Health Facility Barriers to Effective Management of Breast Cancer Pain at A County Referral Hospital in Kenya.

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Abstract

Background: The incidence of breast cancer has been increasing over the last two decades and is expected to continue, this is partly due to improved screening, treatment strategies and an increasing aging population. With the increasing cases of breast cancer, the proportion of patients needing pain management also increases**,** despite measures to improve cancer pain management, suboptimal cancer pain management is increasingly common among patients with breast cancer as a result of health facility barriers. The aim of this study was to assess the health facility barriers that limited effective management of breast cancer pain by nurses at a County Referral Hospital in Kenya.

Methods: This was a mixed methods study of nurses who were working in hospital departments caring for patients with breast cancer, and nurses' departmental heads and other departmental heads who were involved with pain management. Institutional Review Board approval was obtained. Quantitative data was collected using a structured self-administered questionnaire and analysed using Statistical Package for Social Sciences (SPSS) version 23. Qualitative data was collected using a Focused group discussion guide and analysed through thematic content analysis.
Results: The results showed strict controls on opioid analgesics (25.0%), prescription regulations (29.8%), fear of opioids (17.9%), unavailability of opioid analgesics (41.7%), late referrals to pain speciality and lack of periodic evaluation of pain management processes with similar themes arising from the qualitative interviews.

Conclusions and recommendations: The health facility barriers reported by the respondents and affirmed by the departmental heads limited the nurses' ability to optimally provide cancer pain management as per their scopes of practice, the researchers recommend that the Kisii County department of health adopts effective models of opioid ordering and distribution to expand the scope of accessibility to morphine and other opioids for patients with breast cancer, the county also has the potential to locally produce morphine and other opioids, employ oncology specialities and adopt highly effective models of training on cancer pain management.

Key words
breast cancer, cancer pain, heath facility barriers, nurses

INTRODUCTION

Health system barriers that limit the ability of nurses and other healthcare workers to optimally manage patients with breast cancer pain, have been described by various researchers, this include insufficient access to appropriate opioid analgesics creating barriers to cancer pain relief for patients who require aggressive pain management, this is especially more severe in developing countries leading to poor quality of life among cancer patients (Scholten et al 2017; WHO, 2020). About 43.7% of the nurses in a study done in an oncology hospital in Tirana, reported delays in getting a prescription from a physician as one of the barriers they experienced in providing timely treatment (Imeraj, Veseli, and Pirushi, 2022), a study done among patients by the American Cancer Society Cancer Action Network and the Patient Quality of Life Coalition reported challenges of accessibility to opioid analgesics due to regulatory controls imposed on opioid drug abuse (ACSCAN and PQLC, 2018) while 69.5 % of nurses in a West Bank study cited strict regulations to opioid use with 56.4% expressing frustrations with delays in obtaining a prescription of opioids for their patients due to the long processes (Toba, Samara, and Zyoud., 2019).

In a Cyprus study, barriers to opioid use reported included; inadequate training of healthcare professionals (Charalambous et al, 2019) and fear of opioids and side-effects among healthcare workers (Oliveria, 2018; Charalambous et al, 2019).

According to the 2022 report by the International Narcotic Board, only 14.3% of morphine is used by low and middle-income countries including sub-Saharan Africa, 85.7% of global consumption of morphine for pain management was utilized by countries in North America and Europe (International Narcotics Control Board, 2022) revealing disparities in worldwide opioid use for cancer pain management (WHO, 2020).

A multicentre study done in Italy to determine adequacy, effectiveness and factors affecting pain management among patients referred to radiation therapy reported inadequate pain management and late referrals of cancer patients to pain specialities; this was evident as 42.9% of patients reported pain due to inadequate analgesic therapy; 72% of patients referred for palliative radiation therapy and 75% referred for curative radiation therapy had ineffective analgesic therapy and delays with referral (Donati et al, 2024).

