Associations of Knowledge, Attitudes, and Practices toward Palliative care Service among Healthcare Staff Working in Selected Health Facilities, Southern Sierra Leone: A Cross-Sectional Study

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ABSTRACT

Background: Societal aging, a concern in many countries worldwide, is increasing the demand for quality palliative care in Sierra Leone. Health education is responsible for providing health staff with high levels of knowledge and competency related to palliative care. **Objectives:** The study aimed to assess the knowledge, attitudes, and practices around palliative care among healthcare providers working in selected health facilities in Bo city, southern Sierra Leone. **Materials and Methods**: A descriptive, cross sectional study was conducted using 536 health staff from health facilities selected randomly from 5 Private, and 15 Government health facilities, from July to August 2020. The 20-item Palliative Care Quiz for Nursing and Frommelt's Attitude Toward Care of the Dying scale were used to collect data. One-way analysis of variance and t-test were used to examine the associations between palliative care knowledge and the demographic characteristics. **Results:** of the total 576 health care staff selected, a response rate of 536 (93.1%) were registered. Only 30 participants (6%) answered at least 50% of the questions correctly, whereas 94% obtained scores lower than 10. The mean score of the participants was 8.92, indicating poor palliative care knowledge, in terms of palliative care principles and philosophy, management of pain and other symptoms, and psychosocial and spiritual care. There was a significant difference among health staff qualifications, and palliative care towards Knowledge of palliative care. **Conclusions:** Health staff had poor knowledge; their attitude towards palliative care was fair; and it was affected significantly by medical qualifications.

Key Words: Aging, Attitudes, Hospice, Knowledge, Njala, Palliative care, Practices,

INTRODUCTION

Worldwide, societal aging is a concern, with the population of people older than 60 years expected to double by 2050 [1]. Associated with aging, are the incidence of illnesses with no direct cure and terminal-stage

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non-communicable diseases (NCDs), such as cancer, *Diabetic mellitus*, cardiovascular disease and chronic respiratory problems, especially in low and middle income countries [2,3]. Such life-threatening diseases cause a decrease in the quality of life and they bring about various problems including physical, psychosocial, and spiritual, and especially pain. As a result, the approach of palliative care has been developed to meet the needs of patients and their relatives. This care focuses on providing comfort and highest-quality life; and to not only cure patients, but also address their mental and spiritual needs along with the physical ones [4]. Despite the demand for palliative care among patients in Sierra Leone, the development and expansion of this field have been slow. Advancements in palliative care in this country are hindered by several challenges, including an insufficient health care workforce with palliative care specialization [5]. Furthermore, palliative care not only is limited to physical pain but also encompasses the emotional, psychological, social, and spiritual dimensions [6].

Following World Health Organization (WHO) estimates that 1% of a population requires palliative care, 10 million people in Africa need palliative care annually [7]. Yet most African countries typically have less than two palliative care services available per million people [8]; and in Sierra Leone, only one hospice, the Shepherd's Hospice, established in 1995, based in the capital, Freetown, provide palliative care services to a population of 7 million people. A palliative care team conducts home visits to people living with HIV (PLHIV), cancer and other life-limiting illnesses. These patients are either self-referred or referred by hospitals in the city. For low resource countries, like Sierra Leone, hospice palliative care services are often provided voluntarily by health professionals, such as community health workers (CHOs) and nurses; though nurses are by far the largest healthcare providers [9,10]. Health staff are frontline providers in clinical settings of healthcare, including palliative nursing. They ensure that palliative care is delivered safely, effectively, and compassionately [11]. Unfortunately, palliative care knowledge among health staff nurses remains poor, and high-quality palliative care remains a major challenge [12].

