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Research article

Effect of Palliative Care Education on Nurses' Knowledge of Palliative Care among Hospital-Based Nurses in Tertiary Hospital, Rivers State

Jack, E.N.[1], *Ingwu, J.A.[2]., Onorikpori T.O.[3], Ezekiel, R.[4], Amachree D.M.[5], Pius, V.T.[6]

[1]*School of Nursing Port Harcourt, Rivers State, Nigeria*

[2]*Department of Nursing Sciences, University of Nigeria, Enugu Campus, Nigeria*

[3]*Department of Nursing Sciences, Western Delta University, Oghara, Delta State, Nigeria*

[4]*Department of Nursing Science, PAMO University of Medical Sciences, Port Harcourt, Rivers State, Nigeria*

[5]*Department of Nursing, Rivers State University, Port Harcourt, Rivers State, Nigeria*

[6]*School of Midwifery, Makurdi - Benue State, Nigeria*

ABSTRACT

Hospital-based nurses need to be equipped with palliative care knowledge to provide optimal care for patients and their families to improve quality of life of the terminally ill patients. The aim of this study was to evaluate the effect of palliative care education on nurses' knowledge of palliative care among hospital-based nurses in Rivers State University Teaching Hospital (RSUTH), Port-Harcourt, River State. A quasi-experimental design with pretest and post-test measure was adopted. A convenience sampling was used to select 137 nurses from medical-surgical (n=45), gynaecology (n=22), and paediatrics (n=34) units/wards of RSUTH. A palliative care education module adopted from Palliative Care e-modules served as an intervention for the study. Changes in knowledge were measured using Palliative Care Quiz for Nursing (PCQN), Data were analysed using paired t-test to compare pretest and post-test scores. The results revealed that post-test PCQN knowledge of the nurses on palliative care increased from 12.1 to 83.7 post-intervention ($t = 4.116$, $p = 0.001$ at $p < 0.05$), hospital-based nurses were lacking palliative care knowledge pre-intervention by answering 8/20 questions correctly and 18/20 questions correctly post-intervention. There was no significant association between socio-demographic characteristics and the knowledge toward palliative care pre-intervention ($p > 0.05$). Nurses knowledge increased after the palliative care education. It was recommended that palliative care education should be included in the nursing curriculum to train nurses and policy makers should build the capacity of their staff by exposing them to workshops, seminars, and in-service training on palliative care.

Keywords: *Palliative care education, knowledge, Hospital-based nurses*

**Author for correspondence: Email: Justin.ingwu@unn.edu.ng ; Tel: +2348063601549*

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INTRODUCTION

The need for palliative care has increased significantly with the global rise in occurrences of chronic diseases such as cancer and cardiovascular diseases (Eke, Ndukwu, Chukwuma & Diepiri, 2017). Palliative care is an approach that improves the quality of life of patients and their relatives fronting problems that are associated with life limiting illness through avoidance and decreasing the suffering by means of early detection, perfect evaluation and treatment of pain and other problems, physical and nonphysical (World Health Organization [WHO], 2018). It is a specialized medical field that involves physical, psychological and spiritual assessment of pain and other symptoms with the diagnosis of serious illness, throughout treatment, and at the end of life (Balicas, 2018). As the world population ages, comorbidity also increases. Palliative care is an essential health intervention that alleviates health related suffering and evidence supporting investment in palliative care shows that, it is effective in reducing suffering for patients/families and is cost effective (Reid, Kovalerchik, Jubanyik, Brown *et al* 2018).

According to WHO (2018) the global need for palliative care will continue to increase as a result of rising burden of non-communicable diseases and aging populations. Each year, an estimated 40 million people are in need of palliative care, about 80% of children that needed palliative care live in middle- and low-income countries with almost half of them living in Africa (WHO, 2018). Palliative care is required for a wide range of diseases such as cardiovascular diseases, cancer, chronic respiratory diseases, AIDS, and diabetes mellitus. Other conditions that may require palliative care include

kidney failure, chronic liver disease, multiple sclerosis, Parkinson's disease, rheumatoid arthritis, neurological disease, dementia, congenital abnormalities and drug resistance tuberculosis. In sub-Saharan Africa, there is also a growing burden of non-communicable diseases due to life style changes, increased life expectancy and improved treatment of infectious diseases among others and palliative care is only beginning to be available as an emerging medical specialty with the establishment of palliative care centres in Asia and few countries in Africa (Merriman, 2015).

In low- and middle-income countries, with almost 80% of the global need, palliative care is most needed (De Lima, 2015). Nevertheless, many of these countries, including Nigeria, have healthcare systems that are struggling to meet the increasing demand caused by the growing number of patients with life-limiting illnesses. Palliative care is still at the developmental stage in some parts of Nigeria despite decades of its introduction in 1993 (Oyebola, 2017).