Odonkor, Kim and Erdek (2017) described barriers to cancer pain management in Sub-Saharan Africa which included; limited funding, inadequate healthcare infrastructure and lack of trained health professionals, limited accessibility to potent analgesic drugs has also been reported as a barrier (Odonkor, Kim and Erdek, 2017; Nchako et al, 2018). Other barriers that have been described in Sub-Saharan Africa include; over regulation and legal restrictions of opioid analgesics (Kwon, 2014; Onsongo 2020), increasing incidence of abuse of opioid analgesics and increasing illegal smuggling of opioids through Africa to Europe (Kurth et al, 2018) further worsening the regulations imposed on use of opioids this may necessitate policy reviews which will address illegal use of opioids while improving accessibility of opioids for clinical use (Magboh et al, 2023).

A parallel mixed methods study done across three countries; Mozambique, Swaziland and Zimbabwe, to identify country-specific and broader regional barriers as well as administration of opioid analgesics, identified barriers to accessing opioids for clinical use; the barriers identified included overly restrictive controlled laws, use of stigmatizing language in key documents "e.g dangerous drugs" inaccurate actual opioid consumption estimation practices, knowledge gaps in

the distribution, storage and prescription of opioids, critical shortage of prescribers; and high out of pocket financial expenditures for patients against a backdrop of high levels of poverty (Namisango et al, 2018).

The findings of a study done in Ethiopia to assess the costs of a life limiting illness found out that, in the oncology unit, among the 95.5% of the patients who reported moderate to severe pain, 24% were not prescribed opioids, additionally, the patients reported very high costs of accessing pain medications (Reid et al, 2018). Other health system challenges described by researchers included; shortages of specific staff specialties for cancer pain management, low resource allocation to cancer pain management (Namisango et al, 2018), time constraints due to shortage of nurses, inadequate training and lack of clear workplace policies on utilization of specific pain assessment tools leading to poor pain assessment and rating in cancer patients (Deldar, Froutan and Ebadi, 2018).

As of the year 2018, the Kenya Facility Assessment report showed that the mean availability of palliative care services was low with 3% of facilities offering palliative care services; availability of tracer items like morphine was 5% in facilities offering palliative care services (MOH, 2021).

MATERIALS AND METHODS

Study Design:

This was a mixed methods study utilizing both quantitative and qualitative approaches.

Study Area:

The study was carried out at the Kisii County Teaching and Referral Hospital, Keumbu Sub County Referral Hospital, Taracha Health Centre and Nyamemiso dispensary. Kisii County Teaching and Referral Hospital is a referral hospital for nine (9) Sub-Counties which had a catchment population of 41, 682 thousand people at the time of the study.

Study Population:

The study targeted all nurses working at the Kisii County Teaching and Referral Hospital and nurses and other departmental heads who were directly involved with cancer pain management.

Sample Size and Sampling:

The sample size was determined using the formula shown below for a finite population (Kothari, 2004).

$$n = \frac{(Z^2 \times p \times q \times N)}{(e^2 (N-1) + (Z^2 \times p \times q)}$$

Where: n= the desired sample size when the study population is a finite number, N= the total number of the target population, Z= the value of the standard variant at a given confidence level.

The Z-values for confidence levels are: 1.645 = 90.0% confidence level 1.96 = 95.0% confidence level 2.576 = 99.0% confidence level. For this case, the researcher used 1.96.

p= the proportion of the target population estimated to have the desired characteristics.

In this study practices on cancer related pain management was at 23.3% (previous study). Therefore *p*= .233. q=1-*p*=.767. e=error margin, the precision desired by the researcher in respect of estimates concerning the population parameters. In this study the mean of the universe is estimated within .05 of the true mean within 95.0 % confidence interval.

N=244, Z=1.96, *p*= .233, q= .767 and e= .05

$$n = \frac{(1.96^2 \times .233 \times .767 \times 244)}{(.05^2 (244-1) + (1.96^2 \times .233 \times .767)} = 129.5$$

=130 respondents

$$\frac{10}{100} \times 130 = 13$$

= 130+13 = 143 respondents.