In sub-Saharan countries, a small amount of research has being undertaken, mostly in Nigeria, where studies have investigated the knowledge and attitude of nurses toward palliative care in a tertiary level hospital in South-West Nigeria; in which, while 90.2% felt palliative care is about the active care of the dying, 80.5% respondents agreed that palliative care recognizes dying as a normal process, 84.1% respondents were of the opinion that all dying patients would require palliative care, and 68.9% were of the opinion that, the use of morphine would improve the quality of life of patients [13]. A quantitative survey study was conducted in Rivers State, Nigeria, to evaluate the knowledge and perception towards palliative care among healthcare providers. The result of this study found that, although majority (88%) had previously heard of palliative care, less than half (47.4%) were aware of the interdisciplinary facet of palliative care, while 47% nurses rightly identified the components of palliative care [14]. Ajisegiri et al.[15] assessed the knowledge, attitude and practice of palliative care for people living with HIV and AIDS (PLWHA) and associated factors among health care professionals. In this study, among the participants, 52% disagreed that "palliative care should be given only for dying PLWHA" while only 18 (5.2%) were right on "family should be involved in the physical care of the dying PLWHA". Additional studies conducted include, those that have investigated patient and family attitudes to palliative care [16], pain and palliative care [17], morphine prescription [18], and opioid availability and effectiveness [19,20].

In Sierra Leone, as the concept of palliative care is fairly new, no studies have been conducted on these dimensions for healthcare providers regarding palliative care, until now. So the main study objective was to assess the knowledge, attitudes, and

practices around palliative care among healthcare providers (community health workers and nurses) working in selected health facilities in Bo city, Sierra Leone.

MATERIALS AND METHODS

Study area, design, and period

This study was conducted in Bo city, Southern Sierra Leone. Bo is the largest city in the country's Southern region. The city is spread over an area of more than 12 km^2, and it has a population of 174,369.

The city has 1 Referral Hospital, 6 Private Hospitals, 25 Health Centers (8 Community Health Centres (CHC), 13 Maternal Child Health Posts (MCHP), 4 Community Health Posts (MHP)). This study was purposive with a cross-sectional design, conducted at Governmental and Non-Governmental hospitals in Bo city, from July 2020 to August 2020.

Study Participants

This study was confined to health staff, including community health workers (CHOs), and state registered nurses (SRNs), working in Governmental and Non-Governmental health facilities. Of the total number (32) of facilities found in the city, twenty (5 Private health facilities, and 15 Government health facilities, including the referral Bo Government Hospital) were selected randomly. The health staff (CHOs and SRN nurses) serving in outpatient departments (OPD), emergency room (ER), wards (Medical wards and Surgical) at these health facilities with full time employment, were recruited to participate in the study. CHOs and SRNs study medicine for 3 years after completion of secondary school, and they are licensed to prescribe medication to patients. However, health staff working in the central sterilization supply department, under-five unit, and delivery rooms were excluded.

Sample size

Using the formula for a single descriptive cross-sectional survey, we calculated the sample size using the formula described by Gorstein et al.[27] in 2007 as follows:

Formular $$n = \frac{1.96^2 p(1-p)(\mathbf{DEFF})}{d^2}$$

$$\frac{3.8416 \times 0.5 \times 0.5 \times 1.5}{0.0025}$$

$$\frac{1.4406}{0.0025} = 576$$

Where n = is the sample size, p is the estimate of the expected proportion, d is the desired level of absolute precision, and DEFF is the estimated design effect. Assuming that the p is 0.5 (or 50%), the width of the confidence interval (d) is ± 005 (i.e., ±5%), and DEFF is 1.5, the required sample size is 576.

We distributed 576 questionnaires randomly and collected 536 valid responses, signifying a 93.1% valid response rate. Participants were categorized according to their specific occupations, with numbers comprising 187 CHOs, and389 nurses (62 with B.Sc. and 326 SRNs).

Sampling technique

Health facilities found in Bo City, southern Sierra Leone were stratified into Governmental and Non-governmental. Then, twenty health facilities (5 Private health facilities, and 15 Government health facilities) from each were selected using simple random sampling. A Pre-test was conducted on 10% (58) of the health staff in the Bo Government Hospital and Kindoya Private Hospital. This helped us to verify the validity and reliability issues.

