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USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE BY CANCER PATIENTS ATTENDING JARAMOGI OGINGA ODINGA TEACHING AND REFERRAL HOSPITAL, KENYA

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Abstract

This study aimed to determine the prevalence and patterns of complementary and alternative medicine use among cancer patients at Jaramogi Oginga Odinga Teaching and Referral Hospital's Oncology and Palliative Care Unit. A cross-sectional study was carried out at the hospital. Seventy-one (71) participants were conveniently sampled. They were eligible to participate if they were at least 18 years old, had a cancer diagnosis, and could comprehend the questions. A questionnaire was used to collect data that was then analysed using STATA 13.0 at a 0.05 level of significance. Participants included 25(35.2%) males and 46(64.8%) females were recruited. About 67.6 per cent of the participants used complementary and alternative medicine. Majority used it for Tumour suppression (n = 25, 52.1%), and most sourced from CAM practitioners (n = 23, 47.9%). Overall, 60.4 per cent of complementary and alternative medicine users experienced side effects, with diarrhoea affecting the greatest percentage (62.1%). The highest level of education was found to be positively associated with the use of complementary and alternative medicine (aOR=3.337). In conclusion, complementary and alternative medicine is widely used by cancer patients attending Jaramogi Oginga Odinga Teaching and Referral Hospital Oncology and Palliative Care Unit. As a result, there is need identify specific herbs taken by cancer patients, evaluate their active constituents, and investigate their potential anticancer mechanisms, as well as assess their knowledge, attitude, and perspective.

Key terms: Medicine, oncology, palliative care, patients, prevalence

1.0 INTRODUCTION

Complementary and Alternative Medicine (CAM) refers to a diverse range of non-conventional methods and practices used for the diagnosis, treatment, and prevention of diseases. According to the National Center for Complementary and Integrative Health (NCCIH), CAM includes approaches such as herbal therapies, biologically-based treatments, and techniques that engage with the body's energy systems and consciousness (Ng et al., 2023; RN et al., 2022).

Complementary and alternative medicine is divided into two main types: complementary medicine which is incorporated alongside conventional therapy to enhance their effectiveness and alternative medicine that is used in place of the standard orthodox treatment. For instance, patients may use acupuncture as a complementary therapy to alleviate pain during cancer treatment or herbs in place of the prescribed medications for chronic conditions (Alfituri et al., 2024).

This growing interest in CAM reflects a broader shift towards holistic approaches in healthcare. Despite significant advancements in cancer treatment, cancer remains one of the major causes of mortality and morbidity globally. The adoption of complementary and alternative medicine (CAM) among cancer patients is widespread, with approximately 80 per cent of individuals in low-income regions and nearly 50 per cent in high-income countries utilising CAM for various health needs (Källman et al., 2023). The high cost associated with conventional healthcare, including medical care, prescription drugs and vaccines, drives over 80 per cent of people in economically disadvantaged areas to seek indigenous natural products for healthcare management. Cancer patients often turn to CAM for several reasons, including immune support, alleviation of side effects from conventional treatments, and pain management (Källman et al., 2023).

2.0 LITERATURE REVIEW

Historically, the uses of complementary and alternative medicine (CAM) saw a significant increase from the 1990s to the 2000s, particularly with herbal therapies emerging as one of the most popular forms of CAM (Molassiotis et al., 2005). Research indicates that up to 93 per cent of cancer patients have reported using CAM at some point during their treatment, often to complement conventional biological therapies and enhance treatment outcomes (Keene et al., 2019). A meta-analysis found that CAM use in cancer care increased from an estimated 25 per cent in the 1970s and 1980s to over 32 per cent in the 1990s and to 49 per cent after 2000, highlighting a significant trend in CAM utilisation among this population (Horneber et al., 2012). In the United States, a consumer survey revealed that 43 per cent of cancer patients utilise CAM, compared to 34.9 per cent of the general population (Keene et al., 2019a).

According to a Consumer Survey on Medication Experience and Pharmacist Role in the USA, 43 per cent of cancer patients use complementary and alternative medicine (CAM), compared to 34.9 per cent of patients with other health conditions (Keene et al., 2019a). Over the past decade, the number of individuals visiting CAM specialists in the United States has significantly increased, rising from 427 million in 1990 to 629 million in 1997 (Adams & Jewell, 2007). Research indicates that up to 93.1 per cent of individuals report having used CAM at some point during their illness.

