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Assessment of Nurses' Knowledge, Attitude, Practice and Associated Factors Towards Palliative Care: In the Case of Amhara Region Hospitals

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Abstract: Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness. In Ethiopia, apart from different goals in structuring health care system, palliative care has been underestimated. In this regard availability of baseline data, professional knowledge, attitude and practice towards palliative care are critically important. The main objectives of this study were to assess the knowledge, attitude, practiceand associated factors on palliative care among nurses in Amhara regional state referral hospitals from March to April, 2014.Institution basedcross- sectional study was conducted using structured and pretested questionnaire. Samples of 359 nurses from five referral hospitalswere included. Participants were selected by simple random sampling technique. Data was cleared, coded and entered into Epi-Info Version 7 software and then transported to SPSS version 20 softwarefor data analysis. Descriptive statistics, bivariate and multivariate statistical analysis was fitted to identify significantly associated factors with knowledge and attitude towards palliative care. Out of 359 randomly selected nurses from 5 referral Hospitals 352 nurses were participated in the study with a response rate of 98%. From participants 187(53.1%) had good knowledge. Educational status, year of experience and palliative care training had statistically significant association with knowledge of nurses. One hundred eighty eight (53.4%) of the participants had favorable attitude towards palliative care. Palliative care training had statistically significant association with attitude of nurses. One hundred ninety six (55.7%), of participants had poor practice towards palliative care. The study showed that half of the nurseshave favorable attitude and good knowledge on palliative care; in contrast they had poor practice towards palliative care. In this regard, the educational status and year of experience was statistically significant with nurses' knowledge. Furthermore, palliative care training was statistically significant with Knowledge and attitude of nurses towards palliative care. Palliative care training and continuous professional education should be regularly given for the nurses.

Key words: Palliative care · Knowledge · Attitude · Practice · Nurse · Ethiopia

INTRODUCTION

Palliative care(PC) is a way that improves the quality of life of patients and their families facing the problem associated with life-threatening illness through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual [1]. Its goal is not to cure however it is to provide comfort and maintain the highest possible quality of life as long as life remains [2, 3].

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Non-communicable diseases (NCDs), including cancer, diabetes, cardiovascular disease and chronic respiratory illness, are a growing challenge worldwide, accounting for 65% of all deaths [4, 5]. According to study conducted in America, an anticipated increase in the number of people diagnosed with cancer will result in death rates by cancer doubling from 1.3 million in 2000 to 2.6 million in 2050 [6]. The number of PCservices along with clinical and epidemiological programs is increasing in western industrialized countries. In the developing world it remains at a dramatically low level [7] and 80% of NCDs deaths occur in developing countries [4, 5].

The need for PC in developing countries is significant owing to the high disease burden. By 2008 an estimated 22 million people in the region were living with HIV/acquired immune deficiency syndrome (AIDS), i.e., 67% of the global disease burden, with 1•9 million new infections reported in that year alone [8]. There were over 700 000 new cancer cases and nearly 600 000 cancer-related deaths in Africa in 2007 and it is expected that cancer rates will grow by 400% over the next 50 years [9, 10].

Palliative care is a relatively new concept in many countries of the developing world and it is lacking in most African countries. There are a number of potential approaches that might be suitable in Africa but owing to the paucity of data in this field of care, it is difficult to choose an approach based on evidence. However, WHO has recommended a public health strategy (PHS) as the best approach for establishing and/or integrating PC into a country. The public health approach is the science and art of preventing disease, prolonging life and promoting the health of entire populations through the organized efforts of society [11].

The WHO progress report [5] on its PC projects in Uganda, Ethiopia, Zimbabwe, South Africa and Botswana also highlights challenges African countries face in providing optimal PC. This report states that problems in providing PC include: the lack of trained human resources, especially health professionals and social workers; a poor understanding of palliative care among health providers; the shortage of hospices and day care centers; inadequate regulatory framework; inadequate funds for palliative care activities; insufficient training for home based care providers; poor physical health facilities; the lack of a multidisciplinary PC team; inadequate treatment modalities for pain and other symptoms; and an inadequate national palliative care strategy. The report also indicates that assessment of both met and unmet needs is crucial for effective health service planning [12].

Governments in developing countries have been encouraged to include PC in the National Health Plan, policies and related regulations as well as to devise a mechanism for funding and/or service delivery models that support PC service delivery [13].

When the end of life makes its inevitable appearance, patients should be able to expect reliable, humane and effective care giving. Yet too many dying patients suffer unnecessarily. Nurses are central figures in advocating interventions that minimize burden and distress and enhance quality of life for their patients who are terminally ill [14]and they spend a lot of time caring for dying patients and actively take part in the decision-making process related to those patients [15, 16]. Determination of nurses' knowledge, attitude and practice had impact on delivery of PC. Therefore, it is important to identify factors that influence and improve knowledge, attitude and practice of nurses in this study area.

