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Nurses' Knowledge, Atitude And Practice Of Non-Pharmacological Methods Of Pain Management On Cancer Patients In The Laquintinie And Douala General Hospitals

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Abstract
Background: *Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage and it varies from person to person and in the same person from time to time. This study was aimed to assess nurse's knowledge, attitude and practice on the use of NPM in the management of pains on cancer patients. Rationally, the first line of pain management among healthcare workers still remains the use of drugs which have shown to be of high cost instead of the cost effective approaches which requires no drug use.*
Objectives: *The study had as objective to assess nurses' knowledge, attitude and practice of Non-pharmacological methods of pain management on cancer patients at the Laquintinie and General Hospital Douala.*
Methods: *This was a hospital based cross sectional study which lasted for 6 months from January 2022 to June 2022 in which a semi-structured questionnaire was used for data collection. The data collected was keyed into Microsoft excel spreadsheet and analyzed using SPSS vs. 23.*
Results: *Nurses have good knowledge of 56% on NPM in the management of pain on cancer patients. Nurses had an unfavorable attitude towards NPMs of pain management on cancer patients in the two hospitals. Nurses in both hospitals had poor practices of about 72% on non-pharmacological methods of pain management on cancer patients.*
Conclusion: *Nurses had knowledge, unfavorable attitude and poor practice of NPM which influences these methods of pain management on cancer patients.*
Keywords: *Knowledge, attitude, practice, NPM, cancer patients, pains*

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I. Introduction

Background

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage and it varies from person to person and in the same person from time to time [1]. About 8.2 million people die every year due to the disease, accounting for 13% of global deaths [2]. In addition, it is estimated that there will be over 70% increase in cancer cases over the next two decades. Cancer is the second most common cause of death for Poles (right after cardiovascular diseases), causing 27.3% of deaths among men and almost 24.1% of deaths among women in 2016. Cancer causes a significant reduction in the quality of life of patients, mainly through frequent pain, which is defined as an unpleasant sensory and emotional experience associated with existing or possible tissue damage [2]. Pain is subjective and related to the patient's previous experience of pain, knowledge of its causes, treatment or consequences of pain, as well as the degree of emotional arousal [3]. The area's most commonly affected in men are the lungs, prostate, intestine, stomach and liver; and in women, breast, intestine, lungs, uterus and stomach [1]. Regarding the types of cancer in the country, the highest incidences are those of non-melanoma, prostate and breast [2]. In Cameroon, there is more that 15,700 new cases of cancer diagnosed each year with over 10,533 deaths recorded from cancer. The prevalence is higher in adults than in children aged over 15 years. Cancer pain is the highly detrimental to the quality of life of the affected individual and their family.

Non-pharmacological pain therapies and techniques have great potential to relieve someone's pain and can be used with or without pharmacological methods. Relieving pain requires a multidisciplinary team attribution. Integrating conventional and complementary symptom management in cancer pain is a goal of oncology nursing to help the patients to achieve the best possible quality of life.

Nurses' knowledge of non-pharmacological pain management in cancer patients greatly affects whether a patient is given these options. Lack of knowledge and negative attitudes may lead to under medication and under treatment of pain [1–4]. There also exists a wide range of non-pharmacological methods for alleviating pain. Cancer pain requires both pharmacological and non-pharmacological aspects such as Comfort, Analgesics, Sedatives, Humanity and Holistic care. These techniques have shown to reduce the cancer pain and cancer related distressing symptoms of the individuals, family and caregivers to improve the health related quality of life of the patients.

Statement of the problem

Pain perception differs from subjects because it is an internal, complex and personal experience, influenced by cultural, behavioral, situational, emotional and additional psychological and external variables [6]. However, pain measurement, both in the clinical and the scientific settings, is extremely important. Calls for clinicians to curtail opioid prescription have been driven by concerns regarding discretionary prescription and its potential detrimental impacts on health [4, 5].Despite the available non-pharmacological methods in the management of pains of patients such as acupuncture, massaging, positioning the patients, the first line of pain management among healthcare workers still remains the use of drugs which has shown be of high cost of medical bills instead of the cost effective approaches which requires no drug use. Currently there is limited knowledge on pain management that includes evidence-based non-pharmacologic strategies. Thus, this study seeks to examine the use of non-pharmacological methods of pain management by nurses on cancer patients.

