Nurses' knowledge and attitude towards palliative care in Northcentral Ethiopia: a cross-sectional study

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Abstract

Background: Due to limited development of palliative care practice in Africa, many patients have not yet received formal palliative care. However, there were limited studies conducted among nurses assessing their knowledge and attitude towards palliative care in Ethiopia.

Objective: The study aimed to assess nurses' knowledge and attitude towards palliative care.

Methods: A cross-sectional study was conducted, and a total of 402 were included in the study. A structured and pre-tested self-administered questionnaire was used to collect the data. Binary logistic regression was used to analyze the outcome variables. Finally, the association was declared using AOR at a 95% CI at $p \leq 0.05$.

Results: Of the total respondents, 216 (55.81%) were women. This study finding revealed that 304 (78.55%) of the respondents had inadequate knowledge, and 273 (70.54%) had unfavourable attitude towards palliative care. Educational level (AOR=2.61, 95%CI: 1.39, 4.89) and work experience (AOR=5.86, 95%CI:1.27, 26.92) were significantly associated with knowledge and attitude towards palliative care.

Conclusions: This study finding showed that educational level and years of work experience showed a significant association with nurses' knowledge and attitude towards palliative care. The concerned bodies and stake holders shall work together to enhance the nurses' knowledge and attitude towards palliative care.

Keywords: Knowledge; attitude; palliative care; nurses.

Background

The World Health Organization (WHO) characterized palliative care (PC) as 'an approach that improves the quality of life (QOL) of patients and their families facing the problems associated with life-threatening diseases, through prevention and relief of suffering through early identification and impeccable assessment and treatment of pain and other physical, psychosocial and spiritual"[1]. The philosophy of PC is based on a holistic approach to patients, which aims to relieve and control pain and other symptoms and improve the quality of care for patients and their families [2].

Despite the importance of PC in the treatment of non-communicable diseases (NCD), its limited development in Africa indicates that many patients have not received formal PC services [3]. Recently, there has been a tremendous development in PC as an integral

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part of healthcare worldwide; but unfortunately not all countries have well-established palliative care services or recognize the importance of PC[1]. Nurses are crucial members of the health care team who typically have the most contact time with the patient and participate in related decision-making processes. This prolonged contact gives the nurses unique opportunity to know the patients and their caregivers in order to evaluate in depth of what is happening and what is important to the patients, and to help them cope with the effects of advancing disease[4].

PC includes the time range from the onset and progression of chronic diseases, through the terminal stages of the diseases and until the end of life[5]. The ultimate goal of PC is to improve the quality of life of both the patient and the family, regardless of diagnosis[6]. Palliative care can be delivered in a variety of settings, including institutions such as hospitals, inpatient hospice, and home care for older people with advanced diseases[7]. Advances in PC have not yet been effectively integrated into standard clinical practice effectively[1].

Due to limited development of palliative care practice in Africa including Ethiopia, many patients have not yet received formal palliative care services. However, there were limited studies conducted among nurses assessing their knowledge and attitude towards PC in Ethiopia, especially in the study area. Therefore, this study aimed to assess the nurses' knowledge and attitude towards palliative care and its associated factors in Northcentral Ethiopia, 2020.

Study design, area and period
A facility-based cross-sectional study design was conducted among nurses working in South Gondar zone public hospitals, Northcentral Ethiopia from December 01- 21/2020.

Study population
All nurses working in South Gondar zone public hospitals

Inclusion and exclusion criteria
All nurses working in South Gondar zone public hospitals were included in the study. Whereas nurses who were on managerial positions, and had not been giving clinical service were excluded from the study.

Sample size determination
The sample size was calculated using single population proportion formula at 95% confidence interval, with a 5% margin of error, and by assuming the level of attitude (56.3%)[5]. Based on this assumption, the actual sample size (n) for the study was calculated as:

$$n= \frac{(Z\alpha/2)2 \; P \; (1-P)}{d^2}$$

The calculated sample size was (378+10%=416). But, since the source population (402) was less than the calculated sample size (416), we have taken the entire source population (402) as the sample size for this study.

