

Palliative Care Practice and Associated Factors among Nurses Working in Jimma University Medical Center South-West Ethiopia, 2017

Temamen Tesfaye^{1*}, Yeamanuelwork Anbessie² and Admasu Belay Gizaw³

¹Jimma University, Institute of Health, School of Nursing and Midwifery, Ethiopia.

²Jimma University Medical Centre, Ethiopia.

³Jimma University School of Nursing and Midwifery, Ethiopia.

Received: June 20, 2018; Accepted: July 19, 2018; Published: July 27, 2018

*Corresponding author: Temamen Tesfaye Yunka, Jimma University School of Nursing and Midwifery; P.O. Box: 378 Ethiopia. Fax: 0471-11-14-50; Tel: +251913153299, 2514711112213; Email: tekanetesfu@gmail.com

Abstract

Background: Palliative care is an approach that improves the quality of life of patients and their families facing problem associated chronic and with life threatening illness. Since Nurses are pivotal role players in providing palliative care, identifying their level of knowledge, attitude and practice is very crucial. Conversely, there is paucity of information on palliative care practice and associated factors in the study area.

Objective: This study aimed to assess palliative care practice and associated factors among nurses working in Jimma University Medical Center south-west Ethiopia.

Methods: Institution based cross-sectional study was conducted among 243 nurses. The study participants were selected using simple random sampling method and data was collected using structured self-administrated questionnaires. Descriptive, Bivariate and Multivariable logistic regression analyses were performed. Statistical level of significance was declared at $P < 0.05$.

Results: A total of 237 nurses were responded correctly and yielding a response rate of 97.5%. Around two third [65.8%] of the study participants had poor palliative care practices. Age, clinical area, years of experience, monthly income and level of knowledge about palliative care services significantly associated with overall palliative care practices.

Conclusion: Almost two third of the nurses had poor palliative care practices. Age, clinical area, years of experience, monthly income and level of knowledge about palliative care services are significantly associated with overall palliative care practice. Thus, efforts should be made in designing and providing short and long term training for nurses on palliative care practices.

Keywords: Palliative care; Nurses; End-of life care; Chronic illness; Jimma.

and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other health problems [1]. Evidence shows that palliative care is effective in improving the Quality of Life by meeting the needs of people with life threatening illness and their families [1, 2].

According to the World health organization estimation, by 2020 non-communicable disease will be prevalent as communicable diseases in developing countries especially in sub-Saharan Africa. This is an indicator for increased need in palliative care service. Despite the needs of palliative care and documented evidence of palliative care in improving the quality of life, the development and access to comprehensive, integrated palliative care service remains limited in most developing countries. Consequently, only few countries in SSA have integrated the new concept of palliative care into their agenda and currently palliative care provision remains inadequate and available to less than 5% [3- 7].

The implementation of palliative care is a global health challenge especially in developing countries because; the service is isolated in majorities of African countries, scattered in scope, not well supported, heavily donor dependent, had unclear policies, limited healthcare resource, Role unfamiliarity, poor perception, low level of practice and low knowledge about benefits by service users, health care workers and supporting community [8-12].

There are also insufficient government policies recognizing palliative care as an essential component of healthcare, inadequate training for healthcare professionals and limited awareness among the general public about palliative care. Moreover, there are limited studies in the area of patients palliative care needs which will support to provide appropriate care. Hence, palliative care needs are often under-assessed and addressed. As a result, up to 80% of pain is under-treated and about two-thirds of palliative care needs are missed. Addressing physical, emotional, social and spiritual needs and supporting people to achieve a sense of peace and meanings of life and prevention of end-of-life sufferings are unthinkable without integration of palliative care [13- 17].

Background

Palliative care is a holistic approach that improves the quality of life of patients and their families facing the problem associated with chronic and life-threatening illness, through the prevention

Study conducted in different countries showed that nurses had poor knowledge and practice towards palliative care services, while they had favourable attitude [18, 19]. Sex, years of experience, working units and training were predicting variables of practice of palliative care [18, 20, 21].