Data collection instrument

A self-administered three-section survey questionnaire was utilized for data collection. Section one consisted of questions to obtain data on demographic variables (age, gender, medical qualification, department of work, working experience, whether they had received educational sessions on palliative care in the last 5 years outside the university, and whether a palliative care course had been given in their program, and the duration of

such training). The second section had questions that sought responses to assess participants' knowledge of palliative care. The knowledge questions came from the Palliative Care Quiz for Nursing (PCQN) [21] using questions with “true,” “false,” or “don't know.” Scores were obtained by summing the number of correct answers, with a range of total possible scores from 0 to 20, with higher scores corresponding to higher levels of palliative care knowledge. The PCQN measures the three theoretical dimensions of “philosophy and principles of palliative care” using four items (possible scores = 0 – 4), “pain and symptoms management” using 13 items (possible scores = 0 – 13), and “psychosocial and spiritual care” using three items (possible scores = 0 – 3). The knowledge scores were classified into good knowledge = ≥ 75% of the total score of the Palliative Care Quiz for Nursing (PCQN) scale, and poor knowledge = < 75% of the total score of the PCQN scale [22]. The last section had 12 practical questions constructed from guidelines and various literatures related to attitude towards palliative care. The attitude scale used, was from Frommelt's Attitude toward Care of the Dying (FATCOD). The tool has a 5 point Likert scale, used to represent people's attitudes to a topic scored on 5 point scale, i.e. 1 (Strongly Disagree), 2 (Disagree), 3 (Uncertain), 4 (Agree) to 5 (Strongly Agree). The attitude scores were classified into good/favorable attitude = ≥ 50% of the total score of Frommelt Attitude toward Care of the Dying (FATCOD) Scale, and poor/unfavorable attitude = < 50% of total score of the FATCOD Scale [23].

Data collection

Data collection was conducted by five graduate health staff with experience of data collection, from those randomly selected health facilities. Half day training on issues concerning the questionnaire was given for data collectors and supervisor by the principal investigator. After collection, the data was checked by supervisors and principal investigators for its clarity and completeness. Confidentiality of the study participants were kept during distribution and data collection periods.

Data Analysis

Data were encoded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 23 (IBM, SPSS Inc., Armonk, NY, USA). The demographic characteristics of the participants were fully described using descriptive statistics. The palliative care knowledge of the participants was shown in terms of frequency counts and percentages. One-way analysis of variance with Tukey's significant difference tests and t-tests were performed to examine the associations between the participants' demographic variables and their knowledge.

RESULTS

The total number of completed and returned questionnaires was 536 out of 576 distributed questionnaires, resulting in a 93.1% response rate. As shown in Figure 1, the majority of respondents 320 (60%) were within the age 20 - 30 years; were female, 292 (55%); had either Diploma in SRN, 374 (70%) or CHOs, 138 (26%).Thirty-eight percent (38%) of the respondents were from medical wards, 191(36%) from surgical ward, 75 (14%) from ICU, and 64 (12%) from emergency department. The majority of healthcare staff 424 (79%) had less than 5 years of experience with only 112 (21%) indicating more than 5 years of work experience. Respondents were asked to record if they had received training towards PC, findings revealed that, less than half of the healthcare staff, 221 (41%) had participated in a PC course at their institutions and the majority of them 167(31%) for less than 1 week (Figure 1).

Palliative Care Knowledge

The mean score for palliative care knowledge was 8.92, with scores ranging from 0 to 10, indicating a generally poor knowledge of palliative care. Only 30 participants (6%) answered at least 50% of the questions correctly, whereas 94% obtained scores lower than 10. Table 2 shows the percentage of correct and incorrect answers achieved by the participants for each item. The range of correct responses for each item was 12% – 80%. Item 2,