Dependent variables
-Knowledge of nurses towards palliative care
-Attitude of nurses towards palliative care

Independent variables
-Socio-demographic factors: Sex, age, marital status and level of education
-Environmental factors: Salary, working experience, working department/unit, training and support by the facility

Operational definitions
Knowledge: Nurses who have scored <75% of the total score of the Palliative Care Quiz for Nursing (PCQN) scale said to have adequate knowledge[8].
Attitude: Nurses who have scored <50% of the total score of the Frommelt attitude towards the care of the dying (FATCOD) scale said to have a favorable attitude8.

Data collection tool and procedures/technique
A structured and pre-tested self-administered questionnaire was used to collect the data. The questionnaire was adapted using the Palliative Care Quiz for Nursing (PCQN) for knowledge and Frommelt's Attitude Toward Care of the Dying (FATCOD) scale for attitude by reviewing different literatures [3, 5, 7-13], and modified so as to make it fit in the context of Ethiopia.

The questionnaire was prepared in English language; it contains socio-demographic, environmental, knowledge and attitude-related questions. The reliability of the tool was established with a reliability coefficient (Cronbach's alpha score) which was 0.76 for socio-demographic factors, 0.72 for environmental factors, 0.81 for knowledge, and 0,79 for attitude factors.Before data collection, the investigators gave two days of training to the data collectors, and prior to providing the questionnaire, the data collectors also informed the nurses about the goals/purposes, risks and possible benefits of the study, the right and refusal to participate in the

study and that the collected information would remain confidential.

After all, those nurses who were willing and signed on the voluntary consent form were asked to fill out the questionnaire.

Data quality control, processing and analysis

Five percent of the questionnaires were pre-tested at Addisalem district hospital, Bahirdar to assess the reliability, clarity, sequence, consistency, understandability, and the entire time that it would take to complete the questionnaire before the actual data collection. Then, the necessary comments and feedbacks were incorporated into the final tool to improve its quality. Trained diploma nurses were involved for the data collection process and the investigators were closely involved in supervision.

Two days of training was given to data collectors on the objective of the study, the data collection tool, methods of data collection, the completeness of the data collection tool and how to maintain confidentiality. Proper coding and categorization of data was maintained for the quality of the data to be analyzed. The collected data were checked for completeness, cleaned, edited, coded manually and entered into Epi data version 4.2 to minimize logical errors and design skipping patterns Then, the data were exported to SPSS window version 22 for analysis. Double data entry was performed for validity and compared to the original data. Outliers were checked and simple frequencies and cross tabulation were done for missing values and variables. Binary logistic regression was used to analyze the outcome variable. Bivariate and multivariate analysises were performed to see the association between each outcome variable and the independent variable. The assumptions for binary logistic regression were checked. The goodness-of-fit was tested by Hosmer-Lemeshow statistic and Omnibus tests. All variables with P <0.2 in the bivariate analysis were included in the final model of the multivariate analysis to control all possible confounders, and the variables were selected using enter method.

The directions and strengths of the statistical association were measured by odds ratio with 95 %CI. Adjusted odds ratios along with 95% CI were estimated to identify factors associated with knowledge and attitude towards palliative care by using multivariate analysis in logistic regression. Finally, the association was declared using AOR at a 95% confidence level at p ≤0.05. Descriptive analysis was performed by computing proportions and summary statistics. Then, the information was presented using simple frequencies,narations and tables.

Results
Of the total of 402 respondents, 387 of them were included in the final analysis, giving a response rate of 96.27%.

Socio-demographic-related characteristics
Of the total respondents, 216 (55.81%) were women and 321 (82.95%) were between the ages of 20-30 years with a mean age of 28.50 years old. Two hundred twenty-five (58.14%) were single, 242 (62.53%) were also BSc nurses.

Working environment-related characteristics
Of the total respondents, 151 (39.01%) were from Debre Tabor Referral Hospital and 116 (29.97%) worked in medical wards. Similarly, 220 (56.85%) have worked for less than 5 years with a mean working experience of 5.25 years. On the other hand, none of the respondents received palliative care training.