It was believed that PC is a good strategy aimed to provide comfort and maintain the highest possible quality of life as long as life remains. However there is a little information/data available on palliative care knowledge, attitude and practice on nurses in Ethiopia in general. So far in Amhara Region in particular, there is little organized scientific research carried out on knowledge, Attitude and practice of nurses towards PC until this study. However, the number of people who need PC is expected to increase and this in turns increases the demand for more clients admitted in the hospital settings. So, it is highly required to conduct a scientific research on this topic to rule out the factors that could affect the PC in nursing. Therefore, this study was concerned with the knowledge, attitude and practice of nurses towards PC and to propose a solution to enhance patient care. The particular interest to study with this field aimed at the quality of patient care and reducing the severity of the disease symptoms rather than vainly trying to stop or delay progress of the disease itself or provide a cure. Therefore, the output of this study will have significant input in the formulation of

appropriate strategy, to modify and advance the overall knowledge, Attitude and practice of nurses on PC in the region.

Therefore, the main objectives of this study were to assessknowledge, attitude, practice and associated factors towards palliative care among nurses working in Amhara Regional State Referral Hospitals, Ethiopia.

MATERIALS AND METHODS

Study Area: This study was conducted in five referral hospitals found in Amhara regional state. The hospitals included where FelegeHiwot, Debremarkos, Debrebrhan and Dessie referral hospitals and Gondar university referral hospital. Four of the hospitals are under the regional health bureau and the other one is a university hospital. FelegeHiwot referral hospital is located in Bahir Dar city. It has more than 400 inpatient beds and is a referral center for over 5 million inhabitants from nearby general hospitals. In this hospital 145 employed nurses are present. Gondar university referral hospital is located in Gondar town 748km far from Addis Ababa to the Northwest of Ethiopia. It has more than 500 inpatient beds, it provides referral services for over 5 million inhabitants in the northwest region of Ethiopia. In Gondar University teaching referral Hospital there are 280 employed nurses. Debremarkos referral hospital is also located in Debremarkos town 305km far from Addis Ababa to the Northwest of Ethiopia. This hospital also acts as a referral center for general hospitals in the area. In this hospital there about 80 nurses engaged in different setting. Debrebrhan referral hospital which is located in Debrebrhan town 130km far from Addis Ababa to the Northeast of Ethiopia. This hospital is also serving as a referral center for general hospitals in the area and having 120 employed nurses.The fifth study site was Dessie referral hospital which is found in Dessie town 400km far from Addis Ababa to the Northeast of Ethiopia. This hospital is also serving as a referral center for general hospitals in the area and it has 108 employed nurses [17].

Study Design and Period: Institutional based cross sectional study design was used to undertake this research work among nurses working in Amhara Region from March to April 2014.

Source Population: The source population was all nurses employed in Referral Hospitals in Amhara Regional State.

Study Population: Those nurses of the Amhara Region Referral Hospitals, who were available during data collection periods of the study.

Study Subject: Nurses randomly selected by computer generated table of random numbers in five referral hospitals in Amhara regional state.

Inclusion Criteria: Permanently employed nurses and who were working during the study period in the hospital were included.

Exclusion Criteria: Nurses who were in annual leave, seriously ill and in maternal leave during data collection was excluded.

Sample Size Determination: Sample size was determined by using single population proportion formula. Based on a research done in Addis Ababa in 2012 about Knowledge, Attitude and practice on nurses towards palliative care was 30.5, 76 and 76.2% respectively. By taking as prevalence 30.5 % [18], with 95% level of confidence and 5% margin of error, sample size was calculated as follows:

$$n=\frac{(za/2)^2\ p(1-p)}{d^2}$$

Where

n = estimated sample size required

P = Proportion= 30.5%

D= margin of error for sampling = 0.05

Z $\alpha/2$= the standard normal value at (100%-α) level confidence =1.96

$$n=\frac{(1.96)^2\times 0.305(1-0.305)}{(0.05)^2}=326$$

By adding 10% non-responsive rates increment was made the final sample size was 359 nurses required for this study.

Sampling Procedure: Simple Random sampling technique was used to select the study participants. The samples were proportionally allocated to each hospital. Finally respondents were selected using

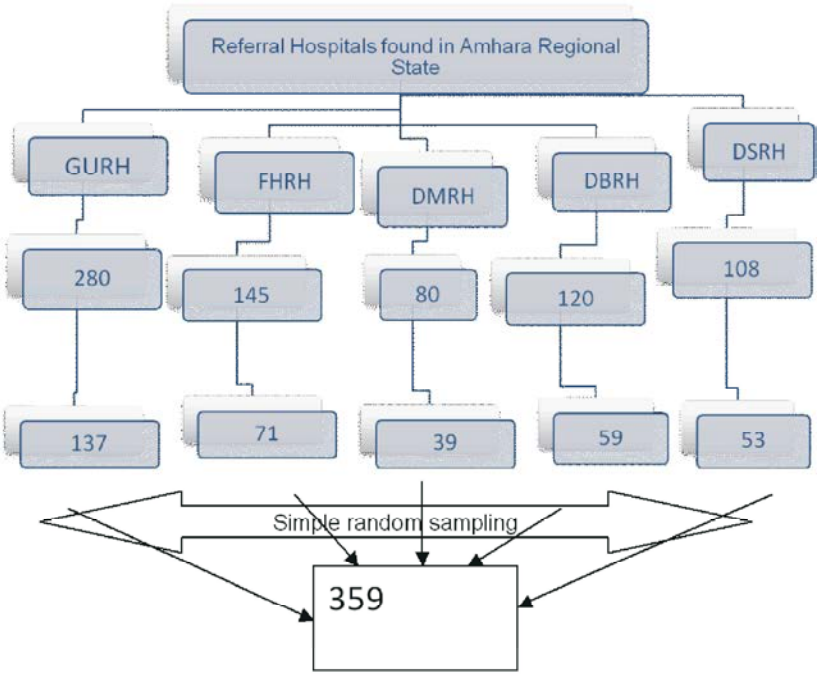

Fig. 1: Computer generated random number (Figure-1).
GURH=Gondar university referral hospital,
FHRH= FelegeHiwot referral hospital,
DMRH= Debremarkos referral hospital,
DBRH= Debrebrhan referral hospital,
DSRH= Dessie referral hospital.