Rationale of the study

Pain is an unpleasant sensory and emotional experience associated with potential tissue damage. Nurses are one of the health's professional who may hear of pain suffered by patients and who can manage patient suffering by themselves. The appropriate Nurses' skill is very important in pain management experienced by patients. The use of Non-pharmacological therapy has been an important role in the treatment of pain and is recognized as a valuable, simple help to lower the dosage of analgesic drugs needed, decreasing the side effects, reducing drug dependency and reducing health care costs; however, knowledge and attitude of nurses greatly affect the use of non-pharmacological pain management methods on patients especially cancer patients who experiences the highest degree of pain.

Significance of study

The information gathered from this study will enable the implementation of non-pharmacological method of pain managements among nurses working with cancer patients in order to alleviate their pain in the oncology units.

Goal of study

The goal of this study was to increase awareness on non-pharmacological methods in the management of pains on cancer patients so as to help reduce the burden on the family, caregivers and the patients themselves after a prolong stay in the hospital.

Objectives of study

General objective

To assess Nurses' Knowledge, Attitude and Practice of Non-Pharmacological methods of Pain Management on Cancer Patients in the Laquintinie and General Hospital Douala

Specific objectives

1. To assess nurses' knowledge of non-pharmacological methods of pain management on cancer patients in the Laquintinie and General Hospital Douala.
2. To describe nurses' attitude towards non-pharmacological methods of pain management on cancer patients in the Laquintinie and General Hospital Douala.
3. To determine Nurses' practice of Non-pharmacological methods of pain management on cancer patients in the Laquintinie and General hospital Douala.

Scope of study
This study is limited to nurses working in the oncology units of Laquintine and General Hospital Douala.

II. Materials And Methods

Study Design and Duration
This is a cross-sectional study design conducted over a six month period that is from January 2022-June, 2022.

Study area and setting
This study was carried out in the Laquintine and the Douala General Hospital, the two reference hospitals specialized in the management of cancer located in the Litoral region of Cameroon. These hospitals have oncology trained doctors and wards where cancer patients are admitted for treatment.

Study population
The study population involved all nurses working in the oncology unit of the two hospitals within the last five months in the different hospitals. The study population involved well experienced nurses who have had a lot of experience working with cancer patients.

Inclusion and exclusion criteria
- All nurses working in the oncology units who granted consent to participate in the study
- Nurses who were on annual or sick leave at the time of data collection were excluded.

Sampling Technique
This study employed purposeful sampling techniques among the nurses who met up with the inclusion criteria. Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources. This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest.

Sample Size Determination
The sample size was determined by using the single population proportion formula by taking the proportion of knowledge (51.2%) and the favorable attitude (47%) [8], 95% confidence interval, and 5% marginal error with a total of 25 nurses.

$n = (Za/2)2 * P(1-P)d2$,

where n is the required sample size, $Za/2$ is the standard normal deviation at 95% CI, P is the proportion of knowledge (51.2%), d is margin of error that can be tolerated (5%), and $1 - p$ is the proportion of the population that does not possess the character of interest.

Ethical Considerations
Ethical consideration for this study was obtained from the Institutional Review Board (IRB) at Faculty of Health Sciences, University of Buea, Cameroon (Ref: 1818-05). Administrative authorizations (appendix) were obtained from the directors of the hospitals and authorization or permission was obtained from the Unit head. The consent was obtained from the study participants and the study aim was clearly explained to those who agreed to participate. The participant's information was kept confidential and that there was no harm or effect on participants. The data gathered was anonymous, and study participation was entirely voluntary.

Data Collection
A semi questionnaire was developed to collect data from the nurses based on items regarding socio demographic characteristics and self-medication practices of the respondents as well as the specific objectives.

