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Research article

Complementary and Alternative Medicine Use and Adherence to Conventional Cancer Treatment in Meru County, Kenya

Kiraki Monicah Wambui[1,2]*, Gabriel Mbugua[2], Robert Kei Mburug[2], Catherine Gichunge[1]

[1]Chuka University. Chuka, Kenya
[2]Meru University of Science and Technology. Meru, Kenya
*Corresponden Author: Kiraki Monicah (kmkaminih86@gmail.com) (mkiraki@chuka.ac.ke)

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ABSTRACT

Background: Non-communicable diseases (NCDs) are the leading cause of global mortality with cancer ranking among the top cause of death. Unfortunately, most of these deaths occur in developing countries due to delays in the diagnosis of the disease. Consequently, the use of complementary and alternative medicine (CAM) among cancer patients is on an upward trend hence adherence to conventional cancer treatment (CCT) is a major health concern**.**

Methods: A cross-sectional study was carried out in a conventional cancer centre in Meru County. A researcher-administered questionnaire was used to obtain data from 117 consenting patients. Demographic data, clinical data, history of any use of CAM before and after cancer diagnosis and any side effects were obtained from the study participants. Data were analyzed using the Statistical Package of Social Sciences (SPSS).

Results: There were more female (53.8%) participants, mainly married (59.8%), Christians (97.4%) with primary education and above (69%). Almost half of the participants (47.9%,) were using CAM. Most of the participants (85.7%) started using CAM after a cancer diagnosis. More than half of the respondents using CAM (52%) had disclosed to the HCP mainly to find out about drug-drug interaction risk (41.4%). Only one (1.8%) CAM user had withdrawn the CCT to use CAM due to dissatisfaction with conventional medicine.

Conclusion: The use of CAM is complementary and not alternative to CCT and hence may not influence adherence to CCT among cancer patients in Meru County. However, there is a need to provide health education to cancer patients on the use of complementary medicine and analyze the outcomes of patients who use complementary medicine while on CCT.

I. Introduction

Non-communicable diseases (NCDs) are the leading cause of global mortality with cancer ranking among the top causes of death and the single most important barrier to increasing life expectancy across countries (WHO, 2018). According to Global Cancer (GLOBOCAN) 2020 reports, there were an estimated 19.3 million new cases of cancer and about 10.0 million cancer deaths in the year 2020 (Sung et al, 2021). The majority of these deaths were in developing countries due to late-stage presentation, and lack of access to timely treatment (WHO, 2020).

Studies have indicated that cancer patients in both developed and developing countries, use complementary and alternative medicine (CAM) despite being prescribed conventional cancer treatment (CCT) such as chemotherapy and radiotherapy. Less than half (34%) of cancer patients in Sweden use CAM to improve their physical, emotional and general wellbeing (Wode et al, 2019). Similarly, 37% of

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cancer patients in Korea (Kwon et al, 2019) and 45.9% in Iran (Dehghan et al., 2019) use CAM. Similarly, in Sub-Saharan Africa, 54. 5% of cancer patients reported use of traditional, complementary and alternative whereas 26.7% combined with the CCT (Hills et al, 2019).

It has been documented that there is an added advantage to the well-being of the patient following the use of complementary medicine (Frass, 2018). However, the use of alternative medicine without complementary conventional treatment may lead to death in some rare cases (Johnson et al, 2018 (a)). Previous studies have also indicated that the use of CAM is associated with a delay in receiving CCT (Chotipanich et al, 2019).

Moreover, a previous study conducted in Kenya on the use of CAM among cancer patients found that some cancer patients 14.1% were using CAM (Ong'undi et al, 2018) though the use is not associated with patients' demographic factors (Wambui, 2020). Despite the increased use of CAM by these patients and the associated risks, there is minimal data in Kenya on its influence on adherence to CCT.

The purpose of this study was to examine whether the use of CAM by cancer patients compromises their adherence to prescribed conventional cancer treatment.