The most recent information on nursing posts in different country showed that palliative care & life-threatening illness mainly relies on nurses. Knowledge, attitude and practice towards palliative care is critical among health care professionals mainly among nurses. Therefore, this study focuses on assessing palliative care practice level and associated factors among nurses working at Jimma University Medical centre.

Methods and Materials

Study Area, Period and Design

The study was conducted in Jimma University Medical center from April 1-5, 2017 found in Jimma town at South-West of Ethiopia. It has a total bed capacity around 555 with nearly 1600 hospital staffs. Institution based cross-sectional study design was employed.

Sample Size and Sampling Technique

A total of 243 nurses were selected from 523 nurses by simple random sampling method from different working units.

Data Collection Tools and Procedure

The data collection instrument included four sections. Section one: A socio demographic variables. Section two comprised knowledge questions which taken from the Palliative Care Knowledge Test [PCKT] using questions with Yes or No answers. The third section included attitude questions, which adapted from Frommelt Attitude toward Care of the Dying [FATCOD] questionnaire. It has a 5 point Likert scale. The last section had 8 practical questions which the researchers constructed from guidelines and various literatures related to palliative care practice. [18, 24].

A Pre-test was conducted on 24 nurses at Limmu Genet district hospital in Jimma Zone to check clarity of data collection tools. Based on the result of pretest, necessary modification was done [before pretest the attitude part was measured through the original FATCOD questionnaire which consists of 30 items. However, after pretest the questionnaires were reduced to 17 items because some of the questions were difficult to understand and increase bulkiness of the questioner]. Data was collected by three trained MSc nursing students and they were facilitated the data collection procedure.

Operational Definition [18]

Good knowledge = $\geq 75\%$ of total score of the Palliative Care knowledge test [PCKT] scale

Poor knowledge = $< 75\%$ of total score of the Palliative Care knowledge test [PCKT] scale.

Favorable attitude = ≥ 50 of the total score of [FATCOD] Scale.

Unfavorable attitude = $< 50\%$ of the total score of [FATCOD] Scale.

Good practice = $\geq 75\%$ response of nurses from a total practice questions.

Poor practice = $< 75\%$ response of nurses from a total practice questions.

Data Processing and Analysis

The completed questionnaires were checked for inconsistencies and missed values before data entry. Data analysis was made using SPSS version 21.0 software. Descriptive statistics, Binary and Multivariable logistic regression analysis were done to describe and identify factors affecting palliative care practice among nurses.

Ethical Consideration

Ethical clearance letter was obtained from institutional review board [IRB] of Jimma University. Study participants were briefed about the study and oral consent were obtained and they are informed that participating in this study was fully voluntary. In addition, confidentiality of the information was assured.

Results

Socio-Demographic Characteristics

From total of 243 randomly selected nurses, 237 (97.5%) questionnaires were returned. More than half 124 (52.3%) of respondents were females and 105 (44.3%) were between the age group of 26-30 years. Almost half 119 (50.2) nurses were married and 103 (43.5 %) were followers of orthodox religion. The qualification of respondents showed that 127 (53.6%) had Bachelor of Science (BSc) in nursing and 151 (63.7%) of them had less than or equal to five years of work experience. About one fourth 60 (25.3%) of nurses earn monthly salary between 3001-4000 Ethiopian birr and 41 (17.3%) of nurses working in surgical unit. More than half 133 (56.1%) of nurse had no any training related to palliative care and 104 (43.9%) of them had less than or equal to two years' experience in caring terminal ill patients (Table 1).

Nurses' Knowledge towards Palliative Care

One hundred thirty eight (58.2%) of nurses were believed that palliative care should only be provided for patient who has curative treatment available. More than two third 165 (69.6%) of nurses said that getting spiritual support important to terminally ill patients and 173 (73%) of them believe that family involvement in any aspect of patient care is part of palliative care. More than three fourth 185(78.1%) of nurse thought that manifestation of chronic pain is different from those of acute pain and 125 (52.7%) of them understood that palliative care service extending after mortal care (Table 2). Overall level of knowledge showed that majority 127 (53.6%) of nurses working in Jimma University medical center had Poor knowledge and 110 (46.4%) had Good knowledge about palliative care services (Figure 1).