Data Collection Procedure: A self administered structured questionnaire was used for data collection. The questionnaire was developed based on reviewed relevant literature. It was prepared originally in English. The questionnaire had four parts.

Part One: A socio demographic variables include (age, sex, Religion, Ethnicity, Educational status, Marital status, clinical area, year of experience, experience of caring terminally ill, PC training and monthly salary).

Part Two: This part included knowledge questions which was adopted form Japan study the Palliative Care Knowledge Test (PCKT) questionnaire that consisted of 20 items in five domains, including "philosophy," "pain," "dyspnea," "psychiatric problems," and "gastrointestinal problems" with Yes, No, or Don't know answers. A high score indicates good knowledge [19].

Part Three: This part included the attitude questionnaire. Attitude of nurses was assessed by using a standard Frommelt Attitudes toward Care of the Dying (FATCOD) questionnaire. It was used several times to assess nurses' attitudes toward care of the dying.The tool has a 5 point Likert scale. This was used to represent Nurses attitudes to a topic scored on 5 point scale, i.e. 1 (Strongly Disagree), 2 (Disagree), 3 (Uncertain), 4 (Agree) to 5 (Strongly Agree). Twelve of the items were worded negatively [20, 21].

The last section had 11 practical questions which were constructed from guidelines and various literatures related to PC practice.Using the structure pre-tested questionnaire, data was collected from a sample size of 359 nurses in the selected hospitals. However, the tool was validated in English and not translated to local language.

Data Quality Control: Data collection was conducted by five graduate nurses. Data collectors received a half day training on the questionnaire about the objective of the study, how of approaching the participants and how to administer and collect the questionnaires timely. The questionnaire was revised before data collectors were become disseminated to the actual data collection sites.

The questionnaire was pretested on 18 nurses in Debretabor Hospital out of the study area to test the fitness of the questionnaire for the study settings. The principal investigator and supervisors made daily supervision during the whole period of data collection. Questionnaire was reviewed and checked for completeness, accuracy and consistency by supervisors and investigator. Corrective measures have been taken after discussion with all the research team members in order to solve problems at the spot. During the research process all documents had been secured and after finishing the questionnaire has locked in a cabinet properly.

Variables of the Study

Dependent Variables: Knowledge, Attitude and Practice about palliative care

Independent Variable: Socio-demographic characteristics (age, sex, religion, ethnicity and marital status), professional characteristics (clinical area, year of experience, experience of caring terminally ill patients, level of education and training on palliative care).

Operational Definitions

Good Knowledge: Those study participants score the mean and above the mean of Palliative care knowledge test (PCKT) statement.

Poor Knowledge: those study participants score below the mean score of Palliative care knowledge test (PCKT) statement.

Positive (Favorable) Attitude: those study participants score the mean and above the mean score of Frommelt Attitude toward Care of the Dying (FATCOD) Scale.

Negative (Unfavorable) Attitude: those study participants score below the mean score of Frommelt Attitude toward Care of the Dying (FATCOD) Scale.

Good Practices: those study participants score the mean and above the mean score of practice questions.

Poor Practices: those study participants score below the mean score of practice questions.

Data Processing and Analysis: Data was checked, coded and entered to Epi-info version 7 and was exported in to SPSS (Statistical Package for Social Science) version 20 for analysis. Data entry was made by the principal investigator. Descriptive and analytical statistics including univariate, bivariate and multivariate analysis was employed. All variables with $p \leq 0.2$ in bivariate analysis were inserted in to the multiple logistic regression model to identify factors associated with PC. The factors were included in the final model after selection of variables by backward stepwise method. Significance was obtained at Odds ratio with 95% CI and $p < 0.05$.

Ethical Consideration: Ethical clearance was obtained from the Ethical Review Committee of the Department of nursing. Official letter written by department of nursing was given to each selected hospital and has got brief explanation about the purpose of the study. Approvals were also obtained from participating hospitals. After getting permission and verbal consent from hospitals' director and other concerned body, to conduct the study individual informed consent was obtained from each participant before distributing the questionnaire. The respondents had the right not to participate in or withdraw from the study at any stage. Finally the study was never disclosing any information by the name of participants to assure confidentiality.

RESULTS

Socio-Demographic Characteristics of the Participants: Out of 359 randomly selected nurses, 352 nurses were participated with response rate of (98%). One hundred thirty seven (38.1%) of the participant were from GUH. More than half of 184(52.3%) were females and the mean age was 29.98 year (SD=7.03).

Regarding the educational status of the participant 192(54.5%) had Bachelor of Science degree. The Greatest number of the respondents 103(29.3%) were working in internal medicine. Regarding their experience to provide care for terminally ill patients, almost half 177(50.3%) of the respondents had less than two years' experience. The majority of respondents 267(75.9%) reported that they didn't took training about palliative care. Regarding to their monthly salary 132 (37.5%) of the respondent had less than 2000 ETB monthly income (Table1).

