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An assessment of traditional and complementary medicine utilisation in cancer patients from KwaZulu-Natal, South Africa: A cross-sectional study

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Background: Traditional and complementary medicine (T&CM) use among cancer patients is increasing globally; however, it remains under-researched. Anticancer drugs have a narrow therapeutic window, and the use of complementary products may interact with chemotherapy.

Aim: This study aims to investigate the prevalence of T&CM usage, reasons for use, perceived value of T&CM and patient disclosure of T&CM use to physicians among cancer patients in KwaZulu-Natal, South Africa.

Setting: Surveys were conducted at oncology centres in the private sector in KwaZulu-Natal.

Methods: Adult cancer patients were approached to complete a survey collecting demographic data and information related to the use of T&CM. An adapted version of the International Complementary and Alternative Medicine Questionnaire was used.

Results: Sixty-nine per cent of the 100 patients surveyed were T&CM users, of which, 57% used at least one form of T&CM to treat either a side effect of chemotherapy, cancer symptoms or cancer itself. Vitamins and/or minerals were used by 45% of participants, 27% used herbal products and 9% used homeopathic remedies. The most common self-help practice was prayer (77%). One-third of T&CM users disclosed their T&CM use to their physician.

Conclusion: Most cancer patients rely on mainstream conventional medicine to treat cancer itself. However, many still use T&CM, and it is an important consideration when patients are undergoing chemotherapy. A relatively low percentage of patients disclosed T&CM use.

Contribution: This study provides recent data on commonly used T&CM modalities, reasons for use and perceived benefits. These findings emphasise potential safety considerations and the need for more integrative T&CM discussions with patients.

Keywords: traditional medicine; complementary medicine; alternate medicine; herbal medicine; cancer patients; patient disclosure.

Introduction

For the year 2021, World Health Organization (WHO) Global Data revealed cancer to be the second leading cause of death worldwide. In 2020, 10 million deaths were attributed to cancer, of which 70% was from low- and middle-income countries (LMICs).[1]

As defined by the WHO,[2] complementary medicine (CM) is a collection of healthcare practices falling outside conventional medicine and are not entirely incorporated into the mainstream healthcare system. The WHO states traditional medicine (TM) refers to the knowledge, skills and practices from indigenous theories, beliefs and experiences of different cultures being used to maintain health, and prevent, diagnose, improve or treat physical and mental illness.[2] The WHO further merges both terms to create traditional and complementary medicine (T&CM), which includes products, practices and practitioners.[2]

The WHO Global Traditional Medicine Strategy 2025–2034 gave the first formal definition of integrative medicine, describing it as an evidence-informed, interdisciplinary approach that

Note: Additional supporting information may be found in the online version of this article as Online Appendix 1 and Online Appendix 2.

combines biomedical knowledge with T&CM practices to support health and well-being.[3] The strategy emphasises strengthening scientific evidence and regulatory frameworks to ensure the safe and appropriate integration of Traditional, Complementary, and Integrative Medicine (TCIM) into health systems.[3] Its overarching goal is to promote universal access to safe, effective, and patient-centred TCIM, balancing scientific evidence with cultural respect while protecting biodiversity and indigenous knowledge.[3]

Average T&CM use in Africa is estimated to be 58.2% and has been widely used for many years to maintain health or prevent and treat infectious and non-communicable diseases.[4,5,6] Traditional and complementary medicine practices vary significantly across the globe, and even within countries, due to several factors such as diverse cultural beliefs, historical significance and the availability, affordability and accessibility of T&CM.[7] In South Africa, traditional herbal medicine was found to be very popular for treating human immunodeficiency virus (HIV),[8] and some also use herbal medicine for chronic conditions such as hypertension[9] and type 2 diabetes.[10] Traditional and complementary medicine has been adopted by South Africans to prevent and treat acute illnesses, such as headaches, the flu and common cold, indigestion and stomach problems.[11] Homoeopathy and massage therapy were found to be popular T&CM modalities reported by South Africans.[12]

In South Africa, the yearly prevalence of T&CM was reported to be 24% among the adult population.[13] In 2010, the Allied Health Professions Council of South Africa (AHPCSA) recognised and registered the following treatment modalities that were found to be common among the South African population: Acupuncture, aromatherapy, chiropractic, herbal medicines, homeopathy, massage therapy, naturopathy, osteopathy, therapeutic reflexology, traditional Chinese medicine and traditional Indian medicine such as Ayurveda and Unani.[14] Despite T&CM being popular in South Africa, the incorporation of T&CM into the mainstream healthcare system remains a challenge due to the lack of scientific research and documented safety and effectiveness of T&CM.[14]

Traditional medicine products in South Africa (known as *muthi*) often incorporate the use of animal, plant and mineral-based products, while TM practices include communicating with ancestors and ritualistic activities.[15] Most treatment forms are made from plant-derived products that are indigenous to South Africa.[15] Some of the most popular medicinal plants include buchu, African potato, African wormwood, honeybush, devil's claw, fever tea, pepperbark tree, cancer bush and milk bush.[15] Commonly sought TM practitioners in South Africa include diviners called *iSangoma*, spiritual healers who receive callings called *Umthandazis* and herbalists called *iNyanga*.[16] Traditional health practitioners also include traditional surgeons and traditional birth attendants.[17]

South Africa has a two-tiered healthcare system consisting of a public and private sector.[18] The public sector is funded by general taxation, and private healthcare is paid for out-of-pocket, often via monthly contributions to medical aid schemes. In South Africa, T&CM is paid for out-of-pocket as it primarily falls within the private healthcare sector. Additionally, while a few medical aid schemes might cover selected T&CM modalities, it is not fully covered, and individuals carry the bulk of the expenses.[18] Findings from a South African study revealed 73% of participants reported spending less than R100.00 per month on traditional herbal medicines, while a further 17% spent under R250.00 per month.[19]

A systematic review, conducted by James et al. in 2018,[20] found that most patients using T&CM do not disclose their use to physicians, either because their doctors did not ask about T&CM use or the patient fears retribution. When it comes to anticancer drugs, most have a very narrow therapeutic window, and the use of herbal supplements, which cancer patients may perceive as harmless, could interact with a chemotherapy regimen, reducing its efficacy or enhancing its toxic effects.[21] There is thus a need to assess the prevalence of T&CM use in cancer patients and determine how many cancer patients discuss T&CM with their physicians. An integrated approach of CM and conventional cancer care could increase patient satisfaction and quality of life, while monitoring the effects, risks and interactions between T&CM and conventional chemotherapy.

This study aims to investigate the prevalence of T&CM usage, reasons for use and perceived value of T&CM among cancer patients attending oncology centres in the private sector in KwaZulu-Natal, South Africa. This study will also evaluate if patients discuss T&CM use with their physician.

Methods

Study design and setting

A cross-sectional, descriptive study was carried out to describe the use of traditional, complementary and alternative medicine among cancer patients. The study setting included two oncology centres within the private healthcare sector located in the KwaZulu-Natal province of South Africa. A total of five private sector healthcare groups known to manage substantial numbers of cancer patients in KwaZulu-Natal were approached for permission to conduct this study within their facilities. Of these, only one group granted consent, authorising data collection at two of its oncology units in the province. Study participants included adult cancer patients attending the oncology centres from January 2024 to July 2024 for cancer treatment or to visit their oncologist.