Study by Hao, Zhan, Huang, Cui and Zhou (2020), affirmed that, several key factors are associated with the competence of nurses in palliative care, including their knowledge, and attitude towards palliative care and death. WHO (2015) identified that lack of palliative care education is a major barrier to providing safe and optimal palliative care services. Previous studies indicated that educational training for healthcare professionals had a positive influence on their confidence, knowledge of palliative care, and attitudes towards caring for the terminally ill, end-of-life and death (Reed, Todd, Lawton *et al*. 2018; Henoch, Melin-Johansson *et al*. 2017).

According to Balicas, (2018), many nurses in current practice have deficient knowledge of related care for this patient population because, they graduated from programs that had not incorporated the content of palliative care. It is therefore, desirable to educate nurses about palliative care, so that they can render ethically sound, high quality care to people with a life threatening illness while maintaining patient dignity, cultural/spiritual needs, symptoms and pain, and then guiding both patient and family through this period of grief and bereavement (O'Shea & Mager, 2019). The researchers noted while working in Rivers State University Teaching Hospital Port-Harcourt, former Braithwaite Memorial Specialist Hospital that, patients with life limiting illnesses such as advanced cancer, HIV/AIDS, congestive cardiac failure and renal failure were admitted into the medical, surgical and gynaecological wards but these categories of patients and their families never received palliative care from the nurses or other healthcare providers until their demise. Secondly, the researchers were privileged to attend the e-cancer palliative care twenty (20) modules for the management of cancer patients organized by African Palliative Care Association in 2019 in the course of the post graduate nursing program. The knowledge acquired through this program motivated the researchers to see the relevance of transferring this palliative care knowledge to nurses to improve palliative care for the aging population with terminal illnesses. Insufficient knowledge on the interdisciplinary nature of palliative care team may probably be a contributory factor for the failure of nurses to educate patients and care givers on palliative care. Expanding access to palliative care resources and having knowledgeable nurse providers are essential for meeting the future demands required by the aging population. Therefore, the value of a palliative care nursing education to improve knowledge of nurses in the care of patients/families who are suffering from life limiting illnesses is unquestionable and there is need to support and educate nurses for the provision of high-quality palliative care. Hence, this study to evaluate the effect of palliative care education on nurses' knowledge of palliative care of patients among hospital-based nurses.

The purpose was to evaluate the effect of palliative care education on nurses' knowledge of palliative care among hospital-based nurses in tertiary hospital Port-Harcourt, Rivers State.

MATERIALS AND METHODS

Study design: This study utilized a quasi-experimental design with pre-test and post-test measures that was conducted between July and September 2021 to assess effect of palliative care education after consent had been received from the institution concerned and approval had been given by the ethical committee. After the educational intervention, the pre-test and post-test results of the PCQN were compared for each participant to determine if there was a change in knowledge about palliative care. This design was selected as it could answer the research question using the pre-test and post-test scores as Zeru, Berihu *et al* (2020) and Hao, Zhan *et al* (2018) adopted this design in a similar work.

Study location: The study setting hospital was established in 1925 and was named after Eldred Curwen Braithwaite, a British doctor and a pioneer of surgery and was built previously to serve the benefit of senior civil servants in the State but with time it was converted to General Hospital which was known as Braithwaite Memorial Specialist Hospital (BMSH). In 2018, it was upgraded to Rivers State University Teaching Hospital following the establishment of College of Medical Sciences. It is the only state government tertiary health institution and is ranked among the largest hospitals in the Niger Delta with the capacity of 375 beds space over 25 departments. The mandates of the hospital include training of health personnel, provision of health services and research like any other tertiary health institution.

Participants: A sample of 137 nurses who were recruited to participate in the study, from the medical wards/clinics (n=45), surgical wards/clinics (n=36), gynaecology ward/clinic (n=22), and paediatric wards/clinic (n=34). These wards/clinics are where increasing numbers of people and their families in need of palliative care and end-of-life care are admitted, readmitted after being treated for problems associated with terminal illnesses.

The recruitment of participants was coordinated through the Head of Nursing Services (HNS) and each unit's nurse manager. Similarly, phone calls were made to communicate with ward/clinic heads for reminder and WhatsApp messages were sent through the Nursing education unit's nurses WhatsApp platform to all the nurses, indicating the schedule of the palliative care education lecture. Once nurse

participants were identified to volunteer for the study, the researcher provided each interested participant with informed consent forms to consider for participation in the research study.