Sampling:

Kisii teaching and Referral Hospital was purposively selected since it was involved with care of patients with breast cancer. Systematic Random sampling was used to select the sample for nurse respondents. Sampling to the FGDs was purposively done, departmental heads selected were directly involved with pain management. Those who participated in the first round of the Focused group discussions included nurses who were heading the departments of internal medicine, surgery, obstetrics and gynaecology and outpatient, the nursing officer in charge of the hospital, hospital pharmacist, Medical Officer in-charge of Continuous Medical Education (CME), Clinical Officer in-charge of Continuous Medical Education and Nurse in charge of CMEs. The second round of Focused Group Discussions involved nurses who were in-charges of medical, surgical, gynaecology, palliative clinic and outpatient, the nursing officer in charge and departmental heads of Keumbu Sub-County Referral Hospital, Taraacha Health centre and Nyamemiso dispensary.

Data Collection Instruments

A structured self-administered questionnaire was used to collect data from the nurse respondents, the questionnaire was adopted and modified from the 'Knowledge and Attitude Survey Regarding Pain The Focused Group Discussion Guide (FGD) was developed by the researcher using single items from the knowledge and attitude survey regarding pain (Ferrell and McCaffery, 2014), the WHO analgesic ladder (Anekar et al.,2023) and the Agency for Health Care Policy and Research guidelines (Fonteyn, 1998)

Data Collection Procedure:

Quantitative data was collected using a self-administered questionnaire, given to the respondents while on duty. For qualitative data, the researcher used Finch, Lewis and Turley (2003) method of focused group discussions for managing the setting; the discussions were conducted by the researcher who acted as the moderator assisted by a research assistant who took notes, the researcher welcomed and thanked the participants; an introduction session followed; the researcher then explained the purpose of the focused group discussions, participants then signed the consent forms which were randomly assigned codes to refer to them during the discussion in order to ensure anonymity and for future verification of data, the participants were then reminded that the discussion was open for honest and different viewpoints and that there were no right or wrong answers. They were requested to respect each other's opinions. The researcher (moderator) ensured that every participant in the focused group had an opportunity to speak. The focused groups then discussed topical issues related to management of breast cancer pain as per the focused group discussion guide. The discussion was tape-recorded in order to capture the verbal responses, the note taker took notes as the discussion went on while the researcher noted the main points which were later combined with the tape-recorded discussion points as retrieved verbatim. The first FDG took a total of 120 minutes while the second one took approximately 112 minutes.

Data Management and Analysis:

Quantitative data was checked, coded, and analysed using Statistical Package for Social Sciences version 23 and the results are presented in narrative form, figures and tables. The researcher applied the three methods of analysing qualitative data; coding the data, interpreting the data and reporting the data (Morgan, 1997). The discussions were recorded and securely saved in the researchers account, after data collection and transcription by RE verbatim on Microsoft word, the transcripts were analysed through thematic content analysis. the common themes, ideas and patterns were identified by tracking the frequency of occurrences, classifying, sorting and organizing the data, this later enabled the researcher to make conclusions on the final thematic categories. The results are presented in narrative form as per the theme categories.

Ethical Considerations:

Ethical approval was obtained from Kenyatta National Hospital-University of Nairobi Ethics and Review Committee (KNH-UON ERC) (P446/08/2017; Ref KNH-ERC/A/40 and KNH/ERC/R/123), a permit and research authorization were obtained from the National Council of Science, Technology and Innovation (NACOSTI/P/18/86900/22659; NACOSTI/P/24/38243) and Kisii County Department of Health (D.1/55/2018/vol.11/210). Permission to enter the wards was given by the hospital and respective ward in charges, the respondents had full disclosure of information regarding the objectives of the study, those who agreed to participate gave written consent. The data collected was treated with confidentiality.

RESULTS

A total of 97 out of sample size of 143 nurses were interviewed during the study which is a 68% response rate. The study also conducted two focused group discussions (FGDs) with the departmental heads directly involved with pain management to enable the researcher get a deeper understanding of the health system barriers affecting breast cancer pain management. The response rates were 100% (1st FDG) and 80% (2nd FDG) respectively.