Study target population and sampling strategy

The target population was adult cancer patients who were receiving conventional cancer treatment. Purposive sampling was used as participants needed to be selected based on a criterion of characteristics.

The following inclusion criteria applied:

- Persons above the age of 18 years.
- A diagnosis of cancer.
- Receiving conventional therapy and/or seeing a physician regarding their cancer.

The following exclusion criteria applied:

- Persons under the age of 18 years.
- No cancer diagnoses or new cancer diagnosis (diagnosis received within 3 months).
- Patients refusing to give informed consent.

All patients who were seriously ill and in distress or pain were excluded.

A total of 100 cancer patients met the inclusion criteria, making it a suitable sample size. The minimum sample size was set to be 96 participants. This sample size was determined using the Creative Research Systems sample size calculator.[22] The confidence level was selected at 95%, the confidence interval chosen was 10, and the population box was left blank. Instructions on the survey system stipulate that the population box is to be left blank if the population is very large. Since it was unlikely that all patients approached will give consent and complete the questionnaire, oversampling (sampling more than 96 individuals) was used in order to ensure the minimum count was met.

Data collection

The data were collected through self-completed questionnaires. Patients interested in participating were given the consent form and questionnaire to complete (Online Appendix 1).

The questionnaire was made up of two parts: one collected demographic information, and the other collected information related to the use of T&CM. The demographic data included gender, age, race, religion, education, employment, income and medical information. The questions pertaining to T&CM collected data on the types of T&CM used, reasons for use and perceived satisfaction with T&CM, as well as whether cancer patients discussed T&CM use with their physician. The survey used in the study is based on the previously validated International Complementary and Alternative Medicine Questionnaire (I-CAM-Q).[23] The consent form and questionnaire were prepared in English only, and it was ensured that all participants had sufficient English proficiency and did not require a translator. The adapted questionnaire was pretested among 15 cancer patients at the oncology centre in KwaZulu-Natal. The questions were well interpreted and answered without assistance; thus, no modification was necessary.

Data analysis

Complementary medicines were analysed from the six major disciplines recognised by the South African Health Products Regulatory Authority (SAHPRA): Aromatherapy, Ayurveda, Homeopathy, traditional Chinese Medicine, Unani Tibb and Western Herbal Medicine.[24] South African Health Products Regulatory Authority also categorises combination products, such as health supplements, as CM – 'health supplements' refers to any substance, extract or mixture of substances that is purportedly used to restore, correct or modify any physical or mental state by complementing health; supplementing the diet; or a nutritional effect, and excludes injectables and medicines listed as Schedule 1 or higher.[24] This criterion was used to classify which products used by cancer patients fall within the T&CM categories.

A cancer patient was considered to be a T&CM user if they answered 'yes' to using at least one of the following products or practices: Manipulation techniques (chiropractic or osteopathic treatment), acupuncture, Reiki, reflexology, homeopathic remedies, vitamins and/or minerals, TMs or herbal products. This study also evaluated the prevalence of prayer and self-help practices such as meditation, yoga and relaxation techniques to increase comparability with other studies. Physiotherapy does complement anticancer treatment; however, it does not form part of T&CM, thus results were reported separately. Seeing healthcare professionals that form part of mainstream medicine, such as physiotherapists and psychologists, were included to gauge the number of participants who may prefer mainstream treatment over T&CM.

Data were analysed using descriptive statistics, and responses were presented in the form of frequency tables. Logistic regression analysis was conducted to determine if there are any variables that can predict T&CM use among participants. Any misleading information and biased representation of data were avoided – data were categorised and recorded as answered by the participants. The analyses and discussions were conducted with a focus on rigour and continuous reflection to minimise potential bias. The STROBE cross-sectional guidelines were used when reporting results of the study (Online Appendix 2).[25]

Data confidentiality and ethical approval

To maintain confidentiality and anonymity of the individuals participating in the study, no patient names have been reported, and the name of oncology centres is not disclosed. The voluntary participation of cancer patients in this research was important; hence, written informed consent was obtained from every participant. The consent form was separated from the questionnaire so identities could not be linked to responses.

Ethical considerations

Ethical approval for this study was obtained from the Biomedical Research and Ethics Committee (BREC) at the University of KwaZulu-Natal (UKZN). Reference number: BREC/00005784/2023. Permission to conduct this study at the premises was approved by the relevant private sector

group. Reference number: CRIP-12042023/09. Written informed consent was obtained from all cancer participants prior to them receiving the survey.

Results

Sociodemographic characteristics of the study

The final study sample consisted of 100 adult cancer patients. One hundred and thirty-four people were approached and informed about the study, of which 34 individuals declined participation in the study, resulting in a response rate of 74.6%. Sociodemographic data of the study sample is presented in Table 1. More than half of the patients surveyed were females (59%). Most of the respondents belonged in the 45–54 years age group (30%), followed by the 55–64 years age group (28%). Out of the 100 patients surveyed, the majority (47%) were Indian people, with the main religion being Christianity (46%). The study sample consisted mostly of fulltime employed participants (45%), those with a middle-income level (38%) and those having received a tertiary education (52%).

TABLE 1: The sociodemographic characteristics of the sample (N = 100).

Characteristics of cancer patients surveyed	Number (n)	Percentage (%)
Gender		
Male	41	41
Female	59	59
Age group (years)		
18–24	4	4
25–34	6	6
35–44	16	16
45–54	30	30
55–64	28	28
≥ 65	16	16
Race		
African people	15	15
Coloured people	14	14
Indian people	47	47
White people	24	24
Religion		
Christian	46	46
Judaism	5	5
Islam	14	14
Hinduism	27	27
Buddhism	0	0
Prefer not to say	8	8
Education		
Primary	11	11
Secondary	37	37
Tertiary	52	52
Employment status		
Full time	45	45
Part time	22	22
Retired	23	23
Unemployed	10	10
Income level		
Low	14	14
Middle	38	38
Upper middle	11	11
High	6	6
Prefer not to say	31	31

Medical information and traditional and complementary medicine familiarity

In the past 12 months, all patients surveyed saw their physician regarding their cancer diagnosis and received conventional cancer treatment. Sixty-seven per cent of participants stated they were familiar with T&CM, 47% were interested in learning more about T&CM therapies and 28% of patients used T&CM before receiving their cancer diagnosis.

Prevalence of traditional and complementary medicine use

It was found that 69% of the patients surveyed were T&CM users. When the reason for T&CM use was evaluated, 57 patients used at least one form of T&CM to treat either a side effect of chemotherapy, cancer symptoms or cancer itself. The logistic regression analysis conducted to determine if any sociodemographic factors can predict T&CM use among participants revealed that no significant predictors were observed (no $p < 0.05$). Table 2 provides the results from the logistic regression model.

Different healthcare providers sought by cancer patients

Cancer patients were surveyed to assess types of healthcare providers consulted, reasons for seeking care and perceived helpfulness. The most sought provider was physicians (commonly referred to as medical doctors or general practitioners) by 78% of participants. Thirty-two cancer patients visited physicians to treat cancer itself, of which 27 patients found them very helpful. A total of 69 cancer patients saw a physiotherapist and 58 stated they were very helpful. Most cancer patients go for physiotherapy to improve well-being (n = 22), treat cancer symptoms (n = 17), or treat an illness not related to cancer (n = 10). Sixteen participants sought acupuncturists, and 15 participants visited a chiropractor. Other healthcare providers included herbalists, homeopaths, psychologists, Reiki healers and reflexologists. Table 3 details the number of cancer patients visiting different healthcare providers and for what reasons.