In Sub-Saharan Africa, the adoption of CAM among cancer patients has increased, with prevalence rates as

high as 73.5 per cent in Ghana, 79 per cent in Ethiopia, and up to 77 per cent in Uganda (Mwaka et al., 2020). Kenya, home to diverse ethnic groups with rich traditions of herbal medicine, has seen similar trends. Specifically, research in Kenya highlights that the popularity of indigenous palliative care among cancer patients is driven by a desire for a cure, positive past experiences, cultural beliefs, and trust in traditional practices (Cheboi et al., 2023; Tulunay et al., 2015).

To date, few studies have investigated CAM use among cancer patients in Kisumu County, where the unique cultural landscape may significantly impact patient choices. This study addresses this gap by examining CAM usage patterns among cancer patients at Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) in Kisumu. The hospital serves a population with limited access to conventional therapies, making CAM an important alternative. By providing baseline data on CAM use in this setting, this study aims to inform.

3.0 METHODOLOGY

This cross-sectional study was conducted at the Oncology and Palliative Care Unit of Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) in Kisumu County, a key cancer treatment centre in Western Kenya. The sample size was established using Fisher's method, with an initial calculation of 385 participants adjusted to 132, in consideration of the hospital's cancer patient population. Eligibility criteria included adult patients aged 18 and above, diagnosed with cancer, of either gender, capable of understanding the study questions, and providing informed consent. Exclusion criteria included patients who were unconscious, under the age of 18, not diagnosed with cancer, or unable to participate due to severe pain or unstable mental conditions.

Convenience sampling was employed, inviting eligible patients attending the Oncology and Palliative Care Unit during the four-week data collection period to participate. Data were collected using a structured questionnaire that captured demographic details, medical characteristics, and CAM usage information, including history, sources, and motivations for use. Research assistants facilitated questionnaire completion, double-checking responses for accuracy.

Ethical approval was secured from the KNH-UON ERC (KNH-ERC/A/232), JOOTRH review committee (ISERC/JOOTRH/715/23), and NACOSTI (NACOSTI/P/23/28005). Data collection permission was also obtained from the JOOTRH Chief Executive Officer (GEN/21A).

Data were managed and analysed using STATA version 13.0 and Microsoft Excel. Descriptive statistics summarised demographic and clinical characteristics, while Pearson's Chi-square test was used to compare CAM users with non-users. Logistic regression analysis explored associations between CAM use and socio-demographic variables, with a significance threshold set at $p < 0.05$. Findings with p-values below this threshold were considered statistically significant.

4.0 RESULTS AND DISCUSSION

A total of 71 participants, aged between 21 and 78 years, were interviewed for this study. The highest concentration of participants fell within the age groups of 31–40 and 51–60 years, each accounting for 22.5 per cent of the total sample. Participants in the 21–30 age group represented the smallest segment.

Detailed socio-demographic features of the study population are provided in Table 1. Table 2 summarises the types and stages of tumours diagnosed in participants and outlines the conventional treatments currently being administered.

Prevalence of Complementary and Alternative Medicine Use

The study found that 67.6 per cent (n=48) of participants used complementary and alternative medicine (CAM), while 32.4 per cent (n=23) did not report using CAM therapies. Among CAM users, there was a notable gender difference: more females (n=32) reported CAM use compared to males (n=16). This finding underscores potential gender-specific preferences or inclinations toward CAM adoption among cancer patients at Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) in Kisumu, warranting further investigation into the factors influencing CAM use within this population.