Socio-demographic characteristics of participants:

Table 1: Nurses' demographic characteristics

	Age	Frequency	Percent
Age	21 - 30 years	38	41.8
	31 - 40 years	35	38.5
	41 - 50 years	11	12.1
	51 years and above	7	7.7
	Total	91	100.0
Gender	Male	34	35.4
	Female	62	64.6
	Total	96	100.0
Marital status	Married	55	56.7
	Single	29	29.9
	Widowed	7	7.2
	Separated	6	6.2
	Total	97	100.0
Highest level of nursing	KECHN	14	14.7
	KRCHN or KRN	60	63.2
	BSCN	17	17.9

education attained	MSCN	3	3.2
	PHD in Nursing	1	1.1
	Total	95	100.0

About 23.7% of the respondents had undergone additional formal training on cancer related pain management.

Nurses' perceived health facility barriers

The researcher sought to know if there were barriers created by the health facility. To answer this question, the researcher sought to know the following from the nurse respondents; what limited their ability to administer opioid analgesics as per the clinical decision making algorithms, this was a multiple response question, and on this first question, the items the respondents were to choose from included; *prescription limitations by the facility, availability and accessibility of opioid analgesics. number of healthcare professionals with specialized skills on cancer-related pain management* and availability of supportive systems in relation to breast cancer pain management which were*; timely referrals to healthcare professionals with specialized skills, a quality improvement interdisciplinary team for cancer pain management and availability of ongoing education, supervision, and support for nurses and other health professionals who were directly involved in breast cancer pain management.*

Limitations to administration of opioid analgesics.

The respondents in this study were asked to state what limited their ability to administer opioid analgesics, the results are as shown in figure 1.

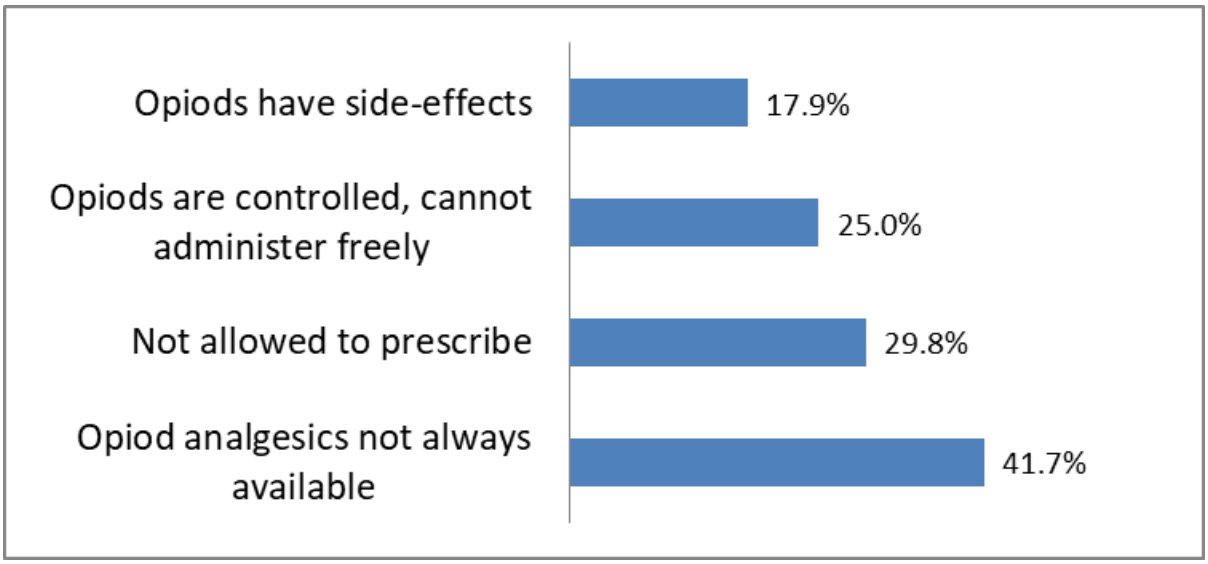

Figure 1: *Limitations to administration of opioid analgesics* (n=96)

The respondents reported that opioid analgesics were controlled and could not be administered freely (25.0%), not allowed to prescribe (29.8%), opioids have side effects (17.9%) and opioid analgesics were not always available (41.7%)

Number of healthcare workers with specialized skills

The respondents were asked to state the number of healthcare workers with specialized skills on cancer pain management and about 18.5% of the respondents correctly said that there was none as shown in Table 2

Table 2: *Number of health care professionals with specialized skills*

Specialized	Frequency	Valid Percent
None	15	18.5
1-4	49	60.5
More than 5	17	21.0
Total	81	100.0

Availability of other supportive systems to breast cancer pain management

About 56% of the respondents stated that referrals to healthcare professionals with specialized skills was not timely, 45.6% of the respondents stated that the health facility had put in place an interdisciplinary team for cancer pain management, and 61.2% of the respondents stated that nurses who managed pain in breast cancer patients received ongoing education, supervision, and support as shown in Table 3.