Data Processing and Analysis
Data collected was double checked for completeness and entered into SPSS version 23 for further analysis. Descriptive statistical analyses, such as frequencies and percentages were computed and presented using tables and graphs. Variables with analytical values of $P<0.05$ was considered statistically significant.

III. Results

Socio-demographic Data

A total of 25 nurses that 13 nurses from Douala General Hospital and 12 nurses from Laquintinie hospital Douala who work in these hospitals and specifically in the oncology unit were assessed of which there were 19(76%) females and 6(24%) males. Also, most of the nurses 14(56%) in the hospitals were within the age of 21-30 years and only 1(4%) participant was above 50 years of age. In addition, based on marital status, 14(56%) nurses were single and 11(44%) nurses were married. To add based on educational qualification, 10(40%) nurses had a State Registered Nursing Diploma/Higher National Diploma while 2(8%) nurses had a master's degree and others had a different qualification. Lastly, 14 (56%) nurses had worked for more than 3 years while 5 (20%) nurses had worked for 1-3 years shown on table 1 below.

Table 1: Percentage of participants based on socio-demographic data

Demographic data	Parameters	Frequency	Percentage (%)
Gender	Male	6	24
	Female	19	76
	Total	25	100
Age group	21-30 years	14	56
	31-40 years	7	28
	41-50 years	3	12
	Above 50 years	1	4
	Total	25	100
Marital status	Single	14	64
	Married	11	44
	Total	25	100
Educational qualification	SRN/HND	10	40
	NA	5	20
	Bachelor	8	32
	Masters	2	8
	Total	25	100
Length of work experience	Less than 1 year	6	24
	1-3 years	5	20
	Above 3 years	14	56
	Total		100

Nurses' Knowledge of Non-Pharmacological Methods of Pain Management on Cancer Patients

Based on knowledge on the use of NPM of pain management, Majority 24((96%) nurses demonstrate the good knowledge on changing patient position as a NPM of pain management, massaging the affected area, progressive muscles relaxation, and psychological therapy with a 72% degree of knowledge while majority 18(72%) of the nurses had poor knowledge on Dogmatic assertive techniques, biofeedback 64%, Listening to music 60% as a NPM of pain management on cancer patients as presented on table 2 below.

Table 2: Percentage distribution of participants based on Knowledge of NPM of pain Management on cancer patients.

Type of NPM	Poor Knowledge (%)	Good Knowledge (%)	Total (%)
Acupuncture	13(52)	12(48)	25 (100)
Massaging	7(28)	18(72)	25 (100)
Changing patient position	1(4)	24(96)	25 (100)
Watching TV	14(56)	11(44)	25 (100)
Reading the bible	10(40)	15(60)	25 (100)
Listening to the radio	15(60)	10(40)	25 (100)
Doing exercises	12(48)	13(52)	25 (100)
Listening to music	11(44)	14(56)	25 (100)
Recalling and scheduling of pleasurable event	11(44)	14(56)	25 (100)
Dogmatic assertive communication	18(72)	7(28)	25 (100)
Playing games	12(48)	13(52)	25 (100)
Use of hot and cold method	12(48)	13(52)	25 (100)
Transcutaneous electrical nerve stimulation	13(52)	12(48)	25 (100)
Progressive muscle relaxation	7(28)	18(72)	25 (100)
Psychological intervention	7(28)	18(72)	25 (100)
Cognitive behavioral therapy	11(44)	14(56)	25 (100)
Mindfulness based stress reduction	13(52)	12(48)	25 (100)
Acceptance and commitment therapy	10(40)	15(60)	25 (100)
Biofeedback	16(64)	9(36)	25 (100)
Total	**213**	**262**	**475**
Mean	**11(44)**	**14 (56)**	**25**(100)

Nurses attitude towards Non-pharmacological method of pain management

From our findings of nurses' attitude towards NPM of pain management on cancer patients, a maximum of 19(76%) nurses had a favorable attitude towards NPM of pain management by reporting that NPMs are very important in the management of pain while 20(80%) nurses demonstrated an unfavorable attitude by reporting that NPMs are too time consuming. Overall, 44% of nurses had favorable attitude while 56% of nurses had unfavorable attitude as presented on table 3 below.