Traditional and complementary medicine recommended or offered by physicians

Twenty-one participants reported that their physician recommended either physiotherapy or manipulation techniques. Seventeen cancer patients took their physician's

TABLE 2: Results from logistic regression used to examine predictors of traditional and complementary medicine use.

Predictor	Regression coefficient	Std. error	p-value
Age	0.0064715	0.19186	0.9731
Education	-0.20958	0.34816	0.5472
Employment	-0.20454	0.23677	0.3877
Gender	0.20746	0.45221	0.6464
Income	0.05627	0.15232	0.7118
Race	0.18023	0.26035	0.4888
Religion	0.0072111	0.22796	0.9748
Constant	0.95761	1.63578	0.5583

Std., standard.

TABLE 3: Number of cancer patients who visited healthcare providers, main reason for visiting and reported satisfaction (N = 100).

Healthcare provider visited by participants	Main reason for visiting the healthcare provider	Level of satisfaction reported by participants			
		Very helpful	Somewhat helpful	Not helpful	Do not know how helpful
Physician (n = 78)	To treat cancer itself (n = 32)	27	5	-	-
	To improve well-being (n = 25)	20	5	-	-
	To treat a symptom of cancer (n = 6)	5	1	-	-
	For an illness not related to cancer (n = 4)	3	1	-	-
	To improve well-being and treat cancer itself (n = 8)	7	1	-	-
	To improve well-being and treat cancer-related and not cancer-related illnesses (n = 2)	2	-	-	-
	To treat cancer itself, symptoms of cancer and side effects of chemotherapy (n = 1)	1	-	-	-
Chiropractor (n = 15)	For an illness not related to cancer (n = 8)	6	1	1	-
	To improve well-being (n = 5)	3	1	1	-
	To treat a symptom of cancer (n = 2)	2	-	-	-
Physiotherapist (n = 69)	To improve well-being (n = 22)	18	4	-	-
	To treat a symptom of cancer (n = 17)	12	5	-	-
	For an illness not related to cancer (n = 10)	10	-	-	-
	To treat a side effect of chemotherapy (n = 7)	7	-	-	-
	To treat cancer itself (n = 6)	6	-	-	-
	To treat symptoms of cancer and side effects of chemotherapy (n = 1)	1	-	-	-
	To treat cancer itself and side effects of chemotherapy (n = 1)	1	-	-	-
	To treat cancer itself and improve well-being (n = 1)	1	-	-	-
	For an illness not related to cancer and to improve well-being (n = 1)	1	-	-	-
	To treat symptoms of cancer and improve well-being (n = 1)	1	-	-	-
	To treat cancer itself, to treat side effects of chemotherapy and improve well-being (n = 1)	1	-	-	-
	No reason stated (n = 1)	-	1	-	-
Homeopath (n = 8)	To improve well-being (n = 4)	4	-	-	-
	To treat a symptom of cancer (n = 3)	1	2	-	-
	For an illness not related to cancer (n = 1)	1		-	-
Acupuncturist (n = 16)	For an illness not related to cancer (n = 9)	4	2	1	2
	To improve well-being (n = 4)	4	-	-	-
	To treat a symptom of cancer (n = 1)	1	-	-	-
	To treat cancer itself and improve well-being (n = 1)	-	-	-	1
	To treat symptoms of cancer and side effects of chemotherapy (n = 1)	1	-	-	-
Herbalist (n = 8)	To improve well-being (n = 6)	3	1	-	2
	To treat a symptom of cancer (n = 1)	1	-	-	-
	To improve well-being and treat symptoms of cancer (n = 1)	1	-	-	-
Spiritual healer (n = 32)	To improve well-being (n = 30)	27	2	-	1
	To treat cancer itself and improve well-being (n = 2)	1	1	-	-
Psychologist (n = 4)	To improve well-being (n = 4)	4	-	-	-
Reiki healer (n = 3)	To improve well-being (n = 2)	1	1	-	-
	To treat a symptom of cancer (n = 1)	-	-	-	1
Reflexologist (n = 1)	To improve well-being and treat symptoms of cancer (n = 1)	1	-	-	-
Family constellations therapist (n = 1)	To improve well-being (n = 1)	1	-	-	-
Dermatologist (n = 1)	To treat a side effect of chemotherapy (n = 1)	1	-	-	-
Gynaecologist (n = 1)	For an illness not related to cancer, to improve well-being and treat symptoms of cancer (n = 1)	-	1	-	-
Haematologist (n = 1)	To treat cancer itself (n = 1)	1	-	-	-

TABLE 4: Traditional and complementary medicine offered or recommended by physicians (N = 100).

T&CM offered or recommended by physician	Main reason	Level of satisfaction reported by participants			
		Very helpful	Somewhat helpful	Not helpful	Do not know how helpful
Physiotherapy (n = 17)	Improve well-being (n = 8)	6	2	-	-
	Treat cancer symptoms (n = 6)	4	2	-	-
	No reason stated (n = 2)	2	-	-	-
	Treat side effects of chemotherapy and improve well-being (n = 1)	1	-	-	-
Manipulation (n = 4)	Illness not cancer-related (n = 1)	1	-	-	-
	Improve well-being (n = 1)	1	-	-	-
	No reason stated (n = 1)	1	-	-	-
	Illness not cancer-related and improved well-being (n = 1)	1	-	-	-

T&CM, traditional and complementary medicine.

advice and saw a physiotherapist, resulting in 13 patients finding physiotherapy very helpful. Manipulation therapy was used by four participants to improve well-being or treat an illness not related to cancer. Table 4 summarises participant responses regarding therapies recommended by their physician.

TABLE 5: Traditional and complementary medicine products used, main reason for use and reported satisfaction.