Table 1: Socio-demographic characteristics of nurses working at Jimma University Medical center, April 2017 (n= 237)

Socio-demographic Characteristics	n	%
Sex		
Male	113	47.7
Female	124	52.3
Age in years		
20-25	96	40.5
26-30	105	44.3
31-40	27	11.4
>41	9	3.8
Marital Status		
Married	119	50.2
Single	106	44.7
Divorced	6	2.5
Widowed	6	2.5
Religion		
Orthodox	103	43.5
Muslim	68	28.7
Protestant	56	23.6
Others (Catholic, Wake feta)	10	4.2
Qualification		
Diploma in Nursing	106	44.7
B. Sc in Nursing	127	53.6
MSc in Nursing	4	1.7
Work experience		
<5 years	151	63.7
6-10 years	60	25.3
11-15 years	10	4.2
16 years and above	16	6.8
Monthly salary (Eth. Birr*)		
2000-3000	48	20.3
3001-4000	60	25.3
4001-5000	58	24.5
5001-6000	21	8.9
>6001	50	21.1
Clinical area/Working units		
Surgical ward	41	17.3
Medical ward	24	10.1
MCH*	33	13.9
Pediatrics ward	36	15.2
Chronic Illness clinic	15	6.3
Maternity ward	32	13.5
OPD*	23	9.7

Others (psychiatry, OR*, ICU*)	33	13.9
Training on palliative care		
Yes	104	43.9
No	133	56.1
Experience in caring terminal ill patients		
<2	104	43.9
5-Mar	69	29.1
>6	26	11
Don't have	38	16
*Eth. Birr: Ethiopian birr, MCH: Maternal and child health, OPD: Outpatient department, OR: Operation room, ICU: Intensive care Unit.		

Table 2: Distribution of knowledge variables towards palliative care services among nurses working at Jimma University Medical center, April 2017 (n= 237)

Variables	Response	n	%
Palliative care should only be provided for patient who has on curative treatment available	Yes	138	58.2
	No	99	41.8
Long term use of Morphine can induce addiction	Yes	132	55.7
	No	105	44.3
Adjuvant therapies are important in Managing pain	Yes	191	80.6
	No	46	19.4
Getting Spiritual support is important to terminally ill patient	Yes	165	69.6
	No	72	30.4
Morphine should be used to relieve Dyspnea in cancer patient	Yes	127	53.6
	No	110	46.4
Respiratory desperation will be common when Opioids are taken	Yes	129	54.4
	No	108	45.6
Palliative care Service extending after mortar care	Yes	125	52.7
	No	112	47.3
Benzodiazepines should be effective for controlling delirium	Yes	124	52.3
	No	113	47.7
Some dying patient will require continuous sedation to alleviate suffering	Yes	148	62.4
	No	89	37.6

Family involvement in patient care is part of palliative care	Yes	173	73
	No	64	27
Higher calorie intake needed terminal stage of cancer	Yes	157	66.2
	No	80	33.8
Manifestation of chronic pain different from those of acute pain	Yes	185	78.1
	No	52	21.9
Terminally ill patient encourage having hope against all odd	Yes	146	61.6
	No	91	38.4

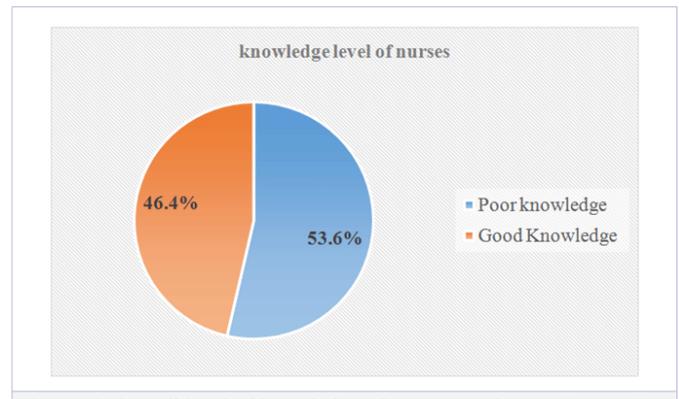


Figure 1: Overall level of knowledge of nurses working at Jimma University Medical center, April 2017 (n= 237)

Attitude towards Palliative Care

From the total study participants 96(40.5%) were agreed that giving care to the dying person is a worthwhile experience. One hundred two (43%) of nurses agreed that caring for the patient’s family should continue throughout the period of grief and bereavement. About 73(30.8%) of the respondents strongly disagree with the idea that they wouldn’t want to give care for the dying person. On another hand 104 (43.9%) agreed families

should be concerned about helping their dying member make the best of his/her remaining life and 56 (23.6%) rejected the dying person should not allowed to make decisions about his/her physical care (Table 3).

