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# FROM DESPAIR TO HOPE: CANCER INDIGENOUS KNOWLEDGE PRACTICES (CIK) IN UGANDA

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**ABSTRACT:** Cancer indigenous knowledge (CIK) through ethnobotanical research has been able to identify plants with anti-cancer agents. These medicinal plants are used to prevent and treat various types of cancer to improve the survival rate and quality of life. This study aimed to examine the CIK practices in Uganda. The study-specific objectives included: to establish the information needs of the cancer patients in Uganda; to identify the types of cancers in Uganda; to examine the CIK practices in Uganda (CIK); to examine the factors that could either promote or hinder the access and utilisation of CIK in Uganda. A phenomenological research design with a qualitative approach was adopted. Data were collected through face-to-face in-depth interviews with the CIK practitioners, cancer patients, and managers of CIK to ascertain the CIK practices in Uganda. The findings show that factors that facilitated access were: side effects from conventional treatment, information from trusted sources, availability of herbs, and the increased interest in CIK. The study further identified factors hindering access which include: non-documentation, non-government support, poor perception of CIK, and lastly, non-availability of the documented CIK. Lastly, the study recommends that the government of Uganda through the MoH should streamline traditional medicine into the health system; CIK practitioners to engage in research and promote documentation of the available CIK practices; IK practitioners to carry out public sensitization on what IK is and what it is not.

**KEYWORDS:** cancer, cancer indigenous knowledge, indigenous knowledge, Uganda.

## BACKGROUND AND PURPOSE OF THE STUDY

Cancer has had a major impact across the world. This non-communicable disease is a burgeoning global health and economic problem Cannon et al. (2012, 3). Pain, incapacitation, mutilation, side-effects associated with cancer treatment, cost, and death, have compelled several cancer patients to seek alternative sources of remedies such as cancer indigenous knowledge (CIK) practices. CIK through ethnobotanical research has been able to identify plants with anti-cancer agents Aremu, Ncama, and Omotayo (2019, 16). These medicinal plants are used to prevent and treat various types of cancer to improve survival rates and quality of life. It is also believed that the use of traditional medicine compared to chemotherapy, for instance, is essential to healthcare because it is first of all affordable, assumed to be accessible, and with no major side effects, hence a preferred treatment option Segun, Ogbole, and Ajaiyeoba (2018, 63).

More than 21.4% of cancer patients in Europe are using complementary and alternative medicine (CAM) in the form of medicinal herbs or remedies to manage the symptoms, improve the quality of life, and possibly because it is cost-effective. Cancer patients turn to herbal medicines because of poor prognosis and rapid physical decline Molassiotis et al. (2005, 251); Bahall (2017, 9). Cancer medicinal herbs used include nettle leaves/teas, thyme, green tea, mistletoe, Ovosan (a locally produced tablet combining many herbs), selenium, ginseng, ginkgo biloba, and echinacea, blood salts, aloe vera, olive leaves, lupine extracts (angelica) and multivitamins. In the USA, the use of CAM has steadily increased and it is used by a population of between 40% and 60% of the patients diagnosed with cancer. This is in an attempt to reduce radiation or chemotherapy side effects, manage disease symptoms, improve immunity, and promote health Buckner et al. (2018, 277). In China, traditional Chinese medicine (TCM) is an alternative treatment for cancer that plays an important role during the entire course of cancer treatment like chemotherapy or radiotherapy stages and improving post-

operative symptoms like nausea, diarrhea, vomiting, pain, appetite, and fatigue Qi et al. (2015, 16). Examples of medicinal plants include ginkgo, kava kava, grapefruit, and St John's wort Qi et al. (2015).

The use of indigenous medicinal knowledge in developing countries has been part of therapeutic practices. In sub-Saharan Africa, indigenous medicine is essential to healthcare mainly because it is accessible and affordable Segun, Ogbole, and Ajaiyeoba (2018, 68). Furthermore, patients use CIK because of their faith and beliefs, disappointment in conventional treatment, toxic conventional treatment and to relieve symptoms of the cancer conventional treatment Yarney *et al.* (2013, 3). In Uganda, the use of ethnomedicine is above 80% especially in rural areas, with the government in the process of integrating it into the main health care system Tugume et al. (2016, 1). Cancer patients use ethnomedicine because of health systems related barriers (long-distance, transport costs, queues, unavailability of drugs), health workers' related barriers (discrimination, bribes, language) individual patients' characteristics, and socio-cultural beliefs related to the convenience, and its readily available, low cost and high efficacy of traditional medicines Mwaka *et al.* (2014). CIK has been around for decades, however, there is limited literature on the use of CIK practices in Uganda.