Category	Name of product	Main reason for using the product	Level of satisfaction reported by participants			
			Very helpful	Somewhat helpful	Not helpful	Do not know how helpful
Vitamins and minerals	Multivitamins (n = 14)	To improve well-being (n = 10)	4	3	-	3
		To treat a symptom of cancer (n = 1)	1	-	-	-
		For an illness not related to cancer and to improve well-being (n = 2)	-	2	-	-
		To treat a symptom of cancer and improve well-being (n = 1)	1	-	-	-
	Malic acid (n = 1)	To treat a symptom of cancer (n = 1)	1	-	-	-
	Coenzyme Q10 (n = 2)	To improve well-being (n = 2)	2	-	-	-
	OsteoEze (n = 1)	For an illness not related to cancer (n = 1)	1	-	-	-
	Calcium, Vitamin D3, Magnesium (B-CAL-DM) (n = 2)	For an illness not related to cancer (n = 1)	1	-	-	-
		To improve well-being (n = 1)	-	-	-	1
	Chelafer and Calcium (n = 1)	To improve well-being (n = 1)	-	-	-	1
	Vitamin B (n = 1)	To treat a symptom of cancer (n = 1)	-	1	-	-
	Vitamin B12 (n = 2)	To treat a symptom of cancer (n = 1)	1	-	-	-
		To improve well-being (n = 1)	1	-	-	-
	Vitamin C (n = 2)	To improve well-being (n = 2)	-	-	-	2
	Vitamin B & C (n = 3)	To improve well-being (n = 3)	-	1	-	2
	Vitamin C & D (n = 2)	To improve well-being (n = 2)	1	1	-	-
	Neurobion (n = 1)	To treat a side effect of chemotherapy (n = 1)	1	-	-	-
	Slow-Mag (n = 3)	To improve well-being (n = 2)	2	-	-	-
		To treat a symptom of cancer (n = 1)	-	1	-	-
	Omegas (n = 1)	To treat a side effect of chemotherapy, to treat symptoms of cancer and improve well-being (n = 1)	-	-	-	1
	Zinc (n = 2)	To improve well-being (n = 2)	-	1	-	1
	Ferrous Forte (n = 1)	To improve well-being (n = 1)	-	1	-	-
	Iron supplements (n = 3)	To improve well-being (n = 3)	2	-	-	1
	Couldn't remember the name of the product (n = 15)	To improve well-being (n = 11)	5	6	-	-
		To treat a symptom of cancer (n = 2)	2	-	-	-
		For an illness not related to cancer (n = 1)	-	1	-	-
		For an illness not related to cancer and to improve well-being (n = 1)	-	1	-	-
	Recommended by friends and family (n = 2)	To improve well-being (n = 1)	-	-	-	1
		To treat a symptom of cancer (n = 1)	-	1	-	-
Herbal products	Moringa (n = 6)	To improve well-being (n = 5)	1	2	-	2
		For an illness not related to cancer, to treat a side effect of chemotherapy and treat symptoms of cancer (n = 1)	1	-	-	-
	African Herbal Medicine (n = 4)	To improve well-being (n = 3)	2	-	-	1
		To treat a symptom of cancer (n = 1)	-	1	-	-
	Medicated Castor Oil (n = 2)	To treat a symptom of cancer (n = 2)	2	-	-	-
	Aloe Vera (n = 1)	To treat a symptom of cancer (n = 1)	1	-	-	-
	Herbal Products for Kidney Support (n = 1)	To improve well-being (n = 1)	-	1	-	-
	Almond, sesame seed, flax seed, fennel, saffron and cardamom mixture (n = 1)	To treat a symptom of cancer (n = 1)	-	-	-	1
	Liv 52 (n = 1)	To improve well-being (n = 1)	1	-	-	-
	Probiotic (n = 1)	To improve well-being (n = 1)	1	-	-	-
	Herbal Tablets (n = 1)	To improve well-being (n = 1)	1	-	-	-
	Turmeric Tablets (n = 1)	To improve well-being (n = 1)	-	1	-	-
	Unable to name the product (n = 9)	To treat a symptom of cancer (n = 3)	2	1	-	-
		To improve well-being (n = 4)	1	3	-	-
		For an illness not related to cancer (n = 1)	1	-	-	-
Homeopathic Remedies	Curcumin (n = 1)	To treat cancer itself (n = 1)	-	-	-	1
	Salvestrol (n = 1)	To treat cancer itself and improve well-being (n = 1)	-	1	-	-
	Castor Oil (n = 1)	To treat a symptom of cancer (n = 1)	-	1	-	-
	Unable to name the product (n = 7)	To improve well-being (n = 5)	2	2	-	1
		To treat a symptom of cancer (n = 1)	-	1	-	-
		For an illness not related to cancer (n = 1)	1	-	-	
Other	MethylCare & Estrovera (n = 1)	For an illness not related to cancer (n = 1)	1	-	-	-
	Green Tea & Magnesium Glycinate (n = 1)	For an illness not related to cancer and to improve well-being (n = 1)	-	1	-	-
	Unable to name product (n = 2)	To improve well-being (n = 2)	1	1	-	-

T&CM, traditional and complementary medicine.

TABLE 6: Self-help practices used, reasons for use and reported satisfaction.

Self-help practice	Main reason for performing this practice	Level of satisfaction reported by participants			
		Very helpful	Somewhat helpful	Not helpful	Do not know how helpful
Meditation (*n* = 48)	To improve well-being (*n* = 41)	35	6	-	-
	For an illness not related to cancer (*n* = 1)	-	1	-	-
	To treat a side effect of chemotherapy (*n* = 1)	-	1	-	-
	To treat a symptom of cancer (*n* = 1)	1	-	-	-
	To improve well-being and treat symptoms of cancer (*n* = 2)	1	1	-	-
	To improve well-being and an illness not related to cancer (*n* = 1)	-	1	-	-
	To improve well-being and treat cancer itself (*n* = 1)	1	-	-	-
Yoga (*n* = 23)	To improve well-being (*n* = 15)	12	3	-	-
	For an illness not related to cancer (*n* = 1)	-	1	-	-
	To treat a symptom of cancer (*n* = 3)	2	1	-	-
	To treat a side effect of chemotherapy (*n* = 2)	-	2	-	-
	To improve well-being and treat symptoms of cancer (*n* = 2)	2	-	-	-
Relaxation technique (*n* = 32)	To improve well-being (*n* = 22)	18	4	-	-
	To treat a side effect of chemotherapy (*n* = 1)	1	-	-	-
	To treat a symptom of cancer (*n* = 5)	3	2	-	-
	For an illness not related to cancer (*n* = 1)	1	-	-	-
	To improve well-being and treat symptoms of cancer (*n* = 1)	-	1	-	-
	To improve well-being and for an illness not related to cancer (*n* = 1)	1	-	-	-
	To improve well-being, treat a side effect of chemotherapy and treat symptoms of cancer (*n* = 1)	1	-	-	-
Visualisation (*n* = 3)	To improve well-being (*n* = 1)	1	-	-	-
	To improve well-being and for an illness not related to cancer (*n* = 1)	-	1	-	-
	To improve well-being, treat a side effect of chemotherapy and treat symptoms of cancer (*n* = 1)	1	-	-	-
Attending traditional ceremonies (*n* = 44)	To improve well-being (*n* = 41)	32	9	-	-
	Peace of mind (*n* = 1)	1	-	-	-
	No reason stated (*n* = 2)	2	-	-	-
Praying for own health (*n* = 77)	To improve well-being (*n* = 69)	58	10	-	1
	To treat a symptom of cancer (*n* = 1)	-	1	-	-
	To treat cancer itself (*n* = 1)	1	-	-	-
	To improve well-being and treat cancer itself (*n* = 1)	-	1	-	-
	To improve well-being and for an illness not related to cancer (*n* = 1)	-	1	-	-
	To improve well-being, treat a side effect of chemotherapy and treat symptoms of cancer (*n* = 4)	2	2	-	-
Pilates (*n* = 3)	To treat a side effect of chemotherapy (*n* = 1)	-	1	-	-
	To improve well-being (*n* = 1)	1	-	-	-
	To improve well-being and for an illness not related to cancer (*n* = 1)	-	1	-	-
Aromatherapy (*n* = 1)	To improve well-being (*n* = 1)	-	1	-	-
Support group (*n* = 1)	To improve well-being (*n* = 1)	-	1	-	-
Massage (*n* = 2)	To treat a symptom of cancer (*n* = 1)	1	-	-	-
	To improve lymph drainage (*n* = 1)	-	1	-	-
Swimming (*n* = 1)	To improve well-being and treat symptoms of cancer (*n* = 1)	-	1	-	-
Exercise (*n* = 1)	To improve well-being (*n* = 1)	1	-	-	-

Use of herbal medicine and dietary supplements

Cancer patients were asked to categorise and write down the products they currently use alongside chemotherapy. Vitamins and/or minerals were used by 45 participants, 27 participants stated they used herbal products, nine participants used homeopathic remedies, and four participants made use of other products. Table 5 contains the names of the products used, the main reason why the participant used it and how helpful they perceived the product to be. Multivitamins were taken by 14% of the total participants. Several patients made use of herbal products such as Moringa (*n* = 6), African Herbal Medicine (*n* = 4) and medicated castor oil (*n* = 2).