In summary, more than three fourth 188(79.3%) of nurses had favorable attitude towards palliative care services (Figure 2).

Table 3: Distribution of Nurses’ attitude towards palliative care at Jimma University medical center, April 2017

Statement	SDN (%)	D N (%)	UN (%)	AN (%)	SA N (%)
Giving care to the dying person a Worthwhile experience	60(25.3)	31(13.1)	21(8.9)	96(40.5)	29(12.2)
Death is not the worst thing that can happen to a person	51(21.5)	51(21.5)	26(11.0)	80(33.8)	29(12.2)
I would be uncomfortable talking about impending death with dying person	41(17.3)	44(18.6)	42(17.7)	85(35.9)	25(10.5)
Nursing caring for the patient’s family should continue throughout the period of grief and bereavement	33(13.9)	32(13.5)	40(16.9)	102(43.0)	30(12.7)
I wouldn’t want to care for dying person	73(30.8)	59(24.9)	32(13.5)	53(22.4)	20(8.4)
The non-family care giver shouldn’t be the one to talk about death with the dying person	48(20.3)	39(16.5)	56(23.6)	75(31.6)	19(8.0)
I would be upset when the dying person I was caring for gave up hope of getting better	52(21.9)	40(16.9)	44(18.6)	86(36.3)	15(6.3)
There are time when dying person welcomes death	29(12.2)	39(16.5)	60(25.3)	83(35.0)	26(11.0)
When a patient asks, “Am I dying?” I think it is best to change the subject to something cheerful	39(16.4)	27(11.4)	54(22.8)	85(35.9)	32(13.5)
The family involved in the physical care of the dying person	23(9.7)	36(15.2)	55(23.2)	98(41.4)	25(10.5)
I would hope the person I ‘am caring for dies when I am not present	41(17.3)	47(19.8)	58(24.5)	70(29.5)	21(8.9)

I am afraid to become friends with the dying person	62(26.2)	43(18.1)	55(23.2)	71(30.0)	6(2.5)
Families need emotional support to accept the behavior changes of the dying person	34(14.3)	22(9.3)	43(18.1)	102(43.0)	36(15.2)
Families should be concerned about helping their dying member make the best of his/her remaining life	32(13.5)	29(12.2)	32(13.5)	104(43.9)	40(16.9)
The dying person should not allowed to make decisions about his/her physical care	52(21.9)	56(23.6)	46(19.4)	68(28.7)	15(6.3)
It is beneficial for the dying person to verbalize his/ her feeling	24(10.1)	42(17.7)	37(15.6)	105(44.3)	29(12.2)
Addiction to pain reliving medication should be dealing with patient	37(15.6)	36(15.2)	42(17.7)	97(40.9)	25(10.5)

N: Number, SD: Strongly disagree, D: Disagree, U: Uncertain, A: Agree & SA: Strongly agree

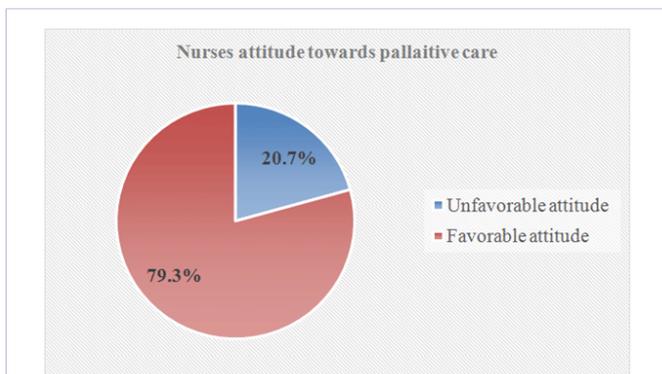


Figure 2: Overall nurses attitudes towards palliative care at Jimma University Medical center, April 2017.