Table 1: Socio-demographic and professional characteristics of nurses at Amhara Regional State referral Hospitals, May 2014 (n=352).

Characteristics	Frequency(N=352)	Percentage (%)
Sex		
Male	168	47.7
Female	184	52.3
Age		
19-29	157	44.6
30-39	120	34.1
40-49	55	15.6
>50	20	5.7
Religion		
Orthodox	299	84.9
Catholic	3	.9
Protestant	12	3.4
Muslim	38	10.8
Ethnicity		
Amhara	324	92
Tigray	11	3.1
Oromo	5	1.4
Others	12	3.4
Educational status		
Diploma nurse	148	42
BSc. Nurse	192	54.5
MSc. Nurse	12	3.4
Marital status		
Married	197	56.0
Single	148	42.0
Divorced	7	2.0
Clinical area		
Surgical	78	22.2
Internal Medicine	103	29.3
OPD	67	19.0
Pediatrics	44	12.5
OR	31	8.8
Ophthalmic	29	8.2
Year of experience		
<5	183	52.0
5-10	99	28.1
11-15	21	6.0
≥16	49	13.9
Experience of caring terminally ill patients		
<2	177	50.3
2-5	71	20.2
6-10	71	20.2
>10	33	9.4
Palliative care training		
Yes	85	24.1
No	267	75.9
Monthly salary (ETB)		
1427-2000	132	37.5
2001-2500	86	24.4
2501-3000	106	30.1
>3000	28	8.0

Nurses' Knowledge Towards PC: In general the overall score of participants towards palliative care was found to be 187(53.1%). One hundred nineteen (33.8%) of participants was believed, knowledge of nurses' towards PC on the philosophy statements should only be provided for patients who have no curative treatments available. Regarding knowledge of nurses' about pain, 272(77.3%) respondents revealed that the goal of pain management is to get a good night's sleep, similarly 245(69.6%) of the participants stated that long term use of opioids can often induce addiction (Table 2).

As to the statements for dyspnea, 182(51.7%) of participants said that morphine should be used to relieve dyspnea in cancer patients. Likewise, related to the psychiatric problem about 217(61.6%) of respondents reported that drowsiness associated with electrolyte imbalance decrease patient discomfort during the last days of life. As per gastro intestinal problem, 223(63.4%) of participants explained that higher calorie intake is needed at terminal stage of cancer compared to early stage (Table 2).

Attitude of Nurses' Towards PC According to the Statement of FATCOD Scale: The study revealed that about 188(53.4%) of the participant had favorable attitude towards PC. From the total participants about 192(54.5%) respondents were disagreed to statements that state giving care to the dying person is a worthwhile experience. About 291(82.7%) of the participants would not want to give care for the dying person. Similarly 252(71.6%) of the respondents revealed that none of their family care giver should not be the one to talk about death to the dying person (Table3).

Practice of Nurses Towards PC: According to the present study, 196 (55.7%) of the participants had poor Knowledge of practice towards palliative care.Regarding the time of initiation of PC, 252(71.6%) of the participants were discussed at the time of diagnosis. Likewise 269(76.4%) of the participants were considered on Psychological aspects and 109(31%) of the participants were telling the truth and decision making.

Regarding cultural assessment during patient care, 248(70.5%) of the participants were included Language and family communication. Similarly 316(89.8%) of the participants were addressed the psychological aspect of the patient during giving PC. Among the participants, 237(67.3%) of them were perceived attention seeking

Table 2: Distribution of nurses' knowledge towards palliative care at referral Hospitals of Amhara Regional State, May 2014 (n=352).

Sub scales	Statements regarding knowledge	Yes N(%)	No N(%)	Don't know N(%)
Philosophy	Palliative care should only be provided for patients who have no curative treatments available	119(33.8)	210(59.7)	23(6.5)
	Palliative care should not be provided along with anti-cancer treatments.	73(20.7)	251(71.3)	28(8.0)
Pain	One of the goals of pain management is to get a good night's sleep.	272(77.3)	76(21.6)	4(1.1)
	When cancer pain is mild, pentazocine should be used more often than opioids.	133(37.8)	115(32.7)	104(29.5)
	When opioids are taken on a regular basis no steroidal anti-inflammatory drugs should not be used.	150(42.6)	127(36.1)	75(21.3)
	The effect of opioids should decrease when pentazocine or buprenorphine hydrochloride is used together after opioids are used.	106(30.1)	133(37.8)	113(32.1)
	Long-term use of opioids can often induce addiction.	245(69.6)	63(17.9)	44(12.5)
Dyspnea	Use of opioids does not influence survival time.	107(30.4)	182(51.7)	184(52.3)
	Morphine should be used to relieve dyspnea in cancer patients.	109(31.0)	61(17.3)	61(17.3)
	When opioids are taken on a regular basis, respiratory depression will be common.	188(53.4)	103(29.3)	61(17.3)
	Oxygen saturation levels are correlated with dyspnea.	254(72)	77(21.9)	21(6.0)
	Anticholinergic drugs or scopolamine hydro bromide are effective for alleviating bronchial secretions of dying patients.	149(42.3)	102(29.0)	101(28.7)
Psychiatric problems	During the last days of life, drowsiness associated with electrolyte imbalance should decrease patient discomfort	95(27.0)	40(11.4)	217(61.6)
	Benzodiazepines should be effective for controlling delirium.	219(62.2)	70(19.9)	63(17.9)
	Some dying patients will require continuous sedation to alleviate suffering.	216(61.4)	95(27.0)	41(11.6)
	Morphine is often a cause of delirium in terminally ill cancer patients.	156(44.3)	110(31.2)	86(24.4)
Gastro-intestinal problems	At terminal stages of cancer, higher calorie intake is needed compared to early stages.	223(63.4)	127(36.1)	129(36.6)
	There is no route except central venous for patients unable to maintain a peripheral intravenous route.	131(37.2)	72(20.5)	150(42.6)
	Steroids should improve appetite among patients with advanced cancer.	153(43.5)	181(51.4)	57(16.2)
	Intravenous infusion will not be effective for alleviating dry mouth in dying patients.	75(21.3)	70(19.9)	40(11.4)