This study aimed to examine the CIK practices in Uganda. The study-specific objectives include 1) To establish the information needs of the cancer patients in Uganda, 2) To identify the types of cancers in Uganda, 3) To examine CIK practices in Uganda, and 4) To examine the factors that could either promote or hinder access and utilisation of CIK in Uganda.

## METHODOLOGY

The study adopted a phenomenological research design. This design and approach were used because the researchers intended to maximize the depth of information collected; therefore, the study used semi-structured interviews especially for the cancer patients and this allowed the researchers to delve into the perceptions, understandings, and feelings of the study participants since they had lived or experienced or worked with people under the cancer ordeal. The population of the study included cancer patients, indigenous knowledge managers/researchers, and CIK practitioners. The study population was purposefully sampled. In this study, eleven participants were purposively sampled. They included; seven cancer patients, two CIK managers/researchers, and two CIK practitioners. Data were collected through face-to-face in-depth interviews with the CIK practitioners, cancer patients, and managers of CIK to ascertain the CIK practices in Uganda. Additionally, a detailed document review was conducted using online resources such as Scopus, Google scholar, PubMed, and ethnomedical publications. Interview recordings were transcribed for data analysis. The transcripts together with the notes from the interviews were coded. The researchers extracted broad descriptive categories such as *information needs, types of cancer, plant species, factors promoting access, and factors hindering access.*

## FINDINGS AND DISCUSSION

The findings below were presented according to the objectives of the study.

### *Information needs of cancer patients*

The study shows that cancer patients were interested in acquiring information about: the type of cancer they have been diagnosed with, the medical experts in that type of cancer, cancer treatment, side effects, other alternative treatment in case there is any, how best they can care for themselves regarding nutrition and the cost of treatment. However, it was noted that some cancer patients fail to get access to such information especially from their physicians yet they are the most trusted sources. As shared by one respondent;

*"The doctor is a very busy man; I always fail to ask him for information even when I want to because I need to be mindful of all those people waiting outside to see him. I have always relied on other people for information like my children, friends, and the radio"*

This shows that cancer patients require information to guide them in their treatment and management of cancer but there are some unmet information needs and this corroborates with Faller *et al.* (2016, 24) who noted that cancer information needs are many but they are often unfulfilled. In studies carried out by Noh *et al.* (2009, 1278), they noted that cancer patients believe in the importance of knowing the nature of treatment and how their bodies will respond to it and if there are any possible side effects to watch out for. Shea-Budgell, Kostaras, Myhill, and Hagen (2014, 165) further noted that patients can access information from their doctors, family, friends, and media.

### Types of cancer

The study established that the most common cancers in Uganda are cervical cancer, prostate cancer, breast cancer, *Kaposi sarcoma*, Burkitt's lymphoma, lung cancer, skin cancer, cancer of the bone, cancer of the eye, cancer of the colon, and cancer of the blood. This is supported by the Uganda Cancer Institute report published in The Observer (2019), which stipulated that 22,000 Ugandans have succumbed to various types of cancer like in women most common cancers are breast cancer, cancer of the cervix, and *kaposi sarcoma*, lymphoma, cancer of the stomach, and liver cancer. In males, prostate cancer, cancer of the esophagus, liver, and lymphoma, were highly detected while the most common in children were leukemia, Burkitt's lymphoma, kidney, and sarcomas.

### CIK practices in Uganda

One of the themes that came up during the interviews was CIK practices, which included the use of herbal and conventional treatment. The study revealed that most of the cancer patients were using plants in the course of managing cancer.



**Figure 1: African Cherry (*Prunus Africana*) *Entasesa***

The findings from the study reported that the leaves and bark from this wonder anti-cancer tree are boiled and the water is given to cancer patients for drinking. One respondent mentioned that *"this was the first herb I was advised to plant when I was diagnosed with cancer...as you can see it has now grown into a tree"*. This corroborates with Komakech and Kang (2019, 1), who reported African Cherry's ethnopharmacological potential in the management and treatment of benign prostatic hyperplasia, prostate cancer, skin infections, and healing wounds.



**Figure 2: Marijuana (*Cannabis*) or *Njaga***

The study also revealed the use of marijuana in the treatment of cancer. It is either sniffed, smoked or boiled and taken as syrup. As one participant shyly commented that *"I use njaga to reduce the pains and nausea from the cancer treatment. Although every time I use it I become so sleepy, it is like taking morphine"*. This agrees with a study carried by Machado *et al.* (2008, 439), who reported that patients prepared cannabis to reduce vomiting and nausea caused by chemotherapy treatment. Furthermore, Abrams (2016, 12), noted that cannabis combats anorexia, chemotherapy-induced vomiting, and nausea, pain, depression, and insomnia.



