This might be due to difference in work experience of study participants and availability of training. It was also lower than study in Gondar 60.7% [15], might be due to work setting set up difference by which most of the current study hospitals were not teaching hospital but the previous study done on teaching hospital that nurses might have the important materials and more exposure for nursing care documentation.

Almost half 122 (50.8%) of respondents said documentation ensures continuity of care which was lower than study in Nigeria 98.8% [10]. This difference might be due to educational back ground difference of respondents. Only 44.2% of respondents said documentation allows better information exchange between members of health team members similar to study in European hospital [4]. In this study only 45.8% of the respondents liked documentation because it ensures continuity of care that was inconsistent with findings of study conducted in Nigeria which was 100% [10]. The inconsistency might be due to working area set up difference by which the area was teaching hospital [10].

In current study, three variables were significantly associated with nurses' attitude towards nursing care documentation. Those nurses who had good knowledge about nursing care documentation were more likely to have favorable attitude than those who had poor knowledge. This result was mirrored by findings of studies in European hospital [4], Uganda [13] and South Africa [24]. The possible explanation might be nurses with good knowledge might be motivated internally, understand more about the importance of nursing care documentation and the impact of poor documentation on patients, on them and on the profession. Therefore if they know this information and the like, their attitude becomes increased on nursing documentation.

This study revealed that work setting had significant association with nurses' attitude towards nursing care documentation by which nurses who were working in outpatient department had favorable attitude as compared to those who were working in inpatient department. This finding was supported by studies in London [25] and Iran [11]. The possible explanation might be unlike the outpatient departments, the inpatient departments nursing care documentation was mostly written by more than one nurse which exposed nurses for language ambiguousity and misunderstanding that might deteriorate inpatient department nurses' attitude. And also unfavorable attitude of inpatient department nurses might be due to shortage of time and high volume of tasks in the ward since advanced procedures are done in the inpatient department.

More experienced nurses had favorable attitude towards nursing care documentation than less experienced nurses as the current study stated. This finding is supported by studies in European hospital [4] and Korea [26]. The possible explanation might be as nurses work experience increases, they face many challenges including legal suits due to impacts of poor nursing documentation, so their attitude about the importance of nursing documentation become improved time to time.

Nursing care documentation practice

In this study only 114 (47.5%) of study participants had good nursing care documentation practice. The current study finding was almost similar to studies in London 47% [25], Iraq 49.3% [27] and Addis Ababa 47.8% [14]. This finding was lower than studies in Iran 100% [28], Jamaican hospital 98% [29], Nigeria 70% [10] and Ghana 54% [30]. The possible reasons for this discrepancy might include tool differences and organizational set up difference [28], different in work load and difference in familiarity of documentation guidelines [29], difference in conduciveness of nurses working environment and availability of managerial support [10], organizational set up difference [30].

The present study finding was surprisingly higher than studies in Canada 20.7% [31], European hospitals 28% [32], Gondar 37.4% [15] and Felege Hiwot Referral Hospital 12.5% [33]. This contrary might be due to that the current study included both short and long-term care but previous study was conducted only on long-term care facilities which needs patience [31] and might be due to sample size and study period difference [32], data collection method and tool difference [15], focused only on medication administration error documentation [33].

According to multivariable analysis knowledge, attitude and availability of nursing standards were strongly associated with nursing care documentation practice. In this study the likelihood of having good documentation practice for nurses with good knowledge was high as compared to those with poor knowledge. This result was supported by studies in Nigeria [10], Uganda [13], Zambia [22], Iran [34], Gondar [15] and Addise Ababa [14]. This was possibly explained as knowledgeable nurses might be familiar with operational standards/guidelines and asks the responsible body to present the necessary documentation materials which increases their nursing care documentation practice.

This study indicated that nurses with favorable attitude towards nursing care documentation were more likely to have good nursing care documentation practice than those nurses who had unfavorable attitude. This finding was consistent with findings of studies in Zambia [22], Gondar [15] and Addise Ababa [14]. The possible explanation might be those nurses who were interested on their profession and nursing care documentation enhances nursing care documentation practice.

Nurses who had operational nursing standards in their hospitals had good nursing care documentation practice as compared to those nurses without operational nursing standards as the current study stated. This was similar with studies in Uganda [13],

Jamaican hospital [29], Ghana [30] and London [25]. This could be due to the fact that standardized nursing documentation guidelines used as source of information about how to document nursing care given to patients that enhances nursing care documentation practice.

Another finding of this study was nurses who had shortage of time were less likely to have good nursing care documentation as compared to nurses that had adequate time which was supported by study findings in kingdom of Saudi Arabia [3], Iran [34], Nigeria [10], Jamaican hospital [29], Gondar [15] and Addise Ababa [14]. The explanation might be that comprehensive nursing care documentation practice could be poor due to lack of time/ high workloads of nurses.

Limitations of the study

- Since this study used only self-administered questionnaire, there might be social desirability bias.
- The study was not include qualitative part to obtain in-depth information.

Conclusion

The present study showed that knowledge, attitude and practice of nursing care documentation among nurses in West Gojjam zone public hospitals were poor.

Sex and monthly salary were found to be statistically significant with knowledge of nurses. Factors that significantly affected nurses' attitude towards nursing care documentation were work setting, work experiences and knowledge of nurses on documentation according to the current study findings. Availability of operational standards, knowledge and attitude of nurses on documentation had significant association with nursing care documentation practice. Therefore this study concluded that nursing care documentation still remains a challenge.

Recommendations

Based on the current study findings it is recommended the responsible bodies. In conjunction with the Federal Ministry of Health and policy makers; Regional Health Bureau should include nursing care documentation as one of health package to implement it as part of day to day activities in all health facilities. It is also recommended that ministry of health should try to consider nurses' benefits. It should adjust training on nursing care documentation standard and give direction for zonal health department to encourage nurses to do their activities and document what they provide timely. It is recommended to recruit nurses until hospitals are saturated enough and create a system to follow and monitor staffs how they implement nursing care documentation and give feedback for those staffs faced a problem. Multisite studies especially qualitative type (to make the study more representative and to decrease bias) on nurses' knowledge, attitude and practice of nursing care documentation should be conducted.

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from Debre Markos University, Health Sciences College Research and Ethical Review Committee. Then before the beginning of data collection permission letters were provided to the eight hospitals administrative body. Participation was voluntary and information was collected anonymously after obtaining oral informed consent from each respondent by assuring confidentiality throughout data collection period. Participants were told the objective of the study and their right to refuse to answer the questions and were given the right to stop or withdraw at any time of data collection. Confidentiality was maintained by omitting their name and personal identification.

Availability of data and materials

"The dataset will not be shared in order to protect the participants' identities"

Author's contribution

AA was a principal investigator and involved in the design of the study, data analysis, and interpretation of the findings, report writing and manuscript preparation. TA and MS advised and supervised the research process and gave constructive comments to increase quality of the study. TL, AE, BB and MG read, edited and approved the final manuscript.

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