Self-help practices

The most used practice by patients was prayer. Seventy-seven cancer patients prayed for their health, of which, 61 found it very helpful. If prayer is considered a T&CM practice, then T&CM use would increase to 94%. Meditation and relaxation techniques were mostly used to improve well-being. Yoga was performed by 23 participants, of which 16 found it to be very helpful. Table 6 summarises participant responses to self-help practices. Other practices used by cancer patients include visualisation (*n* = 3), Pilates (*n* = 3), massage therapy (*n* = 2), aromatherapy (*n* = 1), attending a support group (*n* = 1), swimming (*n* = 1) and exercise (*n* = 1).

TABLE 7: Reasons why cancer patients informed physicians about traditional and complementary medicine use.

Who brought up the T&CM topic	Reason for telling my physician	Number of patients
I initiated the conversation (n = 12)	I believed my physician should know	8
	Wanted more information about T&CM	2
	I believed my physician should know & was concerned about interactions with conventional therapy	1
	Wanted more information and was concerned about interactions	1
The doctor asked about T&CM use (n = 11)	Wanted more information	1
	I believed my physician should know	5
	The doctor asked	4
	Vitamins were recommended by doctor	1
Total	-	**23**

T&CM, traditional and complementary medicine.

TABLE 8: Reasons why cancer patients did not inform physicians about traditional and complementary medicine use.

Reason for not telling my physician about T&CM use	Number of patients
I was afraid to tell my physician	4
Physician did not ask about T&CM use	24
I believe my physician does not need to know	13
The doctor asked about T&CM use but I did not disclose T&CM use	2
Not ready to inform my doctor yet	2
Physician did not ask and I believe my physician does not need to know	1
Total	**46**

T&CM, traditional and complementary medicine.

Disclosure of traditional and complementary medicine to physicians

A total of 23 participants informed their physician about T&CM use, thus making the disclosure rate 33.3%. When evaluating who first brought up the topic of T&CM, it was found that patients initiated the conversation in 52% of situations. The most common reasons for patients to tell their physician were either because they believed their physician should know, or patients wanted more information about T&CM. Table 7 and Table 8 detail the number of patients and the reason why they told or did not tell their physician about T&CM use. The most common reason why cancer patients did not tell their physician was simply because their physician did not ask about T&CM.

Discussion

Prevalence of traditional and complementary medicine use

Recent data from full-text articles published in English regarding T&CM use in cancer patients were available for the following sub-Saharan African countries: Ethiopia, Ghana, Kenya, Malawi, Morocco, Nigeria, Tanzania and Uganda over a 10-year period (from 01 January 2013 to 31 December 2022). From the articles found, T&CM use in sub-Saharan Africa ranged from 14.1% to 84% with an average of 66.7% of cancer patients using T&CM. The prevalence of T&CM ranges from 30% to 60% in high-income countries (HICs)[26] and 40% – 70% in LMICs.[27] Findings from a thesis of a descriptive cross-sectional study conducted at an academic hospital in Johannesburg, involving 120 participants, indicated that 33% of respondents reported using complementary and alternative medicines.[28] This cross-sectional study conducted within the private sector in KwaZulu-Natal, South Africa, revealed that 69% of cancer patients surveyed were T&CM users, similar to the findings of other regions in sub-Saharan Africa.

This study achieved its primary aim of determining the prevalence of T&CM use. The most used T&CM products were vitamins, minerals and herbal medicines, the most visited T&CM providers were acupuncturists and chiropractors, and the most used practices included meditation and prayer. Details on the reasons for use and perceived value of T&CM are further explored according to the main modality categories, namely vitamins and minerals, herbal medicine, acupuncture, chiropractic therapy, homeopathy, osteopathic manipulation therapy, Reiki, reflexology, faith-based practices, meditation, relaxation and yoga.

Vitamins and minerals

This study revealed 45% of cancer patients took at least one type of vitamin and/or mineral supplement, and the most common main reason for taking it was to improve well-being followed by hoping it would help treat a symptom of cancer. Within sub-Saharan Africa, the use of vitamin and mineral supplements among cancer patients was found to be 55.1% in Ghana,[29] 22.1% in Ethiopia,[30] 23% in Malawi[31] and 13.8% in Uganda.[32] The use of vitamins and/or minerals in HICs ranges from approximately 40% to 80%[33] and in LMICs ranges from 30% to 60% within oncology populations.[33,34] Vitamin and mineral supplementation is a common practice among cancer patients across the globe, and its use to improve well-being emphasises its role as an adjunct to conventional cancer treatment.

Vitamins refer to a group of substances required in small amounts for healthy growth and development.[35] Minerals are elements found on earth and in foods that is needed by our bodies in small amounts to develop and function normally.[35] The most common reason why patients took a vitamin or mineral supplement was to improve general well-being; however, some supplements may reduce the effectiveness of chemotherapy and radiation therapy. Many conventional anticancer treatments elicit their effect by creating free radicals that destroy the cancer cells, while some supplements may counteract the oxygen-free radicals, thus protecting cancer cells.[36] For example, antioxidant supplements (such as vitamins A, C and E) may be associated with an increased rate of cancer recurrence.[36] It is therefore important to be aware of possible interactions and for patients to be transparent about supplement use with their oncologists and allied healthcare professionals.

Herbal medicine

This study revealed 27% of participants used at least one type of herbal product. The most common products used were

Moringa and African herbal medicine to improve overall well-being. Additionally, only eight cancer patients saw a herbalist with the reasons being to improve well-being and treat symptoms of cancer. The prevalence of herbal medicine use among the cancer population in sub-Saharan Africa was found to be 59.2% in Ghana,[29] 72.1% in Ethiopia,[30] 65% in Nigeria,[37] 56% in Malawi,[31] 70% in Tanzania,[38] 39% in Morocco,[39] 22% in Uganda[32] and 91% in Kenya.[40] The overall estimated average use of herbal medicine among cancer patients was found to be higher in LMICs with 32% compared to 17% in HICs.[41]