Table 3*: Health facility support systems*

	Yes		No		
Statement	**Frequency**	**Percent**	**Frequency**	**Percent**	**Total**
Referrals to healthcare professionals with specialized skills on cancer-related pain management are timely.	40	44.0	51	56.0	**91**
The facility has put in place an interdisciplinary team for cancer-related pain management.	41	45.6	49	54.4	**90**
Nurses who treat pain in breast cancer and other cancers receive ongoing education, supervision, and support.	52	61.2	33	38.8	**85**

Availability of guidelines to manage existential pain

On availability of facility guidelines to manage existential pain presented to them as a *feeling of lack of purpose and hopelessness* in breast cancer patients **(**n=96**),** all (100%) the respondents stated that there was no facility guideline currently, that they mostly encouraged and prayed for patients and availed strong analgesics to promote comfort.

Health facility barriers as reported by the departmental heads.

Further, to achieve the objective on health facility barriers, the researcher conducted two focused group discussions (FDGs) with the nurses' (departmental /unit heads and ward in charges) and other department heads who were directly involved with cancer pain management. The focused group discussion guide contained categories which needed responses. The thematic categories are described with 'voices' to create an in-depth understanding of the responses, the participants (PT) for the focused group discussions are identified by numbers to ensure anonymity, the theme and subtheme categories were; *Strict regulations on ordering and use of opioid analgesics, use of evidence based clinical decision making algorithms, availability and accessibility to opioid*

analgesics, **training, support and motivation for nurses involved in breast cancer pain management,** *regular periodic evaluation of cancer pain management processes by Interdisciplinary quality improvement teams and timely referrals to pain speciality, patients' satisfaction and outcomes.*

The following themes emerged from the analysis of the Focused group discussions;

Theme one: Strict regulations on ordering and use of opioid analgesics

The participants expressed concern that prescriptions for opioid analgesics were restricted to medical officers with strict processes involved before prescription, and any other prescriptions could not be honoured by the pharmacists, this immensely affected patients seeking pain management in primary health facilities with no Medical Officers, such facilities were not allowed to stock opioids either and only referred patients seeking pain management to Kisii County Teaching and Referral Hospital, this was regarded as costly. Participants recommended that the regulations be eased since they were impacting on the quality of care of patients, however this may not be a feasible recommendation because of the problem of opioid addiction and abuse and the scope of practice of other cadres.

The opioids were also kept and stored in line with the "Controlled Drugs Act" and estimation of opioid needs done based on previous consumption, the implications of basing need on previous consumption led to underestimating or overestimating the opioid needs.

"…*The opioids are under DDA (Dangerous drugs act, currently CDA), they must be recorded, they are available on duty room because there are restrictions on their use."(PT 04 FG1; PT 13 FG 2)*

"These drugs can be abused, if there a review; then all measures should be put in place to prevent abuse by staff and issue must be strictly against the palliative care number" (PT 08, 09 ,06 FG1; PT 11 FG2).

'Like now we are told to give reports on opioid use, they use the reports to estimate the needs, this may not be a true reflection of what we need, because as nurses we know that some deserving patients never get to get opioids" (PT 02 FG1; PT 12, 13 FG2).

Theme Two: Use of evidence based clinical decision making algorithms.

The participants pointed out that the commonly used algorithm was the World Health Organization Analgesic Ladder (WHO-AL) which was available in some units and nurses were allowed to use it within the limits allowed within the facility, it was also clear from the discussions that some nurses may not follow the WHO-AL in pain assessment and subsequent management because they viewed it as a sole responsibility of the Medical Officers, this led to inefficiencies in breast cancer pain management: There was no structured way such as a guideline to manage existential and emotional pain, spiritual pain was handled by the hospital chaplain. The departmental nurses said that they mostly prioritized management of physical pain in their departments, but further said that the hospital chaplain came around to pray for patients.