**Figure 3: Aloe vera**

The study findings show that aloe vera leaves can either be blended with juices or boiled and then you drink the water. As noted by one respondent, *"I blend the fresh leaves with other fruits and drink, it is sour but I am now used to its taste. I was informed that it stops the growth of new blood vessels where cancer cells grow"*. This agrees with Rajeswari *et al.* (2012, 122) that fluids from the aloe vera leaves promote regeneration of human normal cells, reduces pains and inflammation, and also enhances the healing in the wounded cell monolayers.

The findings revealed that many cancer patients ate fresh fruits or blended the fruits to make juice for drinking. Examples of the fruits mentioned included beetroot, soursop, carrots, etc. The participants indicated that they get the available fruits mix all of them in a blender and extract juice from them. This juice is then taken three times a day in a big mug of 500mls. Usually, the juice is taken thirty minutes before every major meal.

One participant explained that:

*"I make juice from an assortment of various fruits such as beetroot, soursop, and carrots, then I drink a glass thirty minutes before my major meals. This helps my body to absorb all the required nutrients to fight cancer in my body"*.



**Figure 6: Beetroot**

The participants in the study shared that they use beetroot to increase their blood levels. One of the respondents who reported that she was suffering from leukemia noted that she makes juice out of the beetroots.



**Figure 7: Guanabana Soursop**

Soursop is another commonly used plant by cancer patients to kill malignancy cells in various cancer. It is commonly known as the *"cancer cure fruit"*. One particular respondent remarked that *"I sometimes blend the fruits to make juice or boil the leaves and drink the water"*. Okoro-Shekwaga and Osunde (2013, 1) reported that soursop leaves, seeds, and skin are used in traditional medicine used in the treatment of cancer



**Figure 8: Garlic**

The study further revealed that cancer patients use garlic in boosting their immunity. As noted by a particular respondent, *"I always have garlic in the house, I blend it with other juices and drink. I also use it in preparing our meals"* Petrovic *et al.* (2018, 2) reported that garlic extracts are beneficial in giving better therapeutic outcome, stops the proliferation of cancer cells and reduces cancers in breast cancer.

The respondents indicated that they regularly ate greens in one of their two main meals to improve their immunity. They mentioned greens such as amaranthus, Sukuma wiki, spinach, *gyobo*, and comfrey. As one participant noted: *"My daughter who is a market vendor sends me greens every after two days. I was advised to either steam or boil the greens not to lose the nutrients"*



**Figure 9: Amaranthus (Amaranthaceae) or dodo**

The leaves from this plant are boiled and taken by the cancer patients to boost immunity.



**Figure 8: Comfrey**

The comfrey is boiled, and the water is drunk to cure pain in the bones



**Figure 9: Rosemary**

The rosemary herb has anti-cancer properties. The respondents shared that rosemary is prepared by drying the leaves, pounding them, and adding the powder to tea. Pérez-Sánchez *et al.* (2019, 1) revealed that the rosemary extract inhibits various cancer progression and metastasis.



**Figure 10: Black seed plant (Nigella sativa)**

The black seed plant are added to hot water and the concoction is taken lukewarm. Black seeds contain thymoquinone, which is an antioxidant and anti-inflammatory compound that may also have tumor-reducing properties.

## Factors promoting access and utilisation of CIK in Uganda

### Side effects from conventional treatment

This was one of the reasons why many cancer patients turn to CIK. One particular respondent noted that; “... most of the cancer patients turn to our traditional herbs to fight off the side effects as a result of the treatment they receive from hospitals like chemotherapy...”

There are several traditional herbs which are used by the cancer patients to help in addressing the side effect, which arise from treatments like chemotherapy, radiation. The herbal medicine with its low toxicity and minimal side effects Ahmad *et al.* (2017, 196) are being used to minimise the harmful side effects of the drugs Iqbal *et al.* (2017, 1130).

### A trusted source of information

Another important finding, was that cancer patients use CIK because the information was got from trusted parties like one particular respondent who said that:

*“I have a friend who is a doctor, he has on several occasions pointed out herbs for me to use to address some of the illnesses brought on by cancer or the effects, I look around for the herbs and if I can't find it I request one of my daughters to buy it from Nakasero market.”*

The study also revealed that CIK is used to complement the conventional treatment, as noted by one respondent; *“I have leukemia and instead of chemo the doctor prescribed Livic. I do use some herbs in boosting and stabilizing my platelets but this does not mean I stopped using Livic”.*

This shows that cancer patients use conventional and herbal medicines concurrently in the management of the illness.

### Availability of herbs

The study further revealed that the readily available herbs promote the use of CIK, as noted by one respondent; *“Most of the herbal plants are readily available around my home, for some that I don't have, I normally ask around the village.”*

The use of CIK is enhanced by the accessibility, availability, and affordability of traditional medicine. This agrees with a study carried out in Nigeria Oladele, Alade, and Omobuwajo (2011), which reported that the rural population embraces traditional medicine because of the inaccessibility and unaffordability of orthodox medicine. It is further supported by Ahmad *et al.* (2017, 196) that African plants have unlimited availability throughout the year.