Table 3: Percentage distribution of nurses based on their attitude towards NPM of pain management

Variable	Favorable (%)	Unfavorable (%)	Total (%)
NPM is used only when patient no longer respond to pain	16(64)	9(36)	25(100)
NPM is not time consuming	5(20)	20(80)	25(100)
NPM is important in the treatment of pain	19(76)	6(24)	25(100)
The use of NPM is based on the degree to which patient respond to pain	11(44)	14(56)	25(100)
The continuous use of NPM can replace PM	7(28)	18(72)	25(100)
NPM is so effective in pain management	8(32)	17(68)	25(100)
Total	**66(44)**	**84(56)**	**150**
Mean	**11**	**14**	**25**

Nurses' Practice of NPM of pain management on cancer patients

Out of the 25 participants who took part in this study, a total of 475 responses were generated from both good practice and poor practice of NPM of pain management. Out of the 475 responses, 135(28.42%) responses were from good practice of NPM of pain management on cancer patients and 340(71.58%) responses from poor practice of NPM of pain management on cancer patients in the Laquintinie and Douala General Hospital as presented on table 4 below.

Table 4: Nurses' practice of NPM of pain management on cancer patients

Type of NPM	Poor practice (%)	Good practice (%)	Total (%)
Acupuncture	21(84)	4(16)	25(100)
Massaging	11(44)	14(56)	25(100)
Changing patient position	7(24)	18(76)	25(100)
Watching TV	23(92)	2(8)	25(100)
Reading the bible	17(68)	8(32)	25(100)
Listening to the radio	22(88)	3(12)	25(100)
Doing exercises	14(56)	11(44)	25(100)
Listening to music	20(80)	5(20)	25(100)
Recalling and scheduling of pleasurable event	18(72)	7(28)	25(100)
Dogmatic assertive communication	21(84)	4(32)	25(100)
Playing games	20(80)	5(20)	25(100)
Use of hot and cold method	17(68)	8(32)	25(100)
Transcutaneous electrical nerve stimulation	24(96)	1(4)	25(100)
Progressive muscle relaxation	16(64)	9(18)	25(100)
Psychological intervention	11(44)	14(64)	25(100)
Cognitive behavioral therapy	20(80)	5(20)	25(100)
Mindfulness based stress reduction	17(68)	8(32)	25(100)
Acceptance and commitment therapy	16(64)	9(36)	25(100)
Biofeedback	25(100)	0(00)	25(100)
TOTAL	**340(71.58)**	**135(28.42)**	**475**
Mean	**18(72)**	**7(28)**	**25**(100)

Hypotheses verification

Association between Nurses' knowledge and Practice of non-pharmacological methods of pain management on cancer patients

Based on the knowledge and the use of NPM in the management of pain on cancer patients a total of 19(76%) have low use of NPM while 6(24%) have high use of NPM with a majority 11(44%) of the nurses from the two hospitals having poor knowledge of NPM while 14(56%) nurses demonstrated good knowledge of NPM. Furthermore, out of the 19 nurses who had low use of NPM 11(44%) of them had poor knowledge and low use of NPM and 8(32%) had low use and good knowledge on NPM of pain management. On the other hand, 6 of the nurses that demonstrated good knowledge of the method made high use of the method in managing pain on cancer patients in the two hospitals. Given that the calculated chi square value ($X^2 = 6.203$) is greater than the critical or table value of the chi square ($X^2_{crit} = 3.84$), we reject the null hypothesis. This observation is further validated by the p value of the chi square ($p = 0.013$), which is less than the critical p value (0.05). This indicates that these results are significant at 5% level of significance. Therefore, nurses with good knowledge on NPM significantly make use of this method in managing pain on cancer patients compared to nurses who had poor knowledge of the methodology. Increasing nurse's knowledge of NPM will therefore enhance their use in managing pain on cancer patients presented on the table 5 below.