"General *cancer pain management is done using the WHO 3 step ladder, the algorithms are supposed to be placed in every department but you may find that some departments don't have it (PT 01, FG 1) "…The greatest challenge is that even if it is there, sometimes nurses belief that it is supposed to be used by doctors or clinical officers" (PT 05, FG1) "…to say the truth, nurses can use the ladder in all other ways, but when it comes to a prescription, we cannot honour that, maybe in future" (PT 06, FG1).*

'*Physical pain is what is handled here, we don't have any guideline to manage existential pain, and spiritual pain is managed by the hospital chaplain on the patient's individual request' (PT 01 FG1, PT 14 FG2)*

Theme three: Availability and accessibility to opioid analgesics:

The participants raised concerns about stock outs of opioid analgesics, one of the reasons was that opioid analgesics like morphine were not on the hospital's essential drug's list, thus the hospital purchased directly at a higher cost and could not subsidize the cost for the patients, patients could also not access the drugs using social Health Insurance like NHIF but via out of pocket payment, all patients who were prescribed morphine were also required to get a palliative care number to facilitate accessibility, this factors limited availability and accessibility to opioid analgesics by cancer patients:

"*The drugs are not always available, but when we have stock, we issue, the main problem is that Morphine is not on the hospital's essential drugs' list, we have to buy it directly, so it is expensive…(PT 06, FG 1). "Duty room has opioid drugs that can be availed to the patients (PT 03 FG 1), morphine syrup is available in the wards, initial dose can be given as the patient awaits to be given the palliative care number" (PT 16 FG 2), "DDA drugs cannot be in the essential drug's list (PT 18 FG 2) even chemists are not allowed to stock opioids" (PT 07 FG 1).*

Theme four: **Training, support and motivation for nurses involved in breast cancer pain management:**

Lack of adequate training specific to the type of cancer was cited as a factor that limited the nurses' ability to provide optimal cancer pain management, however there was an educational component on management of pain in general in the hospital's Continuous Medical Education (CME) programs which was not specific to breast cancer pain, from the discussions, nurses from primary health facilities were not included in the trainings since they were not actively involved in managing cancer pain, they were required to only refer patients to the County Teaching and Referral Hospital. The participants also voiced the challenges experienced by nurses who managed pain in cancer patients. Some felt that it was emotionally draining for nurses especially when they had patients experiencing high levels of pain with no relevant drugs for the level of pain, concerns of overworking due to understaffing were also raised. Some said that counselling supervision will be done monthly with the setup of the quality improvement team.

"…*Here we have CMEs on 'pain free hospital' weekly by Hospices and Palliative Care Alliance (KEPHCA) "(PT 05, FG 1), "Currently the training is ongoing every Thursday and Friday for 6weeks,' after this, we will have CME with specific nurses every 2nd Tuesday of the month" (PT 08, 09 FG1). "Nurses from primary health facilities are not included since they don't manage cancer pain" (PT 09, 05 FG1). "The patient will be referred, like Keumbu (Sub-county Health facility) there is a referral system, they don't manage cancer pain" (PT 08 FG 1; PT 17 FG2)*

"*There is a shortage of nurses, hence overworking really demotivates them, however they are mostly supported through counselling" (PT 10 FG1)*

"The quality improvement team will give suggestions on how nurses managing cancer pain will be supported, currently the hospital chaplain is usually available to support both nurses and patients" (PT 05 FG 1)

Theme five: Regular periodic evaluation of cancer pain management processes by Interdisciplinary quality improvement teams:

There was no clear regular periodic evaluation (audit) of cancer pain management processes, the processes were quite fragmented, and the audits were considered the responsibility of the palliative care nurse who did daily rounds to support cancer pain management. Participants said that the team had been set up and it was relatively new, all participants were in agreement that regular periodic evaluation will be done through the teams.