Practices towards Palliative Care

Almost two third (65.8 %) of the study participants had poor practice towards palliative care (Figure 3). More than half 121 (51.1%) of the nurses initiate palliative care discussion with patients during diagnosis of patients. Regarding factors considered during dealing with terminal ill patients, 208 (87.8%)

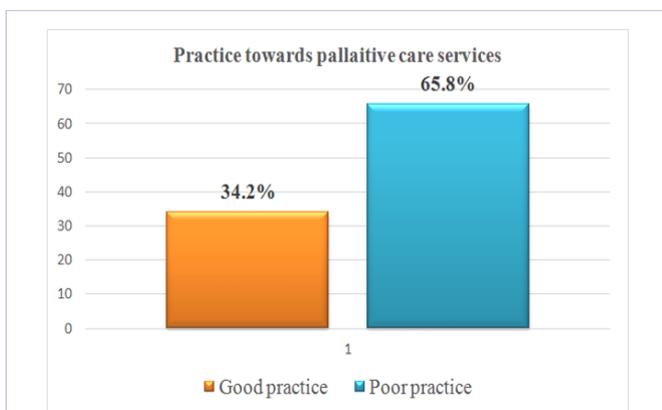


Figure 3: Overall level of practice towards palliative care among nurses working at Jimma University Medical center, April 2017 (n= 237).

of them gave great emphasis on psychological aspect and 135 (57%) of the study participants perceived terminally ill patients concern as their right. Concerning decision making, 136 (57.4%) of the respondents revealed that they were comprises patients idea and 47 (19.8%) involves family members in decision making.

Regarding cultural assessment during patient care 203(85.7%) of the participant were included languages and family communication and 162 (68.4%) of the nurses reported as they listen patients with empathy when addressing the spiritual issue. Around half 115 (48.5%) of the respondents used morphine commonly for treatment of severe pain (Table 4).

Table 4: Palliative care practice among nurses working at Jimma University medical center, 2017.

Variables	Response	Number	Percent
Time of initiation palliative care discussion	During diagnosis	121	51.1
	When the problem progress	94	39.7
	At the end of the life	43	18.1
Factors considered when dealing with terminal ill patients	Cultural	176	74.3
	Psychological	208	87.8
	Medical	171	72.2
	Social	169	71.3
Things considered before addressing the spritual issue	Listen with emphathy	162	68.2
	Impose owen view	134	56.5
	Understand patients reaction	151	63.7
	Connect with spritual counselor	143	60.3

Cultural assessment during patient care	Dietary preference	196	82.7
	Language, family communication	203	85.7
	Perspective on death suffering and grieving	174	73.4
Addressing the psychological aspect of the patient during giving palliative care	Emotional support	179	75.5
	Counselling the patient	158	66.7
	Hiding the truth	168	70.9
Whom do you involve in decision making?	Patient	136	57.4
	Family	47	19.8
	My own	13	5.5
	Other professionals	41	17.3
Perception for terminally ill patients concern	Patient right	135	57
	Needing treatment	55	23.1
	Doubting your professionalism	3	1.3
	Attention seeking behaviour	44	18.6
Commonly used medication for severe pain	Paracetamol	67	28.3
	Morphine	115	48.5
	Petidine	28	11.8
	Codein	27	11.4

Table 5: Adjusted logistic regression model showing predictors of palliative care practice among nurses working in Jimma University medical center, April 2017.