Table 1: Socio-Demographic Characteristics of Study Participants

Age group	**Frequency(n)**	**Percentage (%)**
21-30	5	7.0
31-40	16	22.5
41-50	14	19.7
51-60	16	22.5
61-70	14	19.7
Above 71	6	8.5
Gender		
Males	25	35.2
Females	46	64.8
Religion		
Christian	70	98.6
Muslim	1	1.4
Marital status		
Married	48	67.6
Single	3	4.2
Widowed	17	23.9
Divorced	3	4.2
Highest level of education		
None	2	2.8
Primary	33	46.5
Secondary	25	35.2
Tertiary	11	15.5
Monthly household income (Kshs.)		
Below 10000	38	53.5
10001-30000	25	35.2
30001-50000	6	8.5
50001-100000	1	1.4
Above 100000	1	1.4

Table 2: Type of Tumour Diagnosed

Type of tumour	Frequency	Percentage
Breast	20	28.3
Prostate	13	18.3
Cervical	10	14.1
Oesophagus	7	9.9
Ovarian	4	5.6
Lymphoma	4	5.6
Stomach	4	5.6
Others	9	12.6
Stage of tumour		
1	9	12.7
2	23	32.4
3	34	47.9
4	4	5.6
Remission	1	1.4
Conventional treatment		
Chemotherapy	41	57.8
Surgery	22	31
Radiotherapy	4	5.6
Hormonal	4	5.6

The majority of participants sourced complementary and alternative medicine from CAM practitioners having learnt about complementary and alternative medicine from friends and relatives. The main reason for complementary and alternative medicine was for Tumour suppression. The most popular form of CAM was, however, the use of herbs (table 3), with the majority experiencing diarrhoea as a side effect, as shown in Table 4.

Table 3: Information on Complementary and Alternative Medicine

Reasons for CAM use	Frequency	Percentages
Tumour suppression	25	52.1
Complementary effects	19	39.5
Improve immune system	3	6.3
Reduce side effects from conventional treatment and disease	1	2.1
Sources of CAM		
CAM practitioners	23	48
Friends	14	29.2
Market areas	10	20.8
Clinicians and health care practitioners	1	2
How they learnt about CAM		
Friends and families	28	58.3
CAM practitioners	8	16.7
Fellow patients	6	12.5
Media	4	8.3
Health care practitioners	2	4.3
Type of CAM used		
Herbs	35	72.9
Vitamins	7	14.5
Nutritional	2	4.2
Natural supplements	1	2.1
GNLD products	1	2.1
Faith healing	2	4.2

Table 4: Side Effects Experienced from Complementary and Alternative Medicine Use

Side effects	Frequency(n)	Percentage (%)
Diarrhea	18	62.1
Vomiting	5	17.3
Headache	4	13.8
Fatigue	1	3.4
Severe bleeding	1	3.4

From our results, 91.7 per cent of CAM users were never asked about CAM use by the healthcare personnel attending to them. This contributed to a greater rate of non-disclosure (90.7%), as seen in Table 5 below.

Findings show that 91.7 per cent of CAM users were never inquired about their CAM usage by their healthcare providers, which contributed to a high rate of non-disclosure (90.7%) among patients, as outlined in Table 5. Logistic regression analysis was conducted to assess the relationship between CAM use (the dependent variable) and several independent variables, with statistical significance set at a p-value of

0.05 (Table 6). In bivariable logistic regression, only the level of education was significantly associated with CAM use (p=0.040, OR=2.017). This association became stronger with multivariable regression analysis, where education level (p=0.010) and cancer stage (p=0.033) both showed significant associations with CAM use. Overall, there was a positive association between CAM use and the evaluated independent variables.

Table 5: Disclosure of Complementary and Alternative Medicine

Was the patient asked if they used CAM?	**Frequency(n)**	**Percentage (%)**
No	44	91.7
Yes	4	8.3
Did the patients disclose that they use CAM?		
Yes	39	89.6
No	5	10.4
What was the healthcare providers' response?		
Advised to stop	4	80
Advised to continue	1	20
Neither stop nor continue	0	0
Why did the patients not disclose?		
Never asked	35	90.7
Fear of being disapproved	4	9.3

Table 6: Logistic Regression Analysis for Prediction of Complementary and Alternative Medicine