Education intervention: An hour palliative care education lecture that consists of four modules was developed as the intervention for the study. The content of the lecture was adopted from Palliative Care e-modules that have been developed by experts from the region with support from the African Palliative Care Association, VUCC net, Cardiff University, e-cancer, the University of Cape Town and several other contributors (APCA, 2019) and a national consensus curriculum developed by the City of Hope and American Association of College of Nursing (AACN) (AACN, 2018). The program consists of four palliative care modules: Introduction to Palliative Care, Pain management, Overview of other symptoms/ management and loss, grief and bereavement for the teaching sections with didactic/power point presentation and discussion. Lectures were provided by the researchers and conducted twice a week for the four departments (medical, surgical, gynaecology and paediatrics) that lasted for a period of two weeks, two sections each week, one hour per module each day (Wednesdays and Fridays) as approved by the education unit at the Internal Medicine Conference Hall which served as the study setting where all the nurses had opportunity to attend.

Data collection: One week prior to the palliative care nursing education lecture, nurse participants were given a random unique identifier number to include in the demographic sheet and pre-test, Palliative Care Quiz for Nursing (PCQN) questionnaire surveys. Participants were met in the various wards/clinics to fill the pre-intervention questionnaire during their working hours and were asked to complete the questionnaire before the education intervention within one week, the completed demographic and Pre-test questionnaire were retrieved from the participants by the researcher through follow-up according to the duty roster into an envelope labelled pre-test before the palliative care educational programme in their various wards/clinics. During the recruitment of the participants for the study, the nurses were informed about the educational programme and post-test intervention tests that were to be conducted immediately after the lecture at a later date. The palliative care education four modules were delivered twice a week for two weeks, one hour per module each day (Wednesdays and Fridays) which commenced after all the nurses completed the pre-test. At the end of the palliative care education lectures modules that lasted for two weeks, a post-test (the PCQN was distributed to the nurse participants to complete. The same unique identifier number was used by each participant for the post-test survey and the completed questionnaire were collected by the researcher and put into another envelop labelled post-test 1. Intervention period was July and August, 2021, while post intervention data was collected in October, 2021; post-test two at three-month interval was collected in February, 2022.

Instruments: Data in this research were collected through a structured self-report questionnaire, the Palliative Care Quiz for Nursing (PCQN) questionnaire to assess nurses' knowledge about palliative care which has been used throughout the world by other researchers. Section A is a demographic questionnaire designed by the researchers, the second survey instrument was adopted from PCQN Tool originally developed by Ross, McDonald and McGuiness (1996) which measures knowledge of palliative care nursing. The PCQN (original version) is a free standardized generic questionnaire and was used with permission from the authors. It consists of 20 items that are distributed according to conceptual category of content as follows (a) philosophy and principles of palliative care (n = 4), (b) management of pain and other symptoms (n = 13), and (c) psychosocial aspects of care (n = 3). The questionnaire was used to assess nurses' knowledge of palliative care.

A content validity index (CVI) of 0.91 was calculated and it was considered within the acceptable range. Similarly, a pilot study was carried out and the instrument was tested on 10 professional nurses in palliative care unit of University of Port-Harcourt Teaching Hospital. The initial test score and the later test score were correlated using Pearson's product moment statistics and showed to have high degree of consistency as values obtained for a total PCQN score of 20 items was Cronbach's Alpha 0.82. The completed pre-test and post-test questionnaires were collected and data were entered into Excel database. Data analysis was performed with the aid of Statistical Package for Social Sciences (SPSS) version 23. Descriptive statistics such as frequencies, percentages, mean and standard deviation were utilized. Inferential statistics such as Paired match *t*-test was used to analyse differences between the means of pre-test and post-test scores of the survey items.

RESULTS

A total of 137 nurses were identified to participate and only 97 (71%) nurses from the medical-surgical, gynaecology and paediatric departments volunteered to participate in the palliative care education; medical n= 34, surgical n= 21, gynaecology n= 15 and paediatrics n= 27. Socio-demographic characteristics of nurses are shown in Table 1. Result shows that the mean age was 45 ±SD ±8.1 years and more than one-third (35.1%) were in medical department Majority (92.8%) were females, more than one-third (35.1%) were registered nurses/registered midwives. Those who had no previous palliative care experience as well as those who had no palliative care nursing education were in the majority (49.5% and 75.3% respectively).

Table 2 shows that the overall knowledge score of the participants increased from 66.8% at pre-intervention to 83.7% at post – intervention 1 and further increased to 84.1% at post intervention 2.