Nurses' level of knowledge and attitude towards palliative care
Of the total respondents, only 83 (21.4%) had good knowledge, and 114 (21.46%) had a favourable attitude towards palliative care.

Nurses' knowledge towards palliative care and related characteristics
Fourty-eight (22.22%) of the nurses had adequate knowledge, and of the nurses who were between the age of 41-50 years old, 3 (37.5%) of them had adequate knowledge towards PC. On the other hand, of nurses who had BSc degree, 66 (27.27%) and of nurses with 16-20 years of work experience,7(63.64%) had adequate knowledge towards palliative care respectively. Furthermore, of nurses who had a favorable attitude towards PC, 39 (34.11%) of them had adequate knowledge towards PC (Table 1).

Table 1: Distributions of nurses' knowledge towards palliative care in Northcentral Ethiopia, 2020 (n=387)

Variables	Categories	Nurses' knowledge	
		Adequate knowledge (%)	Inadequate knowledge (%)
Sex	Male	35 (20.47)	136 (79.53)
	Female	48 (22.22)	168 (77.78)
Age	20-30	68 (21.18)	253 (78.82)
	31-40	12 (20.69)	46 (79.31)
	41-50	3 (37.50)	5 (62.50)
Marital status	Single	31(21.68)	112 (78.32)
	Married	49 (21.78)	176 (78.22)
	Divorced	2 (16.67)	10 (83.33)
	Widowed	1(14.29)	6 (85.71)
Educational Level	Diploma	17(11.72)	128 (88.28)
	BSc	66 (27.27)	176 (72.73)
Year of work Experience	<5	37(16.82)	183 (83.18)
	5-10	30 (23.08)	100 (76.92)
	11-15	9 (34.62)	17(65.38)
	16-20	7(63.64)	4(36.36)
Working Unit	Medical ward	28 (24.14)	88 (75.86)
	Surgical ward	17(18.48)	75 (81.52)
	Pediatric ward	10 (18.87)	43 (81.13)
	Emergency ODD	11(24.44)	34 (75.56)
	Cold OPD	5 (14.71)	29 (85.29)
	ICU	8 (28.13)	24 (71.87)
	Others	3 (20.0)	12 (80.0)
Nurses' attitude towards PC	Favorable attitude	39 (34.21)	75 (65.79)
	Unfavorable attitude	44(16.12)	229 (83.88)

PC: Palliative care; OPD: Out-patient Department; ICU: Intensive care unit

Nurses' attitude towards palliative care and related characteristics

Of the total nurses who responded, 65 (30.09%) had a favourable attitude towards PC, and of respondents with 16-20 years of workexperience, 8 (72.73%) of them also had a favourable attitude towards palliative care (Table 2).

Table 2: Distributions of nurses' attitude towards palliative care in Northcentral Ethiopia, 2020(n=387)

Variables	Categories	Nurses' attitude towards PC	
		Favourable attitude (%)	Unfavourable attitude (%)
Sex	Male	49 (28.65)	122 (71.35)
	Female	65 (30.09)	151(69.91)
Age	20-30	92 (28.66)	229 (71.34)
	31-40	19 (32.76)	39 (67.24)
	41-50	3 (37.50)	5 (62.50)
Marital status	Single	42 (29.37)	101(70.63)
	Married	68 (30.22)	157 (69.78)
	Divorced	3 (25.0)	9 (75.0)
	Widowed	1 (14.29)	6 (85.71)
Educational Level	Diploma	29 (20.0)	116 (80.0)
	BSc	85 (35.12)	157 (64.88)
Year of work Experience	<5	45 (20.45)	175 (79.55)
	5-10	43 (33.08)	87 (66.92)
	11-15	18 (69.23)	8 (30.77)
	16-20	8 (72.73)	3 (27.27)
Working Unit	Medical ward	39 (33.62)	77(66.38)
	Surgical ward	25 (27.17)	67(72.83)
	Pediatric ward	13 (24.53)	40 (75.47)
	Emergency ODD	15 (33.33)	30 (66.67)
	Cold OPD	7(20.59)	27(79.41)
	ICU	13 (40.62)	19 (59.38)
	Others	2 (13.33)	13 (86.67)
Nurses' knowledge towards PC	Adequate knowledge	39 (46.99)	44 (53.01)
	Inadequate knowledge	75(24.67)	229(75.33)