II. METHODS

This was a descriptive cross-sectional study with 117 purposively sampled cancer patients in a conventional cancer treatment centre. A researcher-administered questionnaire was used to obtain data for the study. The questionnaire obtained demographic and clinical data, information on the use of CAM before and after diagnosis of cancer and the side effects observed following the use of CAM. In addition, the data collection tool also assessed if the CAM users had at any point withdrawn from the CCT to use the CAM. Data were analyzed using Statistical Package of Social Sciences version 22 (SPSS) and presented in tables.

The study was approved by the Meru University of Science and Technology Institutional Research Ethics and Review Committee (Mu/1/39/33(103) and written consent was obtained from those who met the inclusion criteria and voluntarily agreed to participate in the study.

III. RESULTS

Most of the respondents were 46 years old and above while the youngest was 16 years old. There were more females (53.8%) than males, married and most respondents had attained primary school education and above (Table 1).

Table 1. Socio-demographic characteristics of respondents

Characteristic	Frequency (n=117)	Percentage
Age (years)		
16 – 30	9	7.7
31 – 45	15	12.8
46 – 60	44	37.6
61 – 75	30	25.6
Above 75	19	16.2
Gender		
Male	54	46.2
Female	63	53.8
Level of education		
None	31	26.5
Primary	53	45.3
Secondary	25	21.4
Tertiary	8	6.8
Marital Status		
Single	11	9.4
Married	70	59.8
Separated/divorced	11	9.4
Widowed	25	21.4

Total	117	100.0
Religion		
Christian	114	97.4
Muslim	3	2.6
Location of Residence		
Urban	24	20.5
Rural	93	79.5
Total household income		
Below 10,000	61	52.1
10,001-50,000	49	41.9
Above 50,000	7	6.0
Source of household income		
Employed	8	6.8
Casual worker	32	27.4
Self Employed	37	31.6
Peasant farmer	40	34.2

The most frequent cancers among the respondents were cancers of the gastrointestinal tract and head and neck while hematologic had the least frequency. Most cancers had been diagnosed while in stage two or three (Table 2).

Table 2. Clinical Characteristics of respondents

Characteristic	Frequency (n=117)	Percentage
Site of primary cancer		
Head and neck	21	17.9
Respiratory	6	5.1
GIT	31	26.5
Breast	16	13.7
Cervix	15	12.8
Prostate	6	5.1
Urinary	3	2.6
Hematologic	1	.9
Bone	2	1.7
Skin	2	1.7
Gynaecological	2	1.7
Colorectal	10	8.5
Anaplastic carcinoma	2	1.7
Duration of illness		
Less than 12 months	41	35.0
13-24 months	40	34.2
25 - 36 months	12	10.3
37-48 months	10	8.5
More than 48 months	14	12.0
Stage of cancer at the time of diagnosis		
Stage I	5	4.3
Stage II	53	45.3
Stage III	45	38.5
Stage IV	14	12.0
Family history of Cancer		
Yes	32	27.4
No	85	72.6
Conventional treatment received		
Chemotherapy	11	9.4
Radiotherapy	4	3.4
Surgery only	24	20.5
Chemotherapy and radiotherapy	13	11.1
Chemotherapy and surgery	9	7.7
Radiotherapy and surgery	7	6.0

Surgery, chemotherapy and radiotherapy	12	10.3
Hormone therapy	1	.9
Palliative care only	36	30.8

Just less than half of the participants (47.9%) were using complementary medicine. More than half (85.7%) of the CAM users (n=56) initiated their use of CAM after a diagnosis of cancer was made. More than half of respondents using CAM had disclosed their use to their health care providers mainly to find out about drug interaction. Fear of health care providers' reaction was the main reason for non-disclosure. When respondents using CAM were asked if they had withdrawn from CCT to use CAM, only one respondent confirmed to have done so due to dissatisfaction with CCT (Table 3).