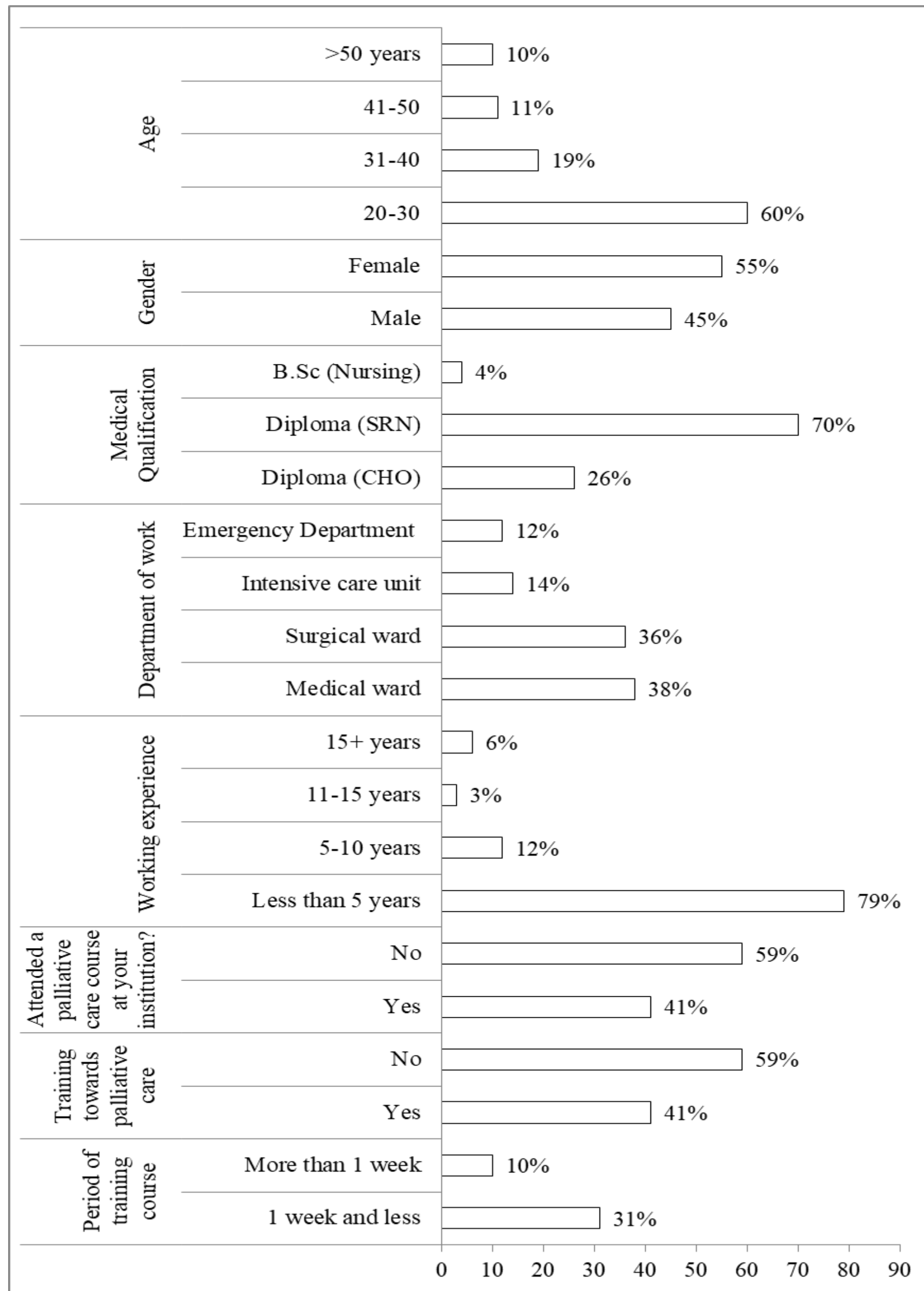

Figure 1: socio-demographic characteristics of the participants at selected health facilities in southern Sierra Leone, August, 2020

"Morphine is the standard used to compare the analgesic effect of other opioids," yielded the highest number of correct responses (80%) and was the only item that was answered correctly by almost 80% of the participants. Item 9, "The provision of palliative care requires emotional detachment", received the lowest percentage of correct answers (12%), followed by Item 11, "Men generally

reconcile their grief more quickly than women" (15%). In terms of the three theoretical dimensions, most of the items in the "pain and symptoms management" dimension received a higher frequency of correct responses than the items in the dimensions of "philosophy and principles of palliative care" and "psychological and spiritual care." The "pain and symptoms management" dimension earned a mean score of 6.73, whereas the dimensions "philosophy and principles of palliative care" "psychosocial and spiritual care" received mean scores of 1.23 and 0.95, respectively. Thus, the participants lacked palliative care knowledge in the realms of philosophy, management of pain and other symptoms, palliative care principles and philosophy and psychosocial and spiritual care.