"*Yes, the team is in place and is composed of a medical officer, departmental nurses, nursing officer in charge of the Hospital, a nutritionist, physiotherapist...'(PT 05 FG 1) "…the hospital pharmacist is in the team and there is religious representation from the hospital chaplain"(PT 09,10 FG1).*

"*Currently there is no clear audit of cancer pain management processes here, the team is new and we are in the process of giving them the terms of reference" (PT 05, 07 FG1; 16 FG 2)*

Theme six: Timely referrals to pain speciality, patients' satisfaction and outcomes

The participants voiced concerns that there was no pain management consultant or oncologist in KCTRH at the time of the study. The patients with prolonged unrelieved pain were mainly referred to the national referral hospitals.

"*Patients with pain are usually given a referral note, a call is made to the referral facility" (PT 17 FG 2).*

"There *is no oncologists or pain management consultant currently, patients whom we feel need further evaluation are referred to MTRH or KNH" but we stabilize them first and some are referred via County Ambulance Service (PT 07 FG1)*

"*The hospital is in the process of setting up an oncology unit and automatically we will have the specialities coming on board" (PT 05 FG1).*

The participants voiced concerns that, primary health facilities were not at the time of the study allowed to manage cancer pain, and once they referred patients to Kisii County Teaching and Referral Hospital (KCTRH) some aspects of managing severe pain were not in place despite patients having high expectations that the services could over them relieve, this contributed to low satisfaction and poor outcomes with optimal pain relief according to the participants.

…"Patients' *expectations are quite high, we cannot give other forms of pain management like palliative chemotherapy because it is not available here and so far we have no donors to support the program' this negatively impacts on patient and service outcomes'(PT 08 FG 1; PT 16FG2).*

DISCUSSION

The findings from nurse respondents showed strict regulations to opioid use (25.5%), the results from the FDGs showed strict regulations with opioid analgesics being labelled as 'Controlled Drugs' and strictly issued to patients who were assigned a palliative care number, the hospital managers also reported that estimates for allocation were based on patients' previous utilization of opioids yet some patients deserving opioids never get to utilize them, hence underestimation was common, the findings on strict regulations to opioid access align with those described by Imeraj, Veseli, and Pirushi (2022) in a study done in Tirania where 43.7% of the nurses described delays in obtaining a prescription for opioid analgesics for their patients as barriers to administration of opioids to patients; similar findings were obtained in a study done in the west bank where 69.5 % of nurses reported strict regulations to opioid use with 56.4% reporting delays in getting a prescription of opioids for their patients as a barrier (Toba, Samara, and Zyoud., 2019).

The findings from this study that opioids have abuse potential and should be managed in line with the Controlled Drugs Act (CDA) and the strict ordering and estimation of opioid needs align with those obtained by a study done among patients by the American Cancer Society Cancer Action Network and the Patient Quality of Life Coalition which reported challenges of accessibility to opioid analgesics due to regulatory controls imposed on opioid drug abuse, (ACSCAN and PQLC, 2018), this further aligns with other researchers who have justified the need for control of opioids by reporting increasing illegal smuggling of opioids through Africa to Europe (Kurth et al, 2018), which further leads to more restrictions to accessibility of potent opioid analgesics, the findings further align with those of Namisango and colleagues who reported overly restrictive controlled laws, use of stigmatizing language in key documents "e.g dangerous drugs" inaccurate actual

opioid consumption estimation practices, critical shortage of prescribers; high out of pocket financial expenditures; and logistical, estimation and procurement challenges which leads to chronic stock outs of opioid analgesics (Namisango et al, 2018).

On the findings about fear of side effects (17.9%) of opioid analgesics, similar findings have been reported by various studies (Oliveiria, 2018; Charalambous et al, 2019).The findings that opioid analgesics were not always available and accessible as reported by nurse respondents (41.9%) and departmental heads align with those described in systematic review in Sub-Saharan African countries which pointed out limited accessibility to potent analgesic drugs (Odonkor, Kim and Erdek, 2017; Nchako et al, 2018) and those reported by Reid et al, (2018) in an Ethiopian study which reported very high costs of accessing opioid analgesics limiting accessibility by cancer patients; the findings also align with the World Health Organization estimates that 80% of the world population have insufficient access to appropriate opioid analgesics creating barriers to cancer pain relief for patients who require aggressive pain management (WHO, 2020). This finding on unavailability of opioid analgesics is a health system issue affecting most countries worldwide, which is further complicated by the opioid abuse pandemic, with the regulations imposed to curb misuse of this drugs, supporting policies have been put in place which have further complicated accessibility to opioids, this is evidenced by a report by the International Narcotic Board which stated that only 14.3% of morphine is used by low and middle-income countries while 85.7% of global consumption of morphine for pain management was utilized by countries in North America and Europe (International Narcotics Control Board, 2022).