Six cancer patients from this study reported using Moringa. Potent antitumour activity was found in ethanolic extracts of the seed and leaves of Moringa oleifera due to 3 known thiocarbamate- and isothiocyanate-related compounds acting as tumour inhibitors.[42] However, when evaluating the anticancer effect of Moringa seed extracts with chemotherapy in immunocompromised mice with triple negative breast cancer, it was found to worsen tumour progression.[43] Medicated castor oil and aloe vera were used by patients to treat symptoms of cancer, and patient satisfaction was high. Aloe species are commonly used as a laxative and for treating skin-related conditions. Antimicrobial and anti-inflammatory properties of some aloe species have been shown, supporting their use as a form of T&CM.[44] Despite limited research, aloe vera has shown effectiveness in fading post-chemotherapy-induced hyperpigmentation.[45] One cancer patient made a mixture of almonds, sesame seeds, flax seeds, fennel, saffron and cardamom to help treat side effects of cancer. The main active ingredient in sesame seeds is Sesamin, and several studies revealed it possesses anticancer properties due its antiproliferative, pro-apoptotic, anti-inflammatory, antimetastatic and pro-autophagocytic activities.[46] Research revealed that flaxseed consumption may help reduce one's risk of cancer, diabetes, gastrointestinal disorders, heart disease and kidney disease.[47] Studies have shown saffron possesses anticancer properties and can interfere with cancer-promoting signalling pathways.[48] Research conducted found fennel inhibited the growth of some lung and colon cancer cell lines.[49] Cardamom may complement conventional cancer treatment as it has antiproliferative and antimicrobial properties.[50] Despite the benefits of herbal treatment, it is important to remember that herbal medicines used simultaneously with conventional drugs may result in potentially harmful herb–drug interactions.[51]

Acupuncture

In this study, acupuncture was used by 16% of patients, mostly for illnesses not related to cancer and to improve well-being. A few patients did see an acupuncturist to treat side effects of chemotherapy, treat cancer and cancer symptoms. Patient satisfaction with acupuncture was mixed; however, more than half of them stated that acupuncture was very helpful. From a study conducted in Uganda, it was found 3.3% of cancer patients saw an acupuncturist.[32] Acupuncture was found to be more common in HICs compared to LMICs, and least common in African countries, which tend to rely more on TM systems rather than East Asian therapies.[52,53]

Acupuncture involves fine, sterile needles being inserted into the skin at specific points on the body. It is often used to relieve symptoms of physical and psychological conditions, including chronic pain.[35] Evidence from a systematic review focusing on the effectiveness of acupuncture among cancer patients showed positive effects on cancer-related fatigue, nausea, vomiting and leucopoenia.[54] However, there was inconsistent evidence supporting its ability to treat cancer-related pain, hot flashes, hiccups, and enhance overall quality of life.[54]

These findings suggest that acupuncture use among cancer patients remain relatively low and is sought mostly for symptomatic management and general well-being rather than direct cancer treatment.

Chiropractic therapy

A total of 15 participants from this study saw a chiropractor for illnesses not related to cancer, to improve well-being, or to treat a symptom of cancer, and most participants found them very helpful. The use of chiropractic care in HICs was found to be significant, especially for treating musculoskeletal pain, while prevalence was seen less among African, Hispanic and Asian populations.[55] Chiropractic therapy involves a chiropractor using their hands to manipulate the spine and/or other parts of the body, most commonly to treat back and neck pain, or to improve overall health.[56] From a study conducted among chiropractors, everyone agreed that cancer patients can benefit from chiropractic care.[57] From experience with cancer patients, chiropractors reported helping patients with pain relief, mobility and improving quality of life.[57] Chiropractic therapy is widely used, with over 900 registered practitioners in South Africa.[58]

Homeopathy

In this cross-sectional study, 8% of participants saw a homeopath while 9% used a homeopathic remedy. Most cancer patients used a homeopathic remedy to improve well-being, treat a symptom of cancer, or treat cancer itself. Homoeopathy is a therapy based on the theory that 'like cures like', conditions are treated using tiny doses of substances diluted several times so that it is indistinguishable from pure water and is activated by shaking called succession.[35] Generally, there are no direct adverse effects or interactions between pharmaceutical agents and sufficiently diluted homeopathic remedies.[59] The use of homeopathy among the cancer population varies across settings, with relatively higher prevalence in HICs (ranging from approximately 5% to 20%) compared to LMICs.[60] However, empirical data have revealed that homeopathy is growing in popularity among adult patients and becoming more recognised as a treatment option in developing countries such as South Africa.[61]

In vitro and in vivo animal studies of homeopathic remedies have shown effectiveness in reducing cancer-cell viability and proliferation by targeting mitochondrial activity, increasing the generation of reactive oxygen species, and affecting cell membranes.[62] These treatments can also trigger cytochrome-c release, leading to stress on cancer cells and apoptosis.[62] Castor oil was used by one patient in this study to treat symptoms of cancer, and they found it somewhat helpful. Castor oil is commonly known and used for its laxative effect to treat constipation, and its anti-inflammatory effect to treat minor pains.[63] Studies conducted in vitro and in vivo demonstrated that castor oil has anti-inflammatory, antioxidant, pain-inhibiting, cytotoxic, and antimicrobial effects; however, no human studies prove that castor oil has any anticancer effects.[64] In this study, Salvestrol and curcumin remedies were used with the belief that it could cure cancer. Salvestrols are natural compounds found in various plants that can be safely consumed by humans. Within cancer cells, they undergo selective activation by the enzyme CYP1B1, which then inhibits cancer cell growth or causes cell death.[65] Curcumin affects many cancer-related pathways and has shown in vitro effectiveness in treating several types of cancer, both alone and coupled with other chemotherapeutic agents.[66] It has been found that curcumin can also inhibit some chemotherapy-induced side effects, for example, when it is given with cisplatin, curcumin increases the concentration of the enzyme responsible for hepatoprotection,[67] and it can reduce nephrotoxicity via the downregulation of creatinine expression,[68] thereby substantiating its use as a form of T&CM.

Osteopathic manipulation treatment

This study found 4% of cancer participants sought manipulation techniques to improve overall well-being or for reasons not related to cancer. Osteopathy was found to be used by 7.8% of participants in Portugal,[69] 2% of participants in Canada[70] and 4.1% of participants in Norway.[71] Osteopathy is increasingly being used as a supportive care tool for cancer patients in HICs, in contrast to LMICs, where prevalence is less common and access to regulated osteopathic care is limited.[72]

Manipulation is the use of hands to produce desired movement or a therapeutic effect in one or more parts of the patient's body.[35] Osteopathic manipulation treatment (OMT) improves circulation, relieves pain and helps correct structural imbalances by using the body's natural self-healing abilities.[73] Through focusing on the anatomic and physiologic basis of cancer symptoms, osteopathic manipulation can be a useful nonpharmacological technique to assist cancer patients reduce musculoskeletal pain, headaches,[74] nausea and vomiting[75] and constipation.[76]

Reiki

This study found 3% of participants used Reiki as a form of T&CM to improve well-being or treat a symptom of cancer. A Canadian study also revealed that 3% of their cancer participants saw a Reiki healer.[70] Based on limited research, the prevalence of Reiki in a given population is estimated to be between 5% and 10%.[77] Reiki is a type of alternative medicine that originated in Japan. Reiki involves a therapist placing their hands on or very close to a patient to boost their natural energy fields.[35] Reiki is slowly becoming more popular among the South African population, and the Reiki Association of Southern Africa, founded in 2001, grew from eight members to over 1600 registered Reiki Practitioners.[78] In a study conducted among private sector cancer patients, Reiki was reported to significantly reduce pain, fatigue, anxiety and depression.[79]