Table 3: Distribution of nurses' attitude according to their degree of agreement toward items of FATCOD at Amhara Regional state referral hospitals, May, 2014. (n=352).

No	Statements	SD (%)	D (%)	U (%)	A (%)	SA (%)
1	Giving care to the dying person is a worthwhile experience.	75(21.3)	95(27.0)	22(6.2)	114(32.4)	46(13.1)
2	Death is not the worst thing that can happen to a person.	118(33.5)	94(26.7)	32(9.1)	88(25.0)	20(5.7)
3	I would be uncomfortable talking about impeding death with the dying person.	20(5.7)	125(35.5)	41(11.6)	92(26.1)	74(21.0)
4	Nursing Caring for the patient's family should continue throughout the period of grief and bereavement.	42(11.9)	45(12.8)	33(9.4)	151(42.9)	81(23.0)
5	I would not want to care for a dying person.	163(46.3)	113(32.1)	15(4.3)	49(13.9)	12(3.4)
6	The nonfamily caregivers should not be the one to talk about death with the dying person.	86(24.4)	119(33.8)	47(13.4)	78(22.2)	22(6.2)
7	The length of time required giving care to a dying person would frustrate me.	15(4.3)	85(24.1)	37(10.5)	122(34.7)	93(26.4)
8	I would be upset when the dying person I was caring for gave up hope of getting better.	73(20.7)	83(23.6)	42(11.9)	120(34.1)	34(9.7)
9	It is difficult to form a close relationship with the dying person.	28(8.0)	79(22.4)	42(11.9)	105(29.8)	98(27.8)
10	There are times when the dying person welcomes death.	54(15.3)	81(23.0)	50(14.2)	130(36.9)	37(10.5)
11	When a patient asks, "Am I dying?" I think it is best to change the subject to something cheerful.	54(15.3)	127(36.1)	44(12.5)	72(20.5)	55(15.6)
12	The family involved in the physical care of the dying person.	74(21.0)	64(18.2)	25(7.1)	139(39.5)	50(14.2)
13	I would hope the person I'm caring for dies when I am not present.	18(5.1)	87(24.7)	52(14.8)	113(32.1)	82(23.3)
14	I am afraid to become friends with a dying person.	21(6.0)	78(22.2)	35(9.9)	116(33.0)	102(29)
15	I would feel like running away when the person actually died.	22(6.2)	67(19.0)	27(7.7)	138(39.2)	98(27.8)
16	Families need emotional support to accept the behavior changes of the dying person.	52(14.8)	49(13.9)	39(11.1)	136 (38.6)	76(21.6)
17	As a patient nears death, the nonfamily caregiver should withdraw from his/her involvement with the patient.	33(9.4)	86(24.4)	47(13.4)	105(29.8)	81(23.0)

Table 3: Continued

No	Statements	SD (%)	D (%)	U (%)	A (%)	SA (%)
18	Families should be concerned about helping their dying member make the best of his/her remaining life.	41(11.6)	52(14.8)	43(12.2)	143(40.6)	73(20.7)
19	The dying person should not be allowed to make decisions about his/her physical care.	28(8.0)	80(22.7)	32(9.1)	119(33.8)	93(26.4)
20	Families should maintain as normal an environment as possible for their dying member.	59(16.8)	51(14.5)	44(12.5)	150(42.6)	48(13.6)
21	It is beneficial for the dying person to verbalize his/her feelings.	56(15.9)	80(22.7)	48(13.4)	121(34.5)	47(13.4)
22	Care should extend to the family of the dying person.	47(13.4)	56(15.9)	57(16.2)	142(40.3)	50(14.2)
23	Caregivers should permit dying persons to have flexible visiting schedules.	69(19.6)	74(21.0)	46(13.1)	132(37.5)	31(8.8)
24	The dying person and his/her family should be the in-charge decision-makers.	51(14.5)	76(21.6)	60(17.0)	123(34.9)	42(11.9)
25	Addiction to pain relieving medication should not be a concern when dealing with a dying person.	42(11.9)	116(33.0)	51(14.5)	82(23.3)	61(17.3)
26	I would be uncomfortable if I entered the room of a terminally ill person and found him/her crying.	26(7.4)	101(28.7)	49(13.9)	94(26.7)	82(23.3)
27	Dying persons should be given honest answers about their condition.	47(13.4)	66(18.8)	47(13.4)	141(40.1)	51(14.5)
28	Educating families about death and dying is not a nonfamily caregiver responsibility.	89(25.3)	110(31.2)	39(11.0)	91(25.9)	23(6.5)
29	Family members who stay close to a dying person often interfere with the professional's job with the patient.	21(6.0)	113(32.1)	55(15.6)	88(25.0)	75(21.3)
30	It is possible for nonfamily caregivers to help patients prepare for death.	57(16.2)	74(21.0)	49(13.9)	124(35.2)	48(13.6)

Where: SA=strongly agree, A=Agree, U=Undecided, D=Disagree, SD=Strongly disagree

Table 4: Distribution of nurses' Practice towards palliative care at referral Hospitals of Amhara Regional State, May 2014 (n=352).