Predicting Variable	P- Value	AOR* (95% CI)
Age in years		
>41		1
20-25		0.745(0.383, 1.452)
26-30	0.019	5.549 (1.323, 23.275)
31-40		0.448 (0.087, 2.296)
Clinical area		
Surgical		1
Medical		0.785 (0.213, 2.899)

MCH	0.027	0.268 (0.083, 0.864)
Pediatrics		0.565(0.174, 1.831)
Chronic illness	0.02	0.166 (0.036, 0.757)
Maternity		0.527 (0.159, 1.742)
OPD		0.458 (0.127, 1.659)
Others (psychiatry, OR, ICU)	0.03	0.276 (0.086, 0.886)
Years of experience		
>15		1
<5		1.889 (0.952, 3.748)
5-10	0.013	4.344 (1.367, 13.806)
11-15		4.271 (0.989, 18.806)
Monthly salary (Eth. birr)		
>6001		1
2000-3000	0.005	3.633 (1.463, 9.022)
3001-4000	0.023	2.867 (1.157, 7.101)
4001-5000		1.375 (0.446, 4.241)
5001-6000		2.564 (0.99, 6.639)
level of Knowledge among nurses		
Poor knowledge		1
Good Knowledge	0.005	0.422 (0.233, 0.766)

*AOR: Adjusted Odds Ratio

Factors Affecting Palliative Care Practice

Findings of this study revealed age, Clinical area/working unit, years of experience, monthly salary and level of knowledge are identified as factors associated with practice towards palliative care among nurses.

Those study participants who were age between 26-30 years are 5.5 times more likely had poor practice towards palliative care with adjusted odds ratio (AOR) of 5.549 at 95%CI (1.323, 23.275) as compared to those age >41 years. Nurses who are working in maternal and child health, chronic illness clinic OR, ICU and psychiatry unit were 73.2%, 83.4% and 72.4% less likely had poor practice towards palliative care with AOR of 0.268 at 95%CI (0.083, 0.864), 0.166 at 95%CI (0.036, 0.757) and 0.276 at 95%CI (0.086, 0.886) respectively.

Nurses with five to ten years experiences were 4.3 times more likely had poor palliative care practice with AOR of 4.34 at 95%CI (1.37, 13.8) when compare to those greater than fifteen years of experiences. Nurses who earns monthly salary of 2000-3000 and 3001-4000 were 3.6 and 2.9 times more likely had poor practice towards palliative care with AOR of 3.633 at 95%CI (1.463, 9.022) and 2.867 at 95%CI (1.157, 7.101) respectively. Nurses who had good knowledge on palliative care services were 57.8% less likely to have poor palliative care practice as compared to good knowledge with AOR of 0.422 at 95%CI (0.233, 0.766).

Discussion

Nurses' level of knowledge, attitude and practice towards palliative care is cornerstone for better management and care of patient with chronic life-threatening illness. Less involvement of nurses in palliative care practice increases end of life suffering and despair of patients with chronic life-threatening illness. Hence, this study assessed the level of palliative care practice and associated factors among nurses.

In overall, 46.4 % of nurses had good knowledge towards palliative care services. This indicates more than half of nurses are not equipped with adequate knowledge and information about palliative care service which will contribute to poor practice, assessment and under-addressing of palliative care needs, increased health care cost and end of life suffering. This finding is higher than the findings of studies conducted in Egypt [20] and Addis Ababa [18]. Time difference among studies might be contributed for this result. However, it is lower than the finding of study in Greek [21] where nurses had better knowledge about palliative care. This might be due to socio-economic status and organizational policies and access of training on the palliative.

The current study revealed that 79.3 % of nurses had favorable attitudes towards palliative care services. This finding is consistent with studies done in Iran [22] and India [19]. Conversely, this finding is higher than study conducted in Addis Ababa [18] which revealed that 76% of respondents had favorable attitude towards palliative care services. This difference might be due to better awareness about palliative care and end of life care.

Concerning palliative care practice, 65.8% of nurses had poor practice towards palliative care. It could be related to poor awareness, health care management systems and little integration of palliative care services with regular health care services in Ethiopia. This finding is lower than study conducted in Egypt [20] and Addis Ababa [18] which is 76.6% and 76.2% respectively. The difference might be due to sample size, study period, health care policy and awareness level. Nurses who were participated on this study had better knowledge about palliative care services as compared to nurses in Egypt and Addis Ababa. The findings of this study showed that half of respondents initiating palliative care discussion during diagnosis of patients. It is almost consistence with study done in Addis Ababa [18]. More than two-third of study participants addressed the psychological issue of patients by hiding the truth. This finding is lower than study conducted in Addis Ababa, but higher than study done in Norway [23], where the nurses believed that lying about patients' diagnosis and treatment is unethical.