Table 5: Association between Nurses' knowledge and Practice of NPM of pain management

Practice NPM	Poor knowledge of NPM	Good knowledge of NPM	Total
Poor practice of NPM	11	8	19
Good practice of NPM	0	6	6
Total	11	14	25
Pearson Chi-Square	**6.203**		
Sig. (P=0.05)	**0.013**		

Association between Nurses' attitudes and practice of non-pharmacological methods of pain management on cancer patients

Majority 19(76%) of the nurses from both hospitals had poor practice of NPM on cancer patients, while only 6(24%) of them had good practice of NPMs. Furthermore, a majority 14(56%) of the nurses demonstrated unfavorable attitude towards the NPMs while at least 11(44%) of nurses demonstrated a favorable attitude towards NPMs. Looking at their attitudes and practice, it was observed that a majority of nurses

12(48%)out of the 14 nurses had poor practice and unfavorable attitude of NPMs in managing pain on cancer patients while 2(8%) out of the 14 nurses had good practice and unfavorable attitude of NPMs of pain management on cancer patients. Out of the 11(44%) nurses with favorable, 7(28%) nurses had poor practice of NPMs of pain management while 4(16%) nurses had good practice of NPMs of pain management. Given that the calculated chi square value ($X^2 = 6.099$) is greater than the critical or table value of the chi square ($X^2_{crit} = 5.99$), we reject the null hypothesis. This observation is further validated by the p value of the chi square ($p = 0.041$), which is less than the critical p value (0.05). This finding indicates that at 5% level of significance Nurses' attitudes towards non-pharmacological methods of pain management are not significantly associated with their practice on cancer patients. Hence, we conclude that nurses' attitudes significantly influence the practice of NPMs on cancer patients in the two hospitals as presented on table6 below.

Table 6: Association between Nurses' Attitude and Practice of NPM

Practice of NPM	**Unfavorable attitude** *((%)*	**Favorable Attitude** (%)	**Total (%)**
Poor practice of NPM	12(48)	7(12)	19(76)
Good practice of NPM	2(8)	4(16)	6(24)
Total	14(56)	11(44)	25(100)
Pearson Chi-Square	**6.099**		
Sig. (P=0.05)	**0.041**		

Association between Nurses' demographic characteristics and the practice of NPM of pain management on cancer patients

Based on the association between socio-demographic data and the practice of NPM of pain management, out of the 25 participants, 14 were within the age group 21-30 years from which 13 of them had poor practice of NPM with maximum of 4 participants within the age group of 31-40 years having good practice of NPM of pain management. This association was not significant with a p-value of 0.062. Based on gender and the practice of NPM of pain management, 17 out of 19 female nurses reported poor practice of NPM while 4 out of the 6 male nurses reported good practice of NPM of pain management with a p-value of 0.005 less than 0.05. This shows that there is a statistically significant association between gender and the practice of NPM of pain management on cancer patients. Also 13 out of the 17 nurses with an SRN/HND diploma reported poor practice of NPM of pain management while 4 nurses reported of good practice of NPM of pain management. This shows that there is no significant association between qualification and the practice of NPM of pain management on cancer patients at p-value of 0.139. Lastly, based on years of experience, 8 out of 12 nurses who have worked for more than three (3years), had poor practice of NPM of pain management while 4 of the nurses have good practice of NPM of pain management. There was no significant association between the practices of NPM of pain management at p-value of 0.287. These findings are presented on the table 7 below.

IV. Discussion

This study was designed to assess nurses' knowledge, attitude and practice of Non-pharmacological methods in the management of pain on cancer patients in the Laquintinie and Douala General Hospital. A total of 25 nurses with 13 nurses from Douala General Hospital and 12 nurses from Laquintinie hospital Douala who work in the oncology unit were assessed of which there were 19(76%) females and 6(24%) males. Also, most of the nurses 14(56%) in the hospitals were within the age of 21-30 years and only 1(4%) participant was above 50 years of age with a mean age of 27± 1.02SD. In addition, based on marital status, 14(56%) nurses were single and 11(44%) nurses were married. To add based on educational qualification, 18(72%) nurses had a State Registered Nursing Diploma while 2(8%) nurses had a master's degree and others had a different qualification. Lastly, 14 (56%) nurses had worked for more than 3 years while 6 (24%) nurses had worked for greater than or equal to a year shown on table 1 below.