The association of independent variables and nurses' knowledge towards palliative care

Nurses who had a Bachelor's degree were 2.6 times more likely to have adequate knowledge towards PC than nurses who had a diploma (AOR = 2.61,95% CI: 1.39, 4.89). Moreover, nurses who had 16-20 years of work experience were 5.9 times more likely to have adequate knowledge towards PC as compared to nurses who had less than 5 years of work experience (AOR=5.86, 95%CI:1.27, 26.92) (Table 3).

Table 3: The association of independent variables and knowledge of nurses towards PC in, Northcentral Ethiopia, 2020 (n=387)

Variables	Categories	Nurses' knowledge		COR (95%CI)	AOR (95%CI)
		Adequate knowledge	Inadequate knowledge		
Nurses' attitude towards PC	Favorable attitude	39(46.99)	75(24.67)	2.71(1.64,4.48)	1.63(0.91, 2.89)
	Unfavorable attitude	44(53.01)	229(75.33)	1.00	1.00
Educational Level	Diploma	17(20.48)	128(42.11)	1.00	1.00
	BSc	66(79.52)	176(57.89)	2.82(1.58,5.04)	2.61(1.39, 4.89)
Year of work Experience	<5	37(44.58)	183(60.20)	1.00	1.00
	5-10	30(36.14)	100(32.89)	1.5(0.87, 2.55)	1.10(0.61, 1.97)
	11-15	9(10.84)	17(5.59)	2.62(1.08,6.32)	1.35(0.46, 3.95)
	16-20	7(8.44)	4(1.32)	8.66(2.41,31.08	5.86(1.27,26.92)

*Note: *Statistically significant association, BSc: Bachelor of Science*

The association of independent variables and nurses' attitude towards palliative care

Nurses who had a Bachelor's degree were 2.2 times more likely to have a favorable attitude towards PC than nurses who had a diploma (AOR = 2.21, 95% CI: 1.28, 3.82). On the other hand, nurses who had 11-15 years of work experience were 7.4 times more likely to have a favourable attitude towards PC than nurses who had less than 5 years of work experience (AOR=7.38, 95%-CI: 2.74, 19.83), and those nurses who had 16-20 years of work experience were also 7.7 times more likely to have a favourable attitude towards PC than nurses who had less than 5 years of work experience (AOR=7.65, 95%CI:1.65, 35.40) (Table 4).

Table 4: Association of independent variables and nurses' attitude towards PC in Northcentral Ethiopia, 2020(n=387)

Variables	Categories	Nurses' attitude		COR (95%CI)	AOR (95%CI)	P-value
		Favorable attitude	Unfavorable attitude			
Nurses' knowledge towards PC	Adequate knowledge	39(34.21)	44(16.12)	2.71(1.64,4.48)	1.65(0.93, 2.92)	0.087
	Inadequate knowledge	75(65.79)	229(83.88)	1.00	1.00	
Educational Level	Diploma	29(25.44)	116(42.49)	1.00	1.00	
	BSc	85(74.56)	157(57.51)	2.17(1.33, 3.52)	2.21(1.28,3.82)	0.005*
Year of work Experience	<5	45(39.47)	175(64.10)	1.00	1.00	
	5-10	43(37.72)	87(31.87)	1.92(1.18, 3.14)	1.59(0.95,2.70)	0.079
	11-15	18(15.79)	8(2.93)	8.75(3.58,21.41)	7.38(2.74,19.83)	0.0001*
	16-20	8 (7.02)	3(1.10)	10.37(2.64,40.68)	7.65(1.65,35.40)	0.009*