Age, working unit, years of experience, monthly salary and level of knowledge were identified as factors that significantly associated with palliative care practice among nurses in this study. Those study participants who were age between 26-30 years are 5.5 times more likely had poor practice compared to those age >41 years. This indicates; as the age of nurse's increase, the experiences of applying palliative care components might be enhanced. The study also showed that nurses working in the chronic illness clinic and ICU were 83.4% and 72.4% less

likely had poor practice towards palliative care compared to surgical ward. The probable reason for this might be due to nurses working in these units might had frequent contact with chronically and terminally patients and they developed better experience in caring these types of cases.

Nurses who had five to ten years of experiences were four times more likely had poor palliative care practice compare to those greater than fifteen years of experience. This is consistent with study done in Egypt [20]. The possible justification for this might be nurses with extended years of experiences had better knowledge, confidence and more familiar in caring of terminal ill patients. Those nurses who earns monthly income of 2000-3000 and 3001-4000 were almost four and three times more likely had poor practice towards palliative care as compared to those nurses who earn greater than or equal to 6001 respectively. This might be related to those nurses who earn better monthly income were more satisfied by their salary and motivated in caring chronically and terminal ill patients. Nurses who had good knowledge on palliative care were 57.8% less likely to have poor palliative care practice. This might be because of knowledge about palliative care is basis for practice and those who knows on how to care these kind of patients had better skill.

As a conclusion, almost two-third of the study participants had poor practice towards palliative care. Age, working unit, years of experience, monthly salary and level of knowledge about palliative care services had strongly associated with practice of palliative care. Knowledge and experience about palliative care play important role for better attitude and practice of palliative care. Therefore, the study findings recommended that efforts should be made in designing and providing short and long term training for nurses on palliative care services. It also recommended that to include palliative care part in the curriculum of nursing education.

Limitations

The study did not include the primary health settings and private clinics. Due to this reason comparison between public and private clinic was not performed. Scarcity of similar studies conducted in Ethiopia makes the comparison and discussion challenging.

Authors' Contribution

Yeamanuelwork Anbessie planned the study, involved in data collection, prepared the first draft proposal and paper,

Temamen Tesfaye contributed to the study conception and design, supervised the study and conducted data analysis.

Admasu Belay, contributed on data analysis, supervised the study, critically revised the manuscript.

Funding/Support

Jimma university covered the survey cost and support necessary stationary.

Acknowledgement

The authors are grateful to Jimma University for providing necessary financial and material support for this study. We would also like to thank data collectors, supervisors and friends. At last but not the least, our heartfelt thanks also goes to all study participants.