No.	Characteristic	Yes n(%)	No n(%)
1.	When do you Initiate palliative care discussion?		
	During diagnosis	252(71.6)	100(28.4)
	When the disease progress	153(43.5)	199(56.5)
	At the end of life	96(27.3)	256(72.7)
2.	What are the factors considered when dealing with terminally ill patient?		
	Cultural	185(52.6)	167(47.4)
	Psychological	269(76.4)	83(23.6)
	Connect with spiritual counselor	137(38.9)	215(61.1)
3.	What do you consider before Addressing the spiritual issue?		
	Listen with empathy	137(38.9)	215(61.1)
	Impose your own view	105(29.8)	247(70.2)
	Understand patient reaction	197(56.0)	155(44.0)
	Truth telling and decision making	109(31)	243(69)
	Preference regarding disclosure of information	70(19.9)	282(80.1)
4.	Cultural assessment during patient care should include:		
	Dietary preference	200(56.8)	152(43.2)
	Language, family communication	248(70.5)	104(29.5)
	Perspective on death, suffering & grieving	137(38.9)	215(61.1)
5.	Do you consider or address the psychological aspect of the patient during giving palliative care?	316(89.8)	36(10.2)
6.	Whom do you involve in decision making?		
	My own	172(48.9)	180(51.1)
	Other health professional	150(42.6)	202(57.4)
7.	How do you perceived terminally ill patient concern or question?		
	Doubting your professionalism	131(37.2)	222(62.8)
	Attention seeking behavior	237(67.3)	115(32.7)
	Family's ability to assimilate	95(27.0)	257(73.0)
8.	What are Commonly used medication in your practice for severe pain?		
	Paracetamol/Ibuprofen	224(63.6)	128(36.4)
	Codeine	81(23.0)	271(77.0)
	Morphine	142(40.3)	210(59.7)
	Do you delivered Palliative care as a team?	185(52.6)	167(47.4)

Table 5: The association between associated factors and knowledge of Nurses towards palliative care at Amhara regional state referral Hospitals, May 2014 (n=352).

	Knowledge				
Put in its position in table 5 Factors	Good	Poor	COR 95(CI)	AOR 95(CI)	p-value
Sex					
Male	92	76	1		
Female	95	89	1.134(.746-1.725)		
Age					
19-29	93	64	1		
30-39	62	58	2.180(.843-5.633)		
40-49	24	31	1.603(.612-4.203)		
>50	8	12	1.161(.410-3.290		
Religion					
Orthodox	159	140	1		
Catholic	1	2	.741(.372-1.475)		
Protestant	4	8	.326(.027-3.921)		
Muslim	23	15	.326(.083-1.277)		
Ethnicity					
Amhara	173	151	1		
Tigray	6	5	2.291(.677-7.761)		
Oromo	4	1	2.400(.444-12.980)		
Others	4	8	8.000(.658-97.311)		
Educational status					
Diploma	65	83	1	1	
BSc.	117	75	1.992(1.289-3.078)*	1.880(1.187-2.979)**	.007
MSc.	5	7	0.912(0.277-3.006)	.695(0.186-2.599)	.589
Marital status					
Married	99	98	1		
Single	85	63	1.336(.870-2.051)	1.806(.327-9.972)	.498
Divorced	3	4	.742(.162-3.404)	2.260(.411-12.420)	.348
Clinical area					
Surgical	36	42	1	1	
Internal medicine	67	36	2.171(1.189-3.964)*	1.292(0.528-3.160)	.574
OPD	39	28	1.625(.841-3.140)	2.386(.989-5.756)	.053
Pediatrics	20	24	.972(.463-2.041)	2.084(0.827-5.248)	.119
OR	13	18	.843(.363-1.953)	1.125(0.419-3.018)	.815
Ophthalmic	12	17	.824(.348-1.951)	1.051(0.359-3.074)	.928
Year of experiences					
<5	77	93	1	1	
5-10	68	46	1.875(1.104-2.888)*	1.969(1.177-3.295)**	.010
11-15	35	15	2.818(1.433-5.341)*	2.304(1.125-4719)**	.023
>16	7	11	.769(0.284-2.075)	.833(0.2876-2.415)	.736
Experience of caring terminally ill patients					
<2	96	81	1		
2-5	40	31	1.242(.202-7.623)		
6-10	36	35	2.217(.356-13.794)		
>10	15	18	3.500(.529-23.137)		
PC training					
No	57	130	1	1	
Yes	137	28	2.145(1.286-3.580)*	2.026(1.187-3.478)**	0.010
Monthly salary					
1427-2000	59	73	1		
2001-2500	59	27	1.706(.719-4.049)		
2501-3000	60	46	4.613(.848,11.513)		
>3000	9	19	2.754(.141-6.647)		

NB: * significant at COR (95%CI) P =<0.2 ** Significant at AOR (95%CI) P=<0.05

Table 6: The association between socio-demographic characteristics and attitude of Nurses towards palliative care at Amhara regional state referral Hospitals, May 2014 (n=352).