Effect of palliative care education on knowledge ***PCQN*****:** There was a significance difference from the paired matched PCQN pre-test to post-test scores (n = 97) ($t = 4.11$, $P = 0.001$ at $p < 0.05$), (Table 3). Knowledge increased from 12.11 to 83.71 after the palliative care nursing educational package, indicating that hospital-based nurses were lacking knowledge pre-intervention. The average pre-test PCQN scores indicated

that hospital-based nurses answered 8/20 questions correctly, increasing to 18/20 answered correctly post-intervention.

The test of hypothesis in Table 4 revealed that there was no significant association between the clinic, age, sex, education, years of experience, previous palliative care experience and previous palliative care nursing education and their knowledge level of palliative care (P = 0.912, 0.293, 0.633, 0.401, 0.229, 0.479 and 0.264 respectively). Since p-value was greater than 0.05 the null hypothesis was accepted.

DISCUSSION

Compliance to dietary recommendations have been shown to improve glycemic control and reduce likelihood of health complications in diabetes [Fasil *et al*., 2018]. In this study, respondents with good knowledge of dietary recommendation in diabetes constituted about half, two-third had positive attitude and three-quarter had good compliance. Knowledge and attitude to dietary management of diabetes in the current study is high compared to earlier studies which largely reported poor knowledge [Abioye-Kuteyi *et al*., 2005; Olatona *et al*. Ubajaka 2019] and attitude to treatment recommendations [Muhammad *et al* 2021, Ubajaka 2019] in Nigeria. Though practice has always been high, sustainability of the recommended practice was largely poor

Table 1:
Socio-demographic Characteristics of the Participants (n = 97)

Variables	Options	(f)	(%)
Age	Less than 30 years	3	3.1
	31 – 40 years	31	32.0
	41 – 50 years	36	37.1
	Above 51 years	27	27.8
Mean (±SD) age	**45 years (± 8.1)**		
Clinic/ward	Medical	34	35.1
	Paediatric	27	27.8
	Surgical	21	21.6
	Gynaecology	15	15.5
Sex	Female	90	92.8
	Male	7	7.2
Highest education	RN/RM	34	35.1
	Bachelor	29	29.9
	RN	21	21.6
	Others	9	9.3
	Masters	3	3.1
	Doctorate	1	1.0
Years of experience	0 - 5	**7**	7.2
	6 - 10	13	13.4
	11 – 15	25	25.8
	15 - 20	25	25.8
	Above 20	27	27.7
Previous palliative care experience	No	49	50.5
	Yes	48	49.5
Previous palliative care nursing education	No	73	75.3
	Yes	24	24.7

Table 2: Knowledge of Palliative Care among Nurses in RSUTH (n = 97)

Item	Correct responses			% change
	Pre-test N (%)	Post-test 1 N (%)	Post-test 2 N (%)	
Palliative care is appropriate where there is evidence of a downhill trajectory or deterioration	55 (56.7)	30 (30.9)	32 (33.0)	-41.8
Morphine is the standard used to compare the analgesic effect of other opioids	47 (48.5)	96 (99.0)	96 (99.0)	104.1
The extent of the disease determines the method of pain management	87 (89.7)	92 (94.8)	94 (96.9)	8.0
Adjuvant therapies are important in managing pain	68 (70.1)	96 (99.0)	96 (99.0)	41.2
It is crucial for family members to remain at the bedside until death occurs	69 (71.1)	96 (99.0)	96 (99.0)	39.2
During the last days of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation	81 (83.5)	91 (93.8)	92 (94.8)	13.5
Drug addiction is a major problem when morphine is used on a long-term basis	92 (94.8)	92 (94.8)	94 (96.9)	2.2
Individuals who are taking opioids should also follow a bowel regimen	58 (59.8)	95 (97.9)	95 (97.9)	63.7
The provision of palliative care requires emotional detachment	33 (34.0)	75 (77.3)	74 (76.3)	124.4
During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of dyspnea	79 (81.4)	89 (91.8)	87 (89.7)	10.2
The accumulation of losses does not render burnout inevitable for those who work in palliative care	51 (52.6)	38 (39.2)	38 (39.2)	-25.5
The philosophy of palliative care is compatible with aggressive treatment	29 (29.9)	86 (88.7)	85 (87.6)	193.0
The use of placebos is appropriate in the treatment of some types of pain	18 (18.6)	51 (52.6)	54 (55.7)	199.5
In high doses, codeine causes more nausea and vomiting than morphine	66 (68.0)	90 (92.8)	91 (93.8)	37.9
Suffering and physical pains are synonyms	67 (69.1)	92 (94.8)	94 (96.9)	40.2
Demerol is not an effective analgesic in the control of chronic pain	47 (48.5)	82 (84.5)	81 (83.5)	72.2
The accumulation of losses renders burnout inevitable for those who seek work in palliative care	55 (56.7)	50 (51.5)	50 (51.5)	-9.2
Manifestations of chronic pain are different from those of acute pain	86 (88.7)	94 (96.9)	94 (96.9)	9.2
The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate	83 (85.6)	95 (97.9)	94 (96.9)	13.2
Terminally ill patients have right to choose: 'do not resuscitate' (DNR)	67 (69.1)	94 (96.9)	94 (96.9)	40.2
Overall knowledge score	***63.8%***	***83.7%***	***84.1***	***31.7***