Based on the assessment of nurses' knowledge of non-pharmacological method of pain management, 24(96%) nurses had good knowledge on methods such as changing a patient's position, 72% of the nurses had good knowledge of massaging the affected areas, progressive muscles and psychological interventions with. These findings were similar with research done by Jira *et al*., 2018 at Benshangul Gumuz Hospitals with 51.2% nurses' knowledge of NPM of pain management [27]. The possible reasons may be variations in study setting, lack of training on non-pharmacological pain management, unwillingness of nurses to know the methods and disinclination of managers for non-pharmacological pain management. Woldehaimanot *et al.,* 2014[31] in Southern part of Ethiopia with a 78.1% nurses' knowledge of NPM of pain management, Also these findings were similar with the study of Linda, [35], who reported that psychosocial interventions have proven to be an effective non-pharmacological method. In their study a total of 386 patients were sampled and results revealed

that ongoing oncological needs was necessary to meet the physical, physiological and psychosocial aspects through effective psycho education, CBT, group supportive therapy, individual supportive therapy and medical cost offset of psychosocial care to promote a compassionate model for treating physical, emotional needs. The poor knowledge demonstrated in this study in methods such as assertive dogmatic techniques 72%, biofeedback, 64% and listening to music at 60%were similar when compared to studies done by Woldehaimanot *et al.,* 2014; Moceri *et al*., 2014; Tse *et al.,* 2004 in United States 76%, Saudi Arabia 69.5%, Zimbabwe 64.5% and southern part of Ethiopia78.1% [30,32] respectively. The possible reasons could be variations in sources of information, lack of updated training and lack of non-pharmacological pain management courses in their basic nursing curriculum.

Based on nurses' attitude towards NPM of pain management on cancer patients, a maximum of 19(76%) nurses had a favorable attitude towards NPM of pain management by reporting that NPMs are very important in the management of pain while 20(80%) nurses demonstrated an unfavorable attitude by reporting that NPMs are too time consuming. Overall, 44% of nurses had favorable attitude while 56% of nurses had unfavorable attitude. Our findings were similar to the study by Jira *et al.,* 2018 in Benshangul Gumuz Hospitals in Ethiopia [27] in which nurses had favorable attitude of 47% towards NPM of pain management. These similarities in results may be due to the fact that most African countries share similar characteristics in the health care system. These findings were lower when compared with the study done in Makah, Saudi Arabia 85%, Bandar Abbas, Iran 54.22%, Sweden84% and Zimbabwe 56%[23, 26, 30]. The possible reason could be variations in sources of information, variation in individual judgments based on their beliefs and methodological difference.

A total of 475 responses were generated from both good practice and poor practice of NPM of pain management. Out of the 475 responses, 135(28.42%) responses were from good practice of NPM of pain management on cancer patients and 340(71.58%) responses from poor practice of NPM of pain management on cancer patients in the Laquintinie and General Hospital Douala. The methods where the nurses demonstrated very poor practices were biofeedback, cognitive behavioral therapy, transcutaneous electric nerve stimulation, dogmatic assertive techniques etc. while the methods with good practice included changing patient's position, massaging, psychological intervention, exercises etc. Averagely, there were 7(28%) nurses with good practice of NPM of pain management on cancer patients while 18(72%) nurses had poor practice of NPM of pain management on cancer patients.

This finding is similar with research done in Egypt by Khalil, 2018[29] where 26% of the nurses had good practice of NPM of pain management. This similarity indicates that even the educational level of nurses has an increased in their practice on non-pharmacological pain management methods is low rather their attitude matters for their implementation. The major barriers that hindered non-pharmacological pain practices from being used by nurses could be lack of time, nurses' workload and multiple responsibilities of nurses. This similarity might also be due to most African countries share similar characteristics in the health care system.