	Attitude				
Factors	Fav.n	Unfav.n	COR(95%CI)	AOR(95%CI)	P value
Sex					
Male	90	78	1	1	
Female	98	86	1.013(.666-1.540)	1.000(.624-1.605)	.999
Age.220					
19-29	86	71	1	1	
30-39	66	54	.519(.190-1.421)	.755(.239-2.382)	.631
40-49	22	33	.524(,189-1.455)	.797(.250-2.541)	.701
>50	14	6	.286(.095-.857)	.382(.113-1.290)	.121
Religion.834					
Orthodox	160	139	1	1	
Catholic	0	3	.932(.473-1.837)	1.132(.526-2.437)	.752
Protestant	7	5	.000(.000)	.000(.000)	.999
Muslim	21	17	1.133(.305-4.216)	2.184(.420-11.370)	.353
Ethnicity.146					
Amhara	175	149	1	1	
Tigray	4	7	1.644(.511-5.289)	1.477(.355-6.143)	.592
Oromo	4	1	.800(.149-4.297)	.273(.034-2.218)	.225
Others	5	7	5.600(.472-66.447)	4.099(.252-66.703)	.322
Educational status.000					
Diploma					
Nurse	68	83	1	1	
BSc. Nurse	113	77	.468(.132-1.666)	.021(.003-.179)	.000
MSc. Nurse	7	4	.839(.237-2.963)	.192(.028-1.318)	.093
Marital status.771					
Married	108	89	1	1	
Single	77	71	1.618(.353-7.420)	2.019(.254-16.028)	.506
Divorced	3	4	1.446(.313-6.687)	1.850(.228-14.973)	.564
Clinical area.345					
Surgical	38	40	1	1	
Internal medicine	59	44	.500(.206-1.212)	.414(.132-1.296)	.130
OPD	31	36	.706(.299-1.667)	.566(.185-1.730)	.318
Pediatrics	26	18	.453(.184-1.119)	.324(.103-1.025)	.055
OR	15	16	.760(.287-2.012)	.493(.143-1.701)	.263
Ophthalmic	19	10	.493(.174-1.397)	.316(.085-1.175)	.086
Year of experience.004					
<5	89	94	1	1	
5-10	54	45	.550(.287-1.052)	.117(.033-.419)	.001
11-15	14	7	.697(.345-1.407)	.220(.066-.738)	.014
>16	31	18	1.161(.395-3.410)	.844(.207-3.442)	.814
Experience of caring terminally ill patients.833					
<2	94	83	1	1	
2-5	36	35	.647(.300-1.395)	1.628(.438-6.056)	.467
6-10	37	34	.588(.252-1.373)	1.527(.389-5.998)	.545
>10	21	12	.622(.266-1.453)	1.1449.320-4.085)	.836
PC training					
No	124	128	1	1	
Yes	64	36	1.835(1.139-2.957)*	2.048(1.226-3.419)**	.006
Monthly salary.095					
1427-2000	75	57	1	1	
2001-2500	45	41	1.754(.770-3.999)	30.94(.755-166.432)	.709
2501-3000	56	50	1.463(.619-3.458)	6.127(.791-20.966)	.428
>3000	12	16	1.493(.645-3.459)	3.841(.196-12.335)	.061

NB: * significant at COR (95%CI) P =<0.2 ** Significant at AOR (95%CI) P=<0.05

Fav.=Favorable Unfav.=unfavorable

behavior of terminally ill patient concern. Related to medications, 224(63.6%) of the participants were commonly used paracetamol or ibuprofen for severe pain (Table 4).

The Association Between Associated Factors and Knowledge of Nurses Towards Palliative Care: In bivariate logistic regression analysis; educational status, clinical area, year of experience and PC training were associated significantly with the Knowledge of nurses towards PC. However, in multivariate analysis; Educational status, year of experience PC training and monthly salary were yielded as significantly associated factors of knowledge among respondents.In multivariate logistic regression analysis, educational status (AOR=1.880 CI: 1.187-2.979), year of experience (AOR=1.969 CI: 1.177-3.295) and PC training (AOR=2.026 CI: 1.187-3.478) had statistically significant association (P=0.05) with knowledge of nurses towards PC. However, sex, age, religion, ethnicity, marital status, clinical area, experience of caring terminally ill patients and monthly salary were not statistically significant for the level of knowledge of nurses towards PC.

Nurses who had a bachelor's degree had 1.88 times more likely to have good knowledge of pc compared to those who held a diploma (AOR=1.885, 95% CI: 1.187-2.979).

The odds of knowledge towards PC by respondent who had greater than five year of experience had 1.97 times higher as compared to less than five year of work experience.(AOR= 1.97, 95% CI: 1.177-3.295).Having taken PC training had 2.03 times more likely better knowledge towards PC as compared to who didn't take (AOR=2.03, 95% CI: 1.187-3.478) (Table 5).