Reflexology

Only one participant in the cross-sectional study reported seeing a reflexologist to improve well-being and treat symptoms of cancer. From a Ugandan study, it was reported 3.8% of cancer patients used reflexology.[32] Reflexology has been reported to be more commonly utilised in HICs, particularly popular in Norway, Denmark and the United Kingdom.[80] Reflexology is based on the theory that reflex points on the feet correspond with all body parts. The thumb or fingers are used to apply pressure to the relevant reflex points in order to help with specific illnesses and/or restore the body's natural balance and harmony.[35] Reflexology offered to cancer patients resulted in a positive outcome for pain reduction, pain regulation and anxiety.[81] A study conducted among breast cancer patients revealed reflexology was able to reduce some side effects of chemotherapy and cancer-related symptoms, thus increasing their quality of life.[82]

Self-help practices

Research has shown regular self-help and self-care practices during cancer treatment can reduce stress, anxiety and sleep disturbances.[83] This study revealed 90% of participants used a self-help practice mostly to improve overall well-being. Self-help practices commonly employed are further discussed in detail below.

Faith-based practices

Faith-based practices were widely favoured, and high patient satisfaction was reported. From participants who saw a spiritual healer, attended traditional ceremonies and/or prayed for their own health, 80% stated they found it very helpful. These findings are similar to those of Chui et al. in 2014, where the most popular complementary practice among cancer patients was praying for their health (88.6%), and despite prayer not having the medical ability to cure a patient, prayer invokes a relaxation response and helps one maintain a positive and hopeful attitude.[84] A study evaluating T&CM use in HIV patients in KwaZulu-Natal revealed prayer was popular among patients, especially to relieve stress, improve well-being and relieve pain.[85] The use of faith-based practices was found to be highest in African settings, where average estimates suggest that 50% – 90% of patients engage in spiritual healing, which often coincides

with TM and cultural belief systems.[41] In LMICs, the prevalence remains high (approximately between 30% and 70%), while the use of faith healing in HICs is generally lower (estimated between 20% and 60%).[41,86,87]

Meditation

This study showed 48% of participants meditated and reported good satisfaction with the practice. The main reason participants meditated was to improve well-being, and a few patients reported meditating to help treat symptoms of cancer. Comparable studies using the I-CAM-Q among cancer patients found that 16% of cancer patients in Germany,[88] 15.7% of patients in Portugal,[69] 6.5% of participants in Canada,[70] 41.2% of participants in Poland[89] and 29.1% of patients in Norway meditated.[71] Research has shown meditation helps address stress, anxiety, fatigue, sleep disturbances and the general mood of cancer patients.[90] These findings suggest that meditation is mostly adopted by cancer patients as a supportive strategy to enhance well-being and quality of life.

Relaxation techniques

From the study sample, 32% of participants stated they used relaxation techniques. Most patients used relaxation techniques to improve well-being or treat a symptom of cancer and reported high satisfaction. Other I-CAM-Q studies found that relaxation techniques were reported by 20% of participants in Germany,[88] 13.7% of participants in Portugal,[69] 8.5% of participants in Canada[70] and 49.6% of participants in Poland.[89] In Norway, 48.7% of cancer patients reported using relaxation techniques, and the most common reasons stated were to treat side effects of cancer or cancer treatment (33.8%), to strengthen the body or immune system (36.6%) and to increase quality of life or improve well-being (93.9%).[71] In a study conducted among breast cancer patients undergoing chemotherapy, daily relaxation techniques revealed a statistically significant decrease in anxiety and fatigue levels, while alleviating symptoms of depression and distress.[91]

Yoga

Yoga was reported by 23% of cancer patients in this study to improve well-being, treat a symptom of cancer and to treat a side effect of chemotherapy. All patients who practised yoga reported good satisfaction. In Uganda, 2.7% of cancer patients reported doing yoga.[32] Evidence from other investigations using the I-CAM-Q revealed yoga was practised by 9% of cancer patients in Germany,[88] 5.9% of patients in Portugal,[69] 5% of patients in Canada,[70] 27.9% of patients in Norway[71] and 32.1% of patients in Poland.[89] The most popular reason why cancer patients did yoga was to improve overall well-being.[71,89] Research focusing on mind–body practices suggests yoga can reduce anxiety, stress and depression in people with cancer, as well as reduce fatigue in breast cancer survivors and those with early-stage breast cancer.[90]

Disclosure of traditional and complementary medicine to physicians

This study successfully evaluated the proportion of cancer patient who disclosed T&CM use to their physicians and the most common reasons for nondisclosure. It was found that only one-third of T&CM users informed their physician about T&CM use. The two main reasons why cancer patients did not tell their doctor about T&CM was either because their doctor did not ask, or the patient believed their doctor did not need to know. Systematic reviews conducted found that nondisclosure of T&CM use to healthcare providers is common, with popular reasons being that physicians do not ask patients, cancer patients assume T&CM does not affect conventional therapy, patients suppose it is not important for their physicians to know, patients fear their specialists' reaction, and patients think physicians lack knowledge of or are unwelcoming to T&CM use.[33,92] From this, it can be deduced that not enough physicians are asking their patients about T&CM use and not enough patients are aware of the potential harm T&CM products may cause if combined with anticancer treatment. In this study, only a few cancer patients reported being afraid to tell their doctor, implying many patients share good relationships with and trust their doctors. The T&CM disclosure rate of this study conducted in KwaZulu-Natal was found to be higher than patient disclosure in Accra (Ghana),[29] Gondar (Ethiopia),[30] Sokoto (Nigeria),[93] Engu (Nigeria),[37] Moshi (Tanzania)[38] and Marrakech (Morocco).[39]

Disclosure of T&CM is also important as many patients obtain T&CM products without specialist consultation. In this study, 27% of participants used at least one type of herbal product, while only 8% saw a herbalist. Similarly, nine participants used a homeopathic remedy, while eight participants visited a homeopath. Findings from other studies using the I-CAM-Q revealed a similar trend. For example, a German study showed 33% of participants used herbal medicine, while 23% had seen a herbalist, and 17% used a homeopathic remedy compared to only 3% who consulted a homeopath.[88] In Poland, 84.7% of cancer patients used herbal medicine, yet only 27.3% visited a herbalist, and 19.1% used homeopathic remedies, while 15.1% saw a homeopath.[89] Among Portuguese cancer patients, 37.3% reported using natural products and only 9.8% consulted a herbalist.[69] These comparisons suggest that the use of herbal and homeopathic products frequently occurs independently of specialist consultation. This highlights how T&CM products are often perceived as accessible, self-initiated treatment options rather than practitioner-led interventions requiring counselling and underscores the perception that 'natural' products are safe.