Variable	cOR (CI); p-value	aOR (CI); p-value	
Age	1.007(0.972,1.343) ;0.687	1.028(0.981,1.077);0.246	
Gender	0.590(0.212,1.648); 0.315	0.349(0.087,1.405); 0.139	
Education level	**2.017(1.033,3.943); 0.040***	**3.337(1.338,8.322); .010***	
Monthly household income	1.294(0.713,2.352) 0.396	1.183(0.587,2.384); 0.638	
Marital status	1.304(0.796,2.138); 0.292	1.925(0.962,3.852);0.064	
Stage of cancer	0.644(0.348,1.194); 0.163	**0.434(0.201,0.937); .033***	
Treatment received	0.945(0.516,1.731); 0.854	1.674(0.759,3.692); 0.202	

Discussion

This study reveals a substantial use of complementary and alternative medicine (CAM) among cancer patients at the oncology and palliative care unit of Jaramogi Oginga Odinga Teaching and Referral Hospital, with a prevalence rate of 67.6 per cent. The higher CAM usage among female patients aligns with the broader trend where women, who are often more proactive in managing their health, tend to use CAM more than men. Additionally, most CAM users in this study were low-income earners (earning less than 10,000 KES per month). This trend is consistent with existing literature, which indicates a growing use of CAM, particularly in settings where economic constraints and limited access to conventional cancer treatments drive patients to seek alternative options (Asiimwe et al., 2021; Hill et al., 2022; Yekta et al., 2023). In many developing countries, the high cost of cancer management, coupled with limited resources, often makes CAM an attractive option for patients.

In this study, a forward stepwise regression analysis highlighted a significant association between CAM usage and the highest level of education attained (OR = 3.337, p = 0.010). This finding suggests that education level influences CAM use, likely due to the increased knowledge and health awareness associated with higher education (Bray et al., 2018). Educated individuals may also be more aware of CAM options and their potential benefits, as well as the limitations of conventional treatments in managing cancer symptoms or side effects.

Other studies echo the popularity of CAM, especially among female, Christian, married, and more educated individuals, highlighting a demographic pattern that suggests cultural and social influences on CAM use. Contrarily, de Moraes Mello Boccolini and Siqueira Boccolini (2020) reported a lower prevalence of CAM use among cancer patients in Brazil, suggesting that regional, economic, and healthcare system differences may significantly impact CAM trends across countries. Research by Hamdi et al., 2021 and Keene et al., 2019b further supports the idea that higher income and education levels can be linked with increased CAM usage, pointing to both access and health literacy as contributing factors.

In many parts of the world, especially in developing regions, CAM is often used as a response to limited access to medical equipment, specialised resources, and oncology expertise—factors that disproportionately affect women and influence their healthcare choices (Kristoffersen et al., 2022). In Kenya, a study at Kenyatta National Hospital found low CAM usage among cancer patients, regardless of demographic factors such as age, gender, marital status, or education (Ong'udi et al., 2019). However, Jaramogi Oginga Odinga Teaching and Referral Hospital, being in a more rural setting, provides easier access to herbal remedies and other CAM practices that are integral to the local culture and health-seeking behaviours. The hospital serves a largely homogenous ethnic population, which may contribute to the high rates of CAM use observed in this study, as cultural norms and shared beliefs can strongly influence health decisions and the acceptance of alternative treatments.

Overall, this study underscores the need for more robust healthcare resources and patient education around CAM to support informed decision-making, especially in resource-limited settings. Addressing these gaps could lead to more integrated care models that accommodate patient preferences while ensuring safety and efficacy in cancer treatment.

The study's sample was limited to cancer and palliative care units, making it ungeneralisable since not all cancer patients at the hospital were included in the study. The sample size was not met. Being a cross-sectional study, it was impossible to evaluate the causal association between complementary and alternative medicine use, and sociodemographics was not determined. The study also had response bias and did not specify herbs or modalities used, potentially disrupting CAM use reporting patterns.

5.0 CONCLUSION

The significant prevalence of complementary and alternative medicine (CAM) use among cancer patients in the oncology and palliative care unit at Jaramogi Oginga Odinga Teaching and Referral Hospital, Kisumu, highlights the need for further research into specific herbs, active compounds, and their mechanisms of action. It is essential for healthcare practitioners to conduct comprehensive patient histories that include CAM usage and to establish guidelines and policies promoting the safe, rational use of CAM alongside conventional treatments. This approach will support improved patient outcomes and better integration of CAM within standard healthcare practices.

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