*Note: *Statistically significant association, BSc: Bachelor of Science*

Discussion

This study finding showed that of the total respondents, only 21.4% and 21.46% had good knowledge, and favourable attitude towards palliative care respectively. The finding of this study also revealed that 304 (78.55%) of the respondents had inadequate knowledge towards PC, which is higher than a study conducted in referral hospitals in Amhara region, Northeast Ethiopia (61.0%), Addis Ababa, Ethiopia (63.6%), Shire Endesilasie, Tigray, Ethiopia (73.8%), Palestin (45.8%) and Saudi Arabia (38%) [4,5,9,13]. This variation might be due to the lack of palliative care training in the area, and since most of the hospitals were primary hospitals with limited health care services for those patients with life-threatening diseases in need of PC. In facilities, nurses have less chance to be aware and develop knowledge about palliative care.

This study finding also showed that educational level and years of work experience showed a significant association with knowledge of nurses towards PC at P <0.05 which was consistent with studies conducted in Addis Ababa referral hospitals, Ethiopia and the Amhara region, Northern Ethiopia, which reported that educational level and work experience showed a significant association with nurses' knowledge towards PC [8,13]. It might be due to the fact that when the educational level, and years of work experience increase, the tendency to learn about advanced diseases and getting patients with these life-threatening diseases in need of PC also increases; as result, knowledge towards PC has the chance to increase.

However, this study finding showed that 114 (24.96%) of the respondents had a favorable attitude towards palliative care, which is much lower than the studies conducted in Saudi Arabia (83%), Addis Ababa, Ethiopia (2014) (46.3%), selected hospitals of Tigray, Ethiopia (56.3%), Addis Ababa, Ethiopia (2018) (44.4%) and referral hospitals of the Amhara region, Northwest Ethiopia (70.7%) [1,5,8,11,13].

This variation might be explained that there was no any palliative care training given to nursesand more than half of nurses, 236 (60.98%) were working in primary hospitals, where there were limited health care services for patients with life-threatening diseases in need of PC. This study finding also revealed that the educational level of nurses and the years of work experience showed a significant association with the attitude of nurses towards PC at P <0.05. It might be justified that when there is an increase in the educational level and years of work experience, there is the possibility of a change in attitude towards palliative care.

Conclusions
This study finding revealed that the majority of nurses had inadequate knowledge and an unfavourable attitude towards palliative care. Generally, nurses' educational level and years of work experience were the independent predictors of nurses' knowledge and attitude towards palliative care.

Recommendations
I. The concerned bodies and stakeholders shall work together to enhance the knowledge and attitude of nurses towards PC by involving the philosophy of PC in nursing education to expand the limited palliative care service in the area and the country at large.
II. Nurses need to update their knowledge and change their attitude towards PC by reading manuals/guidelines and taking training on palliative care service.
III. Other researchers also shall conduct further studies using triangulated study designs to identify additional problems on palliative care.

Abbreviations and acronyms
AOR: Adjusted odds ratio
CI: Confidence Interval
COR: Crude Odds Ratio
FATCOD: From Melt's attitude towards the care of the dying
FMOH: Federal Ministry of Health
ICU: Intensive Care Unit
NCDs: Non-Communicable Diseases
NGOs: Non-Governmental Organizations
OPD: Outpatient Department
PC: Palliative Care
PCQNs: Quality of Palliative Care for Nurses
QOL: Quality of Life
SD: Standard Deviation
SPSS: Statistical Package for Social Sciences
WHO: World Health Organization

Ethical considerations
Ethical clearance was obtained from Debre Tabor University, College of Health Sciences, institutional review board. All the study participants were informed about the purpose of the study, their right to refuse, and written and signed voluntary consent was obtained from all study participants prior to data collection.

Consent for publication
Not applicable.

Data availability
All data used for the study were included in the manuscript.

Competing interests
We declared that we have no conflicts of interest.

Authors' contributions
Tigabu Munye Aytenew, Netsanet Ejigu, Melese Kebede, Tekalgn Amera and Amare Simegn: Wrote the research proposal, conducted the study, and performed data entry and analysis.
Tadila Dires, Demewoz Kefale,Solomon Demis Kebede, Gebrie Kasaw and Berihun Bantie: Involved in proposal development, data entry, analysis and wrote the manuscript.

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