References

1. WHO. National cancer control programmes: policies and guidelines. Health & Development Networks: Italy. 2002.
2. Sepulveda, Marlin A, Yoshida T, Ullrich A. Palliative care: The WHO's global perspective. *J Pain Symptom Manage.* 2002; 24(2):91-96.
3. Gwyther E: NCDs: The future burden looms large. *Hospice and Palliative Care Association of South Africa.* Africa Health 2011.
4. Harding R, Lucy S, Richard A P, Eve N, Julia D, Anne M, Zipporah A, et al. Research into palliative care in sub-Saharan Africa. *The lancet oncology.* 2013; 14(4): e183-e188.
5. Grant E, Downing J, Namukwaya E, Leng M, Murray SA. Palliative care in Africa since 2005: good progress, but much further to go. *BMJ Supportive and Palliative Care.* 2011; 1(2):118-122.
6. Mwangi-Powell F, Dix O. Palliative care in Africa; an overview. *Africa Health.* 2011.
7. Eve Namisango, Richard AP, Helen K, Richard H, Emmanuel L, Faith Mwangi-Powell. Palliative care research in eastern Africa. *European Journal of Palliative Care.* 2013; 20(6): 300-304.
8. Clark D, Wright M, Hunt J, Lynch T. Hospice and palliative care development in Africa: a multi-method review of services and experiences. *J Pain Symptom Manage.* 2007; 33(6):698-710. DOI:10.1016/j.jpainsymman.2006.09.033
9. Jang J, Lazenby M. Current state of palliative and end-of-life care in home versus inpatient facilities and urban versus rural settings in Africa. *Palliat Support Care.* 2013; 11(5):425-442. DOI: 10.1017/S1478951512000612.
10. Mwangi-Powell FN, Powell RA, Harding R. Models of delivering palliative and end-of-life care in sub-Saharan Africa: a narrative review of the evidence. *Curr Opin Support Palliat Care.* 2013; 7(2):223-228. DOI: 10.1097/SPC.0b013e328360f835
11. Powell RA, Downing J, Radbruch L, Mwangi-Powell FN, Harding R. Advancing palliative care research in sub-Saharan Africa: From the Venice declaration, to Nairobi and beyond. *Palliat Med.* 2008; 22(8):885-887. DOI: 10.1177/0269216308098094
12. Ddungu H. Palliative care: what approaches are suitable in developing countries? *British journal of haematology.* 2011; 154(6): 728-735. DOI: 10.1111/j.1365-2141.2011.08764.x
13. R Harding, D Karus, P Easterbrook, V Raveis, I Higginson, K Marconi. Does Palliative Care Improve Outcomes for Patients with HIV/AIDS? A Systematic Review of the Evidence. *Sex Transm Infect.* 2005; 81(1): 5-14. DOI: 10.1136/sti.2004.010132
14. Family health International. Palliative care strategy for HIV and other disease; 2009.
15. Harding R, Powell RA, Downing J, Connor SR, Mwangi-Powell F, Defilippi K, et al. Generating an African palliative care evidence base: the context, need, challenges, and strategies. *J Pain Symptom Manage.* 2008; 36(3):304-309. DOI: 10.1016/j.jpainsymman
16. Lynch T, Connor S, Clark D. Mapping levels of palliative care development: a global update. *J Pain Symptom Manage.* 2013; 45(6):1094-1106. DOI:10.1016/j.jpainsymman.2012.05.011
17. Jang J, Lazenby M. Current state of palliative and end-of-life care in home versus inpatient facilities and urban versus rural settings in Africa. *Palliate Support Care.* 2013; 11(5): 425-442. DOI:10.1017/S1478951512000612
18. Kassa H, Murugan R, Zewdu F, Hailu M, Woldeyohannes D. Assessment of knowledge, attitude and practice and associated factors towards palliative care among nurses working in selected hospitals, Addis Ababa, Ethiopia. *BMC Palliat Care.* 2014; 13(1):6. DOI: 10.1186/1472-684X-13-6
19. Das AG, Haseena TA. Knowledge and Attitude of Staff Nurses Regarding Palliative Care. *Int J Sci Res.* 2015; 4(11):1790-1794.
20. Youssef W, Morsy M, Ali H, Shimaa E, Mohammed E. Nurses' Knowledge and Practices about Palliative Care among Cancer Patient in a University Hospital - Egypt. *Advances in Life Science and Technology.* 2014; 24(2014):100-114.
21. Maria K, Evanthis V, Petros KA, Dimitris N. Assessment of Knowledge and Associated Factors towards Palliative Care among Greek Nurses. *World J Soc Sci Res.* 2016; 3(3): 381-395.
22. Zargham-Boroujeni A, Bagheri SHS, Kalantari M, Talakoob S, Samooai F. Effect of end-of-life care education on the attitudes of nurses in infants' and children's wards. *Iran J Nurs Midwifery Res.* 2011; 16(1): 93-99.
23. Lorensen M, Davis AJ, Konishi E, Bunch EH. Ethical issues after the disclosure of a terminal illness: Danish and Norwegian hospice nurses' reflections. *Nurs Ethics.* 2003;10(2):175-185. DOI:10.1191/0969733003ne592oa
24. Chiara M, Michela P, Chiara T, Fiorino M, Elisabetta M, Giuseppe C, et al. Frommelt Attitudes Toward Care of the Dying Scale. *OMEGA - Journal of Death and Dying.* 2015; 70(3): 227-250. DOI: 10.1177/0030222815568944