Health Workers' Attitude towards Palliative Care

Attitudes of nurses toward PC are summarized in Table 3. More than half of the nurses and CHOs were more likely to strongly disagree and disagree of Palliative care is given only for dying patient (62%), as well as they also strongly disagree and disagree if the nurse should withdraw from his/her involvement with the patient (92%). On the other hand, approximately fifty percent (50%) of CHOs and nurses agreed that, it is beneficial for the chronically sick person to verbalize his/her feelings. Regarding the attitudes toward the length of time required to give nursing care to a dying person would frustrate health staff, most of the CHOs and nurses disagreed (44%) and strongly disagreed (25%). CHOs and Nurses' attitudes toward Family should maintain as

Table 2: palliative care knowledge among the health workers at selected health facilities in southern Sierra Leone, August, 2020

Statement	Correct answer		Incorrect answer	
Philosophy and principles of palliative care	No	%	No.	%
1. Palliative care is only appropriate in situations where there is evidence of a downward trajectory or deterioration. (F)	138	26	398	74
9. The provision of palliative care requires emotional detachment. (F)	62	12	474	88
12. The philosophy of palliative care is compatible with that of aggressive treatment. (T)	169	32	367	69
17. The accumulation of losses makes burnout inevitable for those who work in palliative care. (F)	291	54	245	45
Pain and symptoms management				
2. Morphine is the standard used to compare the analgesic effect of other opioids. (T)	427	80	109	20
3. The extent of the disease determines the method of pain treatment. (F)	109	20	427	80
4. Adjuvant therapies are important in managing pain. (T)	339	63	197	37
6. During the last days of life, drowsiness associated with electrolyte imbalance may decrease the need for sedation. (T)	342	64	194	36
7. Drug addiction is a major problem when morphine is used on a long -term basis for the management of pain. (F)	137	26	399	74
8. Individuals who are taking opioids should also follow a bowel regime (laxative treatment). (T)	287	54	249	47
10. During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea. (T)	308	58	228	43
13. The use of placebos is appropriate in the treatment of some types of pain. (F)	264	49	272	51
14. High-dose codeine causes more nausea and vomiting than morphine. (T)	264	49	272	51
15. Suffering and physical pain are identical. (F)	174	33	362	68
16. Demerol (pethidine) is not an effective analgesic for the control of chronic pain. (T)	272	51	264	49
18. Manifestations of chronic pain are different from those of acute pain. (T)	409	76	127	24
20. Pain threshold is lowered by fatigue or anxiety. (T)	277	52	259	48
Psychosocial and spiritual care				
5. It is crucial for family members to remain at the bedside until death occurs. (F)	162	30	374	70
11. Men generally reconcile their grief more quickly than women. (F)	79	15	457	85
17. The loss of a distant relationship is easier to resolve than the loss of one that is close or intimate. (F)	270	50	266	50

Note. The T (True) or F (False) at the end of each item is the correct answer in that item.

normal an environment as possible for their dying member (agree 60%; strongly agree 16%). Whereas the attitudes toward the family should be involved in the physical care of the dying person were varied from strongly agree to agree (35 and 29%). Only 120 (22%) of the CHOs and nurses said that it is difficult to form a close relationship with the family of a dying member. Slightly more than half (strongly disagree 36%, disagree 19%) with Nursing care for the patient's family should continue throughout the period of grief and bereavement. Surprising 50% strongly agree and 41% agreed that when a patient asks, "Nurse am I dying? 'I think it is best to change the Subject to something cheerful. Their attitudes were slightly different regarding the afraid to become friends with chronically sick and dying patients (strongly disagree 31%, disagree 28% and agree 23%). It is interesting to note that, most of the CHOs and nurses thought that he/she would be uncomfortable if he entered the room of a terminally ill person and found him/her crying (strongly agree (39%) and agree 32%).