The findings from this study that nurses did not optimally utilize validated clinical guidelines for assessment and treatment of cancer pain and that there was no guideline to guide management of existential pain (100%) aligns with the barriers reported by Deldar, Froutan and Ebadi (2018) which included time constraints due to shortage of nurses and lack of clear workplace policies on utilization of specific pain assessment tools leading to poor pain assessment and rating in cancer patients.

The findings from this study that 61.2% of the nurses had received cancer pain management training which was affirmed by the departmental heads who reported availability of weekly trainings by Kenya Hospices and Palliative Care Alliance (KEPHCA), is contrary to the findings reported by Charalambous and colleagues who reported inadequate training of healthcare workers (Deldar, Froutan and Ebadi, 2018; Charalambous et al, 2019), however the training described in this study is about the CMEs mainly among nurses and other health care workers, and some researchers have described failure of nurses to translate knowledge into practice further creating barriers to optimum pain relief among patients (Kwon, 2014).

The findings that referrals to healthcare professionals with specialized skills was not timely as reported by nurse respondents (56%), a lack of pain specialists and a functional interdisciplinary quality improvement team respectively (54.4%) as reported by the respondents align with those of Donati et al (2024) in their multicentre study in Italy which reported inadequate analgesic therapy and late referrals to pain speciality where 72% of patients referred late for palliative radiation therapy who additionally had ineffective analgesic therapy due to poor quality assurance procedures, the findings on unavailability of pain specialists further align with those reported in a systematic review on cancer pain management in Sub-Saharan Africa which reported limited funding, inadequate healthcare infrastructure, lack of trained health professionals as barriers to adequate pain relief among cancer patients (Odonkor, Kim and Erdek, 2017), similar findings have

also been described by Namisango and colleagues which included shortages of specific staff specialties for cancer pain management and low resource allocation to cancer pain management (Namisango et al, 2018; MOH, 2021).

CONCLUSIONS

The health facility barriers reported by the respondents and affirmed by the departmental heads caused inefficiencies in cancer pain management, limiting the ability of nurses to effectively provide pain management to cancer patients as per their scopes of practice. This included: Strict regulations and logistical challenges in accessibility to potent opioid analgesics, unavailability of opioid analgesics, lack of functional quality improvement teams, lack of pain specialists and non-utilization of validated clinical guidelines.

Recommendation

The researchers recommend that the Ministry of Health and the Kisii County Department of Health should facilitate policy changes to include revisions to the strict rules and regulations of prescribers and prescribing of opioid analgesics (while ensuring safety) to enable timely administration of opioid analgesics by nurses.

The department of health should put in place clear workplace policies on utilization of specific pain assessment tools and rating in cancer patients

The department should embrace effective models of opioid ordering and distribution to expand the scope of accessibility to morphine for patients with breast cancer, the county also has the potential to locally produce morphine and other opioids.

The Kisii County department of health should also consider setting up an oncology centre and employing specialists to include, a medical oncologist, breast surgeon, pain specialists and oncology nurses.

The department should also consider setting up a breast care centre within the oncology centre to manage the specific types of pain for patients with breast cancer which include; pain from lymphedema following surgery, pain at mastectomy side arising from surgery and/or radiation, shoulder pain, psychological pain and spiritual pain.

The Kisii Teaching and Referral Hospital should put in place measures to facilitate adequate training of nurses and other health professionals practicing in oncology using highly effective models, this is essential to provide effective pain management to improve the quality of care of patients with breast cancer.

Recommendation for further research

More studies are needed among other healthcare workers who are directly involved with breast cancer care and pain management.

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Conflict of interest

All authors have no conflict of interest

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