### **Increased interest**

Lastly, the study showed that CIK of late is receiving a lot of attention as noted by one respondent that;

*"The public interest is increasing because the trends are growing. With recent studies and scientific improvements where we see drugs coming out of plants, and other countries embracing herbal medicine like Japan, Korea, China, even in Europe. This is a wake-up call for African countries to start embracing theirs."*

This supports Segun, Ogbole, and Ajaiyeoba (2018: 68), who noted that over the years, herbal medicine has gained wide acceptance because of the publicity associated with herbal medicine events. Additionally, many studies are substantiating the importance and utilisation of plants in the treatment of diseases like cancer Aremu, Ncama, and Omotayo (2019: 8). Lastly, the growth of traditional medicine in the market has led patients to these services Farooqui *et al.* (2016: 324).

### **Factors hindering access and utilisation of CIK in Uganda**

The study revealed that the following factors hindering the access and utilization of CIK in Uganda:

#### **Poor documentation**

This was one of the factors hindering access and utilisation of CIK as observed by one of the respondents:

*"...in Uganda we have a challenge of documenting most of our practices, for IK, many of the people who possess this knowledge look at it as an economic investment inherited from their parents and want to keep it in the family, they would not want to share their information."*

This shows that most CIK is not utilised by the would-be recipients mainly because it is accessible to just a few people who might even die with it. There is a need to preserve this knowledge in the form of documentation so that it can reach wide coverage. This is in line with a study carried out by Urso *et al.* (2016), who opined that there are many indigenous plants with high therapeutic and medicinal potential but are not utilized because they have not been fully researched and documented.

#### **Unavailability of CIK**

The findings revealed that CIK, which has been documented is not readily available as one respondent noted that; *"...here our IK collection is not readily available to the public, it is meant for paid-up members apart from a few publications posted on our website"*. According to George State University (2019), open access comes with advantages such as increasing visibility and the impact of the research and promoting easier access to information for everyone. Besides, infrastructural challenges are also inhibiting access to the documented CIK as noted by one respondent that; *"My organization has always been funded but most of these funders pulled out, if only we could get a funder who can help us build an infrastructure that will aid information access especially in this."*

The improvement of IT infrastructure would enhance the dissemination of CIK especially with the application of trending ICTs. This agrees with Zhang, Wang, and Duan (2016, 17) who noted that data and information can effectively be generated, stored, analysed, disseminated, and used with the rapid development of Information and Communication Technologies (ICTs).

#### **Perception**

The respondents identified the perception people attach to IK as one of the reasons for non-use. A particular respondent commented that;

*"Many people have been convinced that IK is witchcraft, this has made them shy away from IK practices for fear of being associated with witchcraft...but if you are taking tea with mujaaja or rosemary, you are using traditional medicine."*

And another one added that; “...the whites termed the use of traditional herbs as witchcraft and too ancient and this grew over time; people have been made to believe so”

The terminology “traditional medicine” is the reason why people have a bad perception of IK. This agrees with Che *et al.* (2017, 27), who reported that during colonialisation, the Christian missionaries derogatorily labeled African traditional healers as “Witchdoctors” practicing “Witchcraft.”

### **Lack of government support**

A particular respondent noted that;

*“The Ministry of Health (MoH) has notably streamlined herbal medicine practice in the health system, although it has been recognised under primary healthcare. Herbalists have tried to organise themselves, civil societies like THETA have come out to give support but without the government’s support.”*

This is supported by World Health Organization (2019) Traditional Medicine Strategy 2014-2023 key goals, which emphasises member states to harness the potential contribution of traditional and complementary medicine to wellness, health, and people-centered health care.

## **CONCLUSION**

The study concludes that the non-use of CIK was mainly due to insufficient documentation, unavailability of the documented CIK, poor perception of people towards the use of CIK and non-government support.

## **RECOMMENDATIONS**

1. The government of Uganda through the Ministry of Health (MoH) needs to streamline traditional medicine into the health system like what other countries have done so that the people can freely benefit from the opportunities it comes with and also to be able to freely discuss with doctors about the various herbal medicine without fear of being rebuked.
2. Organisations, researchers, and traditional healers need to carry out more public sensitisation about what IK is or is not. This will stop the mentality of treating herbal treatment as witchcraft and it will be embraced even by those who detest the practice of witchcraft.
3. More organisations with a similar vision like THETA should engage in research and promote documentation of the available CIK practices to improve access and thereby enable long-term preservation. There is also a need to embrace the Open Access movement. This way the vital CIK will be freely and easily accessible to cancer patients and their caregivers.

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