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The Association Between Associated Factors and Attitude of Nurses Towards Palliative Care: According to this study, 188 (53.4%) of the participants had favorable attitude towards PC. In multivariate logistic regression analysis PC training had statistically significant with the attitude of the participants towards palliative care. However, there were no statistically significant relationships between age, sex, ethnicity, marital status, educational status, clinical area, year of experience and experience in caring for terminally ill patients and monthly salary with nurses' attitude towards PC. This finding revealed that those participants who had took PC training had 2.05 times more likely to have favorable attitude as compared to those participant who didn't take PC training (AOR = 2.048; CI: 1.226-3.419; p = 0.006) (Table 6).

DISCUSSION

In this particular study good knowledge towards PC among nurses was found to be 53.1%. This finding is similar with the study done in Harari Regional State of Ethiopia (56%) [22] and South Korea (52%) [23, 24]. Conversely, the result of this study is higher than the study done in Addis Ababa (30.5%) [18]. The possible reason for this might be due to the fact that PC training was integrated into their routine duties by the help of nongovernmental organization in the study referral hospitals.

Nurses with BSc and above in their educational status were 1.88 more knowledgeable as compared to diploma holders. This finding is consistent with the study conducted in Addis Ababa [18]. As the education status of nurses' increase from diploma to the next above level, their knowledge towards PC also widened and improved due to an increment in their professional skills.

In the current study, the result explained that having more than 5 years of experience had 1.96 times good knowledge than those having less than 5 years of experiences. This result is different with the study conducted in Addis Ababa [18]. However, this might be due to great variation in years of experience among participants involved in the study area. Moreover, in the fact that the participants working for extended period of time in their professions, they could obtain various exposures that increase their knowledge towards PC related to their day to day activities.

The present study also showed that those taking PC training had more than two times knowledge towards PC as comparedto those nurses which had not been trained. This finding is in agreement with a study conducted in Florida [25], showed that a statistically significant association between nurses' knowledge towards PC and PC training.

In this study more than half (53.4%) of nurses had favorable attitude towards PC. This finding is in line with other studies done in Iran and Egypt [26, 27, respectively] that both showed positive favorable attitude towards PC.

However, the result of this study showed much less favorable attitude as compared to the study conducted in Addis Ababa (76%) and Harari Regional state (88.3%) [18, 22, respectively]. This might be due to variation in training provided for professionals in different areas.

The study also showed that PC training had significant association on the participants towards PC attitude. In this result nurses who had been trained had more likely two times favorable attitude towards PC as compared to those had not been trained.

This finding is in agreement with a South Africa study [28] that examined the effect of palliative education on nurses' attitude which showed significant increase in nurses' attitude compared to the time before training. The possible reason for this might be due to the fact that training provides the opportunity to create awareness and have more information for participants who involved in the training to have favorable attitude in this regard.

The current study revealed that 55.7% (196 respondents) had poor practice towards PC. This is nearly comparable to the research conducted in Harari regional state that showed 61.4% of participants had good practice towards PC [22].

However, the finding is a bit lower result as compared to the study done in Addis Ababa (76.2%) [18].This might be related to less experience of the participants' in this study had less than five years of work experience, since experience might affect the practice.

The present study also showed that 51% of the participants understand the need for multidisciplinary team though they failed to recognize the composition. This result is much less than the study carried out in India that showed 75% of nurses believe that PC is required as an interdisciplinary approach [29]. This might be due to variation in trends to perform activities in group among countries and the level of individual recognition and willingness towards the need of multidisciplinary team.

Limitation of the Study: Unavailability of validated and standardized questionnaire to determine nurses' practice concerning PC made the study difficult to assess the association factor related to practice. The lack of qualitative assessment in the study restricted to rule out the all the possible associated factors related to attitude and practice of nurses on PC.

Strength of the Study: The study addressed all the referral hospital available in Amhara Regional state and tried to look the gap related to knowledge, attitude and practice toward PC and its related factors that play a considerable role in PC.

CONCLUSIONS

This study revealed that the majority of nurses have favorable attitude and good knowledge on palliative care; in contrast they had poor practice towards PC. In this regard, the educational status of nurses, year of experience and PC training were significantly associated with nurses' knowledge towards PC. Furthermore, PC training was statistically significant with attitude of nurses towards PC.

Recommendations: To Ministry of Health and Amhara Region Health Bureau

- Guidance to assist nurses who are involved in palliative care should be developed and provided accordingly.
- Incorporation of palliative care in the nursing curricula provided at all level should be mandatory to improve Knowledge, attitudes and practice of nurses towards PC.
- Palliative care training and Continuous education is regularly given for the nurses to improve knowledge, attitude and practice.

To Amhara Region Referral Hospitals

- In service training for nurses about palliative care should be incorporated.
- Conducive working environment should be created to stay the nurses in their profession and allow becoming experienced with Knowledge, attitudes and practice towards PC.
- Palliative care should be considered as one of the routine service provided by the nurse along with other services.
- Up grading or staff development should be planned and implemented so as to improve the educational level of nurses that helps to perform their duties and responsibilities related to PC in a better way.

To Researchers

- Further research should be conducted to rule out the factors related to nurses' knowledge, attitude and practice to formulate guidelines for PC.
- Qualitative research should be conducted to assess the attitude and practice of nurses on PC.

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