Table 3. Use of CAM

Variable	**Frequency**	**Percentage**
Use of CAM among respondents (n=117)		
Yes	56	47.9
No	61	52.1
Initiation of use of CAM (n=56)		
Before a diagnosis of cancer	8	14.3
After a diagnosis of cancer	48	85.7
Disclosure of use of CAM (n=56)		
Yes	30	52
No	26	48
Reasons for disclosure (n=30)		
To find out about drug-drug interactions	12	41.4
To inform the health care provider	8	27.6
To seek more advice	6	20.7
To hear the views of the healthcare provider	3	10.3
Reasons for non-disclosure (n=26)		
Fear of health care provider's reaction	9	33.3
It is not necessary	5	18.5
The CAM method being used is not harmful	6	22.2
Not willing to disclose	4	14.8
Still planning to disclose	3	11.1
Withdrawal from CCT to CAM (n=56)		
Yes	1	1.8
No	55	98.2

Logistic regression was carried out to determine any sociodemographic characteristics that significantly influence the level of adherence to CCT while using CAM. Table 4 shows that were no sociodemographic characteristics which were significantly associated with adherence to CCT due to the use of CAM in the present study ($p > 0.05$)

Table 4: Multivariate regression analysis showing factors associated with adherence to CCT while using CAM (n=56)

Variables	COR(95%CI)	AOR (95%CI)	p-value
Age	1.443(0.791,2.633)	2.280(0.984,5.283)	.045
Gender	0.767(0.257,2.284)	0.303(0.066,1.398)	.226
Level of education	1.048(0.375,2.927)	1.259(0.305,5.202)	.550
Marital status	2.248(0.358,6.245)	4.229(1.254,22.785)	.072
Religion	0.814(0.426,1.557)	0.527(0.219,1.267)	.267
Location of residence	0.358(0.245,1.376	0.492(0.250,2.319)	.523
Total household income	1.305(0.234,1.787)	3.605(0.225,2.72)	.632
Sources of household income	2.103(1.787,11.248)	1.460(0.489,12.201)	.118

IV. DISCUSSION

The use of CAM in this current study 47.9% is within the range of use of CAM among cancer patients in Sub-Saharan Africa (Mwaka et al, 2020). The characteristics of use and types of CAM used have been discussed in part one of the study (Wambui, 2020). The prevalence of use is as well close to 45% in the (Jermini et al., 2019) study. This close range of prevalence may occur since the studies have been conducted in cross-sectional designs within CCT centres and in Sub-Saharan Africa. It is however lower than 90.7% that was recorded in Lyon, France probably because the data in this study was obtained from multiple palliative centres (Filbet et al., 2020).

Most of the participants in this study (85.7%) started using CAM after a cancer diagnosis was made. Similarly, in previous studies, more patients commenced their use of CAM after being diagnosed with the disease; in Sudbury, Ontario, there was a significant increase in the use of biologically-based products from 15.6% before cancer diagnosis to 51.6% after cancer diagnosis (Buckner et al., 2018) and 20.7% to 33.7% in France (Filbet et al., 2020). This trend of increased use of CAM after diagnosis of cancer is made may be related to the hopelessness that cancer patients may at times go through and therefore tend to do anything in their power with the hope of curing the disease.

In the present study, more than half of the respondents (52%) had disclosed their use of CAM to the HCP. However, only a third of respondents had discussed the use of CAM with the HCP in France (Wode et al., 2019) and 29.3% in the United States (Sanford et al. 2019). Fear of health care providers' reaction to using CAM was the main reason for non-disclosure in the current study which may be attributed to the differences in levels of disclosure in different studies.

Unlike previous studies where the use of CAM was associated with refusal of CCT such as surgery, chemotherapy, radiotherapy and hormone therapy (Johnson et al., 2018) and delays in initiating conventional cancer treatment (Chotipanich et al., 2019), only 1.8% of the respondents had withdrawn from CCT to use alternative medicine (AM) in the present study. This difference may occur due to the type and availability of the CAM to cancer patients, differences in knowledge levels of the CAM and the diversity of study designs used. Furthermore, the withdrawal from CCT was not significantly associated with any sociodemographic characteristic of study participants ($p > 0.05$).

V. CONCLUSION

The use of CAM is complementary and not alternative to CCT and it does not influence adherence to CCT among cancer patients in Meru County. However, there is a need to provide health education to cancer patients on the use of complementary medicine and analyze the outcomes of patients who use complementary medicine while on CCT.

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