Conventional healthcare providers sought by cancer patients

Physicians were the most frequently visited healthcare provider, and more than 80% of cancer patients who saw a physician found them very helpful. Physicians refer to registered medical practitioners who obtained a degree in medicine, specialising in the diagnosis and treatment of diseases.[35] In South Africa, physicians are known to have an

important role in cancer care, ranging from primary care to specialised oncology and palliative care. The South African health system makes every effort to be in close contact with the community; thus physicians are involved from the early detection and treatment of cancer to survivorship and helping patients cope with psychosocial burdens linked to cancer.[94]

A study conducted in 2018 in KwaZulu-Natal, South Africa, found that a one-way referral system of cancer patients existed where only traditional healthcare practitioners refer patients to mainstream hospitals so a confirmed diagnosis can be reached prior to the initiation of conventional treatment.[95] Despite the South African government's directive for collaboration with traditional healthcare practitioners, mainstream doctors were not referring patients to traditional practitioners due to the absence of guidelines for referral and lack of scientific evidence supporting traditional therapies.[95]

The second most commonly visited healthcare provider was physiotherapists. Physiotherapy also forms part of mainstream medicine and involves using physical methods to promote healing.[35] From a study conducted in South Africa among physiotherapists, it was found that many participants regularly treated cancer patients.[96] Chemotherapy-induced peripheral neuropathy is a common, persistent side effect of chemotherapy that impairs daily functioning and quality of life, sometimes lasting up to 6 months after treatment.[97] When occurring during chemotherapy, it may necessitate dose reduction or discontinuation, adversely affecting cancer management.[97] Physiotherapists play an important role in managing such side effects as well as assisting patients in improving their functional ability, exercise capacity, lymphedema management and overall quality of life, while also reducing hospital stay and postoperative recovery time.[98]

From the responses obtained in this study, patients sought general practitioners and physiotherapists for health problems both related and not related to cancer. These results suggest that mainstream medical treatment in KwaZulu-Natal is still most relied on in the private sector; additionally, less than half of the participants surveyed were interested in learning more about T&CM therapies.

Limitations

This cross-sectional study solely focused on cancer patients attending oncology centres within the private healthcare sector receiving conventional mainstream treatment in one South African province. The private healthcare sector was selected based on the premise that cancer patients in this setting were more likely to have the funds to access and afford T&CM. In South Africa, since T&CM is not subsidised by the government, T&CM is paid for out-of-pocket, and patients in the private sector are assumed to have higher income levels and thus more funds to utilise on such therapies. Studying this sample group enables initial exploration of T&CM among cancer patients with fewer financial barriers, with the hope of identifying and exploring patterns of T&CM use. However, this introduces several limitations.

To begin with cancer patients within the public healthcare system and those directly consulting with T&CM practitioners were not included in the study. As a result, the study may over-represent cancer patients with higher income levels and access to private conventional medical care, therefore possibly skewing the results towards higher use and trust in conventional medicine. Additionally, only focusing on patients in the private sector with greater access to alternative therapies and the financial means to try various types of T&CM can misrepresent a population of the region that cannot access or afford T&CM.

Since all cancer patients surveyed were already in a conventional healthcare setting, their views and treatment choices may not reflect those of individuals who rely solely on public healthcare or T&CM. As a result, the findings cannot be extrapolated to the broader cancer patient population in South Africa, where there is a wide variation in cultural practices and access to healthcare.

Furthermore, the relatively small sample size may restrict the reality of the target population and decrease the statistical power required to detect significant predictors of T&CM use. This could be a possible reason why no strong associations could be found between demographic variables and T&CM use. Additionally, this study's sample does not entirely represent the broader South African population in terms of demographics. National population estimates for South Africa in 2025 indicate a racial distribution of 82% African people, 8.5% coloured people, 7.2% white people and 2.6% Indian people.[99] In contrast, this cross-sectional study had a noticeably different racial composition of 15% African people, 14% coloured people, 24% white people and 47% Indian people. National statistics indicate that 84% of South Africans have attained secondary or tertiary education,[100] whereas this study reported a slightly higher proportion, with 89% of participants achieving this level of education. With respect to employment status, statistics from September 2025 indicate that 40.7% of the South African population is employed, 31.9% is unemployed, and approximately 10.5% is retired.[101] In comparison, this study sample demonstrated a distribution in which 67% of participants were employed, 10% were unemployed, and 23% were retired. These deviations from the national demographic profile represent a limitation of the study, as the sample is not fully representative of South Africa's overall population.

Future studies should be conducted in different provinces and aimed at including more diverse patient groups, particularly those within the public healthcare sector and those using T&CM as a primary source of healthcare, in order to yield a more comprehensive and inclusive picture of health-seeking behaviour among cancer patients in South Africa.

Conclusion

The cross-sectional study shed light on the prevalence of T&CM use among cancer patients attending private cancer centres in KwaZulu-Natal. While conventional medicine stands as the country's primary and main approach for managing cancer, a significant number of cancer patients use forms of T&CM concurrently. This study revealed that a large portion of these patients do not disclose T&CM use to their physicians. This gap in communication highlights the need for increased awareness and proactive engagement by healthcare providers, especially during chemotherapy, where potentially harmful interactions with complementary treatment may occur.

The findings of this study emphasise the growing need for structured, evidence-based integration of T&CM into South Africa's healthcare system. Although the establishment of the Interim Traditional Health Practitioners Council in 2013 marked an important step towards regulating practitioner registration and ensuring ethical and safety standards, the absence of comprehensive policies and clinical guidelines continues to limit the safe incorporation of T&CM into mainstream oncology treatment. Strengthening this integration requires rigorous research on the mechanisms of action, safety, efficacy and potential interactions of commonly used therapies, alongside improved training that equips healthcare providers to engage in open, non-judgemental conversations with patients about T&CM use.

The WHO TCIM Strategy provides a valuable framework to support these national efforts. By emphasising the need for stronger scientific evidence and effective regulatory systems, the strategy aligns closely with the study's call for rigorous evidence-based research and clearer clinical guidance. Its commitment to promoting universal access to safe, effective and patient-centred TCIM offers a strategic pathway for South Africa to advance towards a more integrated, culturally sensitive and patient-focused cancer care system. Collectively, these efforts can enhance policy development, improve clinical decision-making and ultimately contribute to holistic healthcare for cancer patients.

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This article is based on data from a larger study. A related article focusing on summarising T&CM use among cancer patients in sub-Saharan Africa, specifically the types of T&CM used, reasons for use, patient satisfaction and patient disclosure of T&CM use to physicians, has been published in *Health SA Gesondheid*, 29, Article 2743 (https://hsag.co.za/index.php/hsag/article/view/2743/5343). The present article addresses a distinct research question, focusing on the types of T&CM used by cancer patients in one province of South Africa, their reasons for use, how helpful they find T&CM and whether they disclosed T&CM use to their physicians.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

CRediT authorship contribution

Ammaarah Sheik Adam: Conceptualisation, Data curation, Formal analysis, Investigation, Methodology, Validation, Visualisation, Writing – original draft and Writing – review & editing. Frasia Oosthuizen: Conceptualisation, Methodology, Project administration, Supervision, Validation, Visualisation and Writing – review & editing. Varsha Bangalee: Conceptualisation, Methodology, Project administration, Supervision, Validation, Visualisation and Writing – review & editing. All authors reviewed the article, contributed to the discussion of results, approved the final version for submission and publication, and take responsibility for the integrity of its findings.

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Data availability

The raw data (completed questionnaires) are held by the corresponding author. The electronic data (data abstracted from questionnaires) are stored on the researcher's hard disk drive and may only be available upon reasonable request from the corresponding author, Ammaarah Sheik Adam.

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