Association between the Demographic Profile and Palliative Care Knowledge of Health Workers

Table 4 summarizes the association between participant demographic characteristics and palliative care knowledge. The participants with Diploma in SRN had significantly higher scores than their peers who are CHOs ($p = 0.013$). Thus, these findings suggest that of all examined demographic characteristics, only participants' qualifications were significantly associated with level of palliative care knowledge.

Table 3: Assessment of health workers' attitude towards palliative care at selected health facilities in southern Sierra Leone, August, 2020.

Statement	Strongly disagree (%)	Disagree (%)	Uncertain (%)	Agree (%)	Strongly agree (%)
Palliative care is given only for dying patient	170 (32%)	161 (30%)	46 (9%)	130 (24%)	29 (5%)
As a patient nears death; the nurse should withdraw from his/her involvement with the patient	260 (49%)	234 (44%)	27 (5%)	5 (1%)	10 (2%)
It is beneficial for the chronically sick person to verbalize his/her feelings.	40 (8%)	49 (9%)	182 (34%)	195 (37%)	70 (13%)
The length of time required to give nursing care to a dying person would frustrate me.	135 (25%)	235 (44%)	122 (23%)	39 (7%)	5 (1%)
Family should maintain as normal an environment as possible for their dying member.	-	87 (16%)	43 (8%)	319 (60%)	87 (16%)
The family should be involved in the physical care of the dying person.	190 (35%)	77 (14%)	3 (1%)	155 (29%)	111 (21%)
It is difficult to form a close relationship with the family of a dying member.	332 (62%)	-	62 (12%)	120 (23%)	22 (4%)
Nursing care for the patient's family should continue throughout the period of grief and bereavement.	192 (36%)	101 (19%)	42 (8%)	172 (32%)	29 (5%)
Nursing care should extend to the family of the dying person	98 (18%)	207 (39%)	53 (10%)	143 (27%)	35 (7%)
When a patient asks, "Am I dying?' I think it is best to change the Subject to something cheerful.	32 (6%)	18 (3%)	-	220 (41%)	266 (50%)
I am afraid to become friends with chronically sick and dying patients.	168 (31%)	147 (28%)	43 (8%)	125 (23%)	53 (10%)
I would be uncomfortable if I entered the room of a terminally ill person and found him/her crying.	71 (13%)	40 (8%)	44 (8%)	172 (32%)	209 (39%)

Table 4: Association between the Demographic Profile and Palliative Care Knowledge of Health Workers at selected health facilities in southern Sierra Leone, August, 2020

Demographic	Mean	*P*
Age		
20-30 years	0.60	
31-40 years	0.19	*0.708*
41-50 years	0.11	
50+ years	0.10	
Gender		
Female	0.55	*0.227*
Male	0.45	
Medical Qualification		
Diploma (CHO)	0.36	
Diploma (SRN)	0.70	*0.013**
B.Sc. (Nursing)	0.04	
Department of work		
Medical	0.38	
Surgical	0.36	*0.690*
Intensive Care Unit	0.14	
Emergency Department	0.12	
Work experience		
< 5 years	0.79	
5-10 years	0.12	*0.481*
11-15 years	0.03	
15+ years	0.06	
Attended a palliative care course at your institution?		
Yes	0.41	*0.865*
No	0.59	
Training towards palliative care?		
Yes	0.41	*0.865*
No	0.59	
Period of training course		
≤ 1 week	0.76	*0.499*
> week	0.24	

**P* < 0.05

DISCUSSION

There is a need to improve palliative care training among clinical care providers in low- and middle-income countries. Our study found palliative care knowledge among health staff, including CHOs, and SRNs, working in Governmental and Non-Governmental health facilities, is poor, though, their attitude is fair.

This has also been observed in study of nurses in Ethiopia [24], Sudan [25] and Northern districts, Palestine [26]. By contrast, studies in the United States [27], Saudi Arabia [28] and Turkey [29], all high-income countries, found the mean score of 12.19, 5.23 and 80.8% of the nurses not knowledgeable about the palliative care, respectively.