Based on the association between knowledge of NPM in the management of pain on cancer patients a slight majority 13(52%) of the nurses from both hospitals had adequate knowledge of NPM while 12(48%) of the nurses demonstrated inadequate knowledge of NPM. Furthermore, out of the 13(52%) nurses who demonstrated adequate knowledge of NPM, none of them had good practice of NPM in pain management. On the other hand, 6(24%) of the nurses that demonstrated inadequate knowledge of NPM in pain management on cancer patients in the two hospitals. These findings were different when compared with the studies done by Robert *et al*., 2006; Ali *et al*., 2013 in United States with 76% good knowledge of NPM, Saudi Arabia with 69.5%good knowledge of NPM and Zimbabwe with 64.5%good knowledge of NPMof pain management by nurses [24, 34] The possible reasons could be variations in sources of information, lack of updated training and lack of non-pharmacological pain management courses in their basic nursing curriculum. But also similar to studies conducted in Iran 48.2% and South West Amhara region, Ethiopia 51.3%[26, 27]. But it was higher compared with a study conducted in China by Manwere *et al*., 2015; 38.9%[33]. This may be due to differences in scoring and variations in sources of information.

About 60% of the nurses demonstrated an unfavorable attitude towards NPMs while at least 7(28%) of nurses demonstrated a favorable attitude towards NPMs, none of them actually demonstrated strongly positive attitudes towards the methods. These findings differ from a study done in Australia by Makah who obtained a moderate positive attitude of about 53.8% from nurses towards NPM of pain management [20].A possible reason could be heavy workload, shortage of time to read more about non-pharmacological pain management.

Out of the 25 participants who took part in this study, 28.42% of the nurses do practice NPM of pain management while 71.58% of the nurses do not practice NPM in the management of pain on cancer patients. Our study was different from the study conducted by Akdemir *et al*. [47], who determined that 90% of nurses had good practice of non-pharmacological. In another study by Ovresen and Ucar, 2009 [48] at Hacettepe University in Brazil, who found that 92.6% of nurses had good practice of non-pharmacological methods. This result is thought to be associated with nurses' awareness of both dependent and independent roles in pain

management on patients. In our study, the difference maybe thought to be as a result of high patient-to-nurse ratio, absence of NPM in the basic nursing curriculum etc. Based on the association between socio-demographic data and the use of NPM of pain management, 14 nurses were within the age group 21-30 years from which 13 of them had poor practice of NPM with maximum of 4 participants within the age group of 31-40 years having good practice of NPM of pain management. This association was not significant with a p-value of 0.062. Based on gender and the practice of NPM of pain management, 17 females reported poor practice of NPM with 4 males reporting good practice of NPM of pain management. There was a statistically significant association between gender and the practice of NPM of pain management on cancer patients with a p-value of 0.005. Also 13 nurses' with an SRN diploma reported poor practice of NPM of pain management while 4 nurses reported of good practice of NPM of pain management. This shows that there was no significant association between qualification and the practice of NPM of pain management on cancer patients at p-value of 0.139. Lastly, based on years of experience, 8 nurses who have worked for more than three (3years), had poor practice of NPM of pain management while 4 nurses have good practices of NPM of pain management. There was no significant association between the uses of NPM of pain management at p-value of 0.287.Thissignificant association might result from the compassionate nature of humans when faced with individuals afflicted by pain of any sort.

V. Conclusions

Based on the findings generated from this study, it can be concluded that;

1. Nurses have good knowledge on NPM in the management of pain on cancer patients.
2. Nurses have an unfavorable attitude towards NPMs of pain management on cancer patients in the two hospitals.
3. Nurses in both hospitals have poor practices of non-pharmacological methods of pain management on cancer patients.

VI. Recommendations

1. We therefore recommend that the hospital authorities should organize a symposium where the results of this study will be presented and possible implementation will be enforced.
2. An extensive study should be conducted which will involve all nurses working in the different units of the hospitals regarding the use of Non-pharmacological methods of pain management.
3. Also an interventional study should be done on patients to ascertain the effectiveness of NPM of pain management on patients.

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