****** Percentage change - difference between pre-test and post-test knowledge score expressed in percentage.*
** Overall knowledge score – average percentage of all correct responses*

The increased knowledge and attitude can be attributed to the rising burden of diabetes and increased awareness on prevention and management of non-communicable diseases in Africa and Nigeria in particular.

In this study, the weak points in the knowledge of the diabetes patients include self-monitoring of blood glucose, ignorance of the incurability of diabetes, glycemic index of fruits and typical local vegetables that are useful in controlling blood sugar level. These gaps could predispose to delayed care seeking, adoption of unorthodox approaches to diabetes care and unhealth food choices and dietary practices which could aggravate health condition. Poor knowledge and awareness have been identified as the bane of negative health seeking behaviours and consultation of traditionalists following diabetes health challenge among Nigerians [Ogunlana *et al* 2021] Earlier studies have also documented poor practice of self-monitoring of blood glucose among Nigerians [Adisa *et al*., 2009; Stephani *et al* 2018]. In addition, the use of complementary and alternative medicine in the management of diabetes is high southwest Nigeria [Ala *et al* 2020]. This could be attributed to ignorance of the fact that diabetes is a lifetime disease, high cost of diabetes care, among others.

In this study, poor compliance to recommended lifestyle changes is characterized with failure to abide with dietary counselling, high frequency of eating-out, low vegetable intake, high snacks intake, poor physical activity level and poor meal timing. Earlier studies have reported similar poor compliance in Africa and other low-and middle-income countries [Mogre et 2019]. The observed departure from helpful lifestyle changes may be an outcome of ineffective dietary counselling, lack of confidence in dietary component of diabetes care or difficulty in meeting the often rigid and unfriendly dietary recommendations in diabetes care. Knowledge and positive attitude do not translate to healthy dietary decision. This calls for the need for improved diabetic education including context-based dietary counselling and effective follow-up to clarify understanding of key messages in diabetic counselling and education. Counselling needs to be made context-specific and personalized for ease of adaptation (Wareham, 2022). Though these facts are generally known in theory, demonstration in practice is generally poor. This calls for the need for the practicing dietitian to be innovative and work closely with clients to create diet plan that are not only effective but easy to follow. Such skills may require re-training based on feedbacks from the diabetes patients. Presently such on the job training are limited in Nigeria and the professional bodies can play leading roles in this respect.

Furthermore,the low percentage of respondents that follow dietary counselling calls for the need to simplify and create enabling environment to enhance compliance. Eating-out is a common practice in Nigeria with increasing frequency as urbanization and development evolve (Henry-Unaeze and Ugwu 2020; Omage&Omuemu 2018). Frequent eating-out has been linked to increased risk of cardiovascular diseases (Ang *et al*., 2022) and may also complicate existing health issues such as diabetes. The high number of respondents that regularly eat outside reflect that dietary practices among the respondents may be complex than envisaged and catering services need to be moderated to promote healthy dietary practices. Such moderation may be focused on promoting recommended dietary components that are often consumed in quantities below the adequate levels such as fruits and vegetables. The high reliance on unhealthy snacks also calls for the need to invest in the development and promotion of healthy snack options. Most Nigerian snacks are pastry-based, energy-densed and rarely contribute to diet quality (Utham *et al* 2020]. Likewise, meal timing represented one of the most flouted recommendations among the respondents, it is therefore necessary to emphasise the meal timing and its significance in diabetic education and counselling.

In conclusion, compliance to dietary recommendation was higher than observed knowledge and attitude levels of the respondents. Areas of knowledge that need to be strengthened include the self-monitoring of blood glucose, understanding of the incurability of diabetes, and glycemic indices of foods especially fruits and vegetables. Poor compliance among the respondents is characterized with failure to abide with dietary counselling, high frequency of eating-out, low vegetable intake, high snacks intake, poor physical activity level and poor meal timing. Efforts to increase patients' knowledge and strengthen compliance to reduce diabetes complications should incorporate context-based, individualized, easy to adopt recommendations

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