Furthermore, the present results indicate considerable misconceptions regarding palliative care. For example, 51% thought that placebos were appropriate for the treatment of some types of pain, and 70% believed that family members should remain at the bedside until a patient's death. The findings of the study also revealed that the participants had very low knowledge of the three theoretical dimensions of palliative care that are measured by the PCQN. Knowledge of palliative care philosophy and principles as well as of psychological and spiritual care were observed to be poorer compared with the dimension of pain and symptom management.

The low scores reported in this study may be associated with the inadequate curricular content

related to palliative care at the health and training institution in southern Sierra Leone. Although the curricular content was not examined in this study, 59% of the participants reported not having received formal palliative care training from their health and nursing schools. The literature supports the essentiality of palliative care clinical health and nursing education in improving the knowledge, practice, and attitudes of nurses regarding palliative care [30]. However, community health officers and nurses continue to feel unprepared to deal with issues related to death and dying because they receive inadequate related education. This phenomenon is supported by a literature review conducted by Gillan et al. [31], who found insufficient end-of-life content in nursing books and deficient palliative care content in undergraduate nursing curricula. Furthermore, the poor knowledge of the participants regarding palliative care philosophy and principles support the need to improve the curricular content of palliative care courses in nursing education. Basic principles of palliative care such as defining the concept, the objectives and essence of palliative care, and the philosophical underpinnings of palliative care should be reinforced in curricula. Notably, the study also revealed poor knowledge in the psychosocial and spiritual care dimension of palliative care. This finding may relate to cultural considerations. For instance, more than half of the participants believed that family members should remain at the bedside until patient death. This misconception may be rooted in the close family ties that are typical in Sierra Leone culture and society as well as the Sierra Leonean belief that caring for a dying family member is the responsibility of the family; as similarly reported by Aljawi and Harford [32] for Saudi society. Moreover, several studies have reported that the incompetence of nursing students in this area is related to the inadequacy of curricular contents focusing on spirituality in relation to health and spiritual nursing care [33,34]. Hence, spiritual care should be included in the nursing curriculum in the country, either integrated into existing courses such as the Fundamentals of Nursing or added as a separate course dealing specifically with this topic.

In addition, the poor level of palliative care knowledge may relate to the underdevelopment and unpopularity of palliative care in Sierra Leone, where palliative care is given less emphasis than other nursing specializations. Despite the advancements in palliative care introduced by the Shepherd's Hospice, the only entity established in the country, further efforts are still required to achieve the optimal level of palliative care. Increased awareness among public and health professionals and support from the authorities are necessary to fully maximize the palliative care specialty in a country [35]. Moreover, investment and improvement of education among healthcare professionals regarding palliative care in Sierra Leone, remains a great challenge that requires immediate action.

The knowledge of palliative care among the health care staff in this study was associated only with staff qualification. The levels of palliative knowledge among health care workers with Diploma in State Registered Nursing was significantly higher than their peers those who had Diploma in Community Health and Bachelor of Science in Nursing. This variation may relate to differences in the content of the community health and nursing curricula, as the information regarding this concept, as partially discussed in the Fundamentals of Nursing, including Principles of pain and symptom management, Management of emergency palliative care, and Public health related to palliative care. However, this result has important implications for medical and nursing education in southern Sierra Leone and the country as a whole.

CONCLUSION

The findings of this study showed that health workers knowledge about palliative care in southern Sierra Leone was poor and attitude was fair; it was affected significantly by only, medical qualification. This study emphasizes the need for developing PC services. The provision of quality PC services

requires however the education and training of CHOs and nurses in this field. PC needs to become an integral part of all health care study curricula as well as continuing community health and nursing education program offerings.

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Author Contributions
AJS and EMZ conceptualised, designed and contributed to the implementation of the project. Both authors were also involved in the writing and revision of the manuscript. The authors read, approved the final manuscript and agreed to be accountable for all aspects of the work.

Data Availability
The data used to support the findings of this study are available from the corresponding author upon reasonable request.

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Conflict of Interest
None declared.

Ethical Approval
The study was approved by the Institutional Ethics Committee.

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