UNIVERSITY OF KWAZULU-NATAL

The use of complementary and alternative medicine by staff and students of UKZN residing in eThekwini Municipality

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A dissertation submitted in partial fulfillment of the requirements for the degree of Master of Business Administration

Graduate School of Business & Leadership

College of Law and Management Studies

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Year of submission

2019

DECLARATION

I…….. declare that:

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AUTHOR'S DEDICATION

This manuscript is dedicated to the light of my life, my son Langelihle, whose presence in this world motivates and encourages me to be the best version of myself.

Also, to my family:

- The late Mr P.A. Mbongwa (April 1939 - August 2010, Dad). Thank you for teaching me and my siblings that nothing in life worth having will be served to us on a silver platter. Here's another one Dad. I hope I continue to make you proud.
- Mrs. H.J. Mbongwa (Mom) – thank you for the gift of life. Thank you for being there through it all. I'm crazy half the time, but you aren't bothered by it!
- Mthokozisi and Mbongeni Mbongwa (brothers) – this is the 5th journey together. Thank you for not getting bored along the way.
- Zamambuyisa, Nelisiwe and Nokukhanya Mbongwa (sisters) – my angels on earth. You were born to make your big sissy's life interesting. Thank you for helping with Langa when I needed to stay on campus until very late. Also for your words of encouragement.
- Nieces and nephews – your presence in mine and your parents' lives is a blessing. Thank you for making your cousin Langa's life full of adventure and love.
- Lastly but by no means least, Siphamandla. You joined in on the second half of this journey. I couldn't have asked for a better motivator in this. Your love, constant support that sometimes irritated me because you always see my full potential, especially when I lack to see it in myself, didn't go unnoticed. Thank you for everything.

Without your unending love, guidance and support, it would have been hard to persevere this far! Thank you for the sacrifices you had to make on my behalf. You are my rock on which I know I can always lean when the going gets tough. You guys are my guardian angels and I love you all dearly!

ACKNOWLEDGEMENTS

"Wisdom is the awareness and acknowledgement of the gap between life as you perceive, project and wish it to be and life as it is - and being shrewd and able (moment to moment) to flow, shift, act, adapt or just be accordingly." **— Rasheed Ogunlaru**

There are many people to whom I am indebted for their contributions to this study and I wish to express my gratitude and sincerest thanks to them.

- First and foremost, the biggest thank you goes to the Almighty God through whom all things are possible.

- To Doctor Emmanuel Mutambara, the project promoter, thank you for affording me the opportunity to conduct this study under your supervision. Your guidance, patience and constructive criticism regarding all aspects of the study are greatly appreciated.

- Sincerest thanks to the staff and students of UKZN, Durban campuses, for participating in this study.

- To my MBA colleagues, thank you for being there for me whenever I needed to vent. I truly appreciate it!

- Sincerest thanks to staff of the GSB&L, for invaluable technical assistance.

- This study would not have been possible without financial assistance, and sincerest thanks go to UKZN Staff Fees Remission in this regard.

ABSTRACT

Healthcare can systematically be separated into current (conventional, orthodox, Western or allopathic) and traditional (indigenous, reciprocal, elective or integrative). The former is plainly characterised, with minor provincial varieties in its fundamental way of thinking and clinical techniques. In present day treatment, improvement on medicinal products is accomplished through scientific research, which can include worldwide joint effort and responsibility. Such research is all around bolstered monetarily by industry, governments and altruistic associations. This is in sharp contrast to the circumstance with traditional complementary and alternative medicine. CAM is a class of medication that incorporates an assortment of treatment approaches that fall outside the domain of conventional prescription. An expanding measure of research is being done to build up the proof and viability of alternative medication. Even with limited proof of safety, CAM use remains popular worldwide. This study therefore seeked to find out CAM use between staff and students of UKZN Durban campuses.

This was a campus-based quantitative cross-sectional survey involving adult individuals. Data on the demographic characteristics of the participants, the reasons for CAM use, monthly expenditure on CAM, personal beliefs on CAM use were collected.

In total, 229 participants were included in the study, and among them, approximately 42% were aged 21–30 years. Additionally, 69% of the participants were women, over 73% were of Black ethnic group, over 58% reside in a suburbs setting. There was correlation between the reasons for CAM use namely to treat/manage a condition or promote health and gender, where it was statistically significant at $p< 0.001$ level. However, no statistical evidence could be shown that there was dependence between using CAM and race/ethnic group. Highest education attained and the reasons for using CAM practices and products showed a significant correlation ($p<0.001$). Some of the cultural and religious influences were statistically significant ($p<0.05$) influencers to our participants for their healthcare practices. In conclusion, the use of CAM was quite significant in the study population, and the most used therapy was exercise which was followed by vitamins and minerals. Larger numbers of participants in future will help solidify or negate these findings.

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LIST OF ABBREVIATIONS

$	US dollar
%	percent
ANOVA	analysis of variance
CAM	complementary and alternative medicine
CM	complementary medicine
DMC	Decision-Making Competence
DoH	Department of Health
e.g.	for example
Etc.	*et cetera*
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
HPASA	Health Products Association of Southern Africa
IBM	International Business Machines
I-CAM-Q	international complementary and alternative medicine questionnaire
KZN	KwaZulu-Natal
MCC	Medicines Control Council
MD	medical doctor
MMD	moderate mental distress
N	total number of cases/participants
PLWHA	People Living with HIV/AIDS
PTF	Person–Task Fit
R	rand
SPSS	statistical package for the social sciences
StatsSA	Statistics South Africa
TCAM	traditional complementary and alternative medicine
TCM	Traditional Chinese Medicine
TM	traditional medicine
UKZN	university of KwaZulu-Natal
WHO	World Health Organization

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CHAPTER 1: INTRODUCTION

1.1. Introduction

The main aim of medicine is to attend to people's inescapable needs for emotional and physical healing (Egnew, 2009). This aim has progressed over the years by drawing on the spiritual beliefs and social structures of different local people groups, by misusing characteristic things in their environments, and by generating and approving restorative and protective procedures and practices using the logical technique (Debas, Laxminarayan, & Straus, 2006). Overall health and therapeutic observations have advanced to a period in time where folks can predict—and even feel competent to—lives that are extended and of desirable quality more than ever before in the history of mankind (Abdullahi, 2011).

1.2. Background to the study

Complementary and alternative medicine (CAM) includes medicines that do not form part of standard therapeutic consideration. Sometimes it is called integrative drug. Terms such as "elective," "correlative," and "integrative" are utilised (Zollman & Vickers, 1999). Be that as it may, they are each an alternate sort of methodology.

- **Complementary**: An alternative product/therapy that is used *alongside with* conventional medicine. An example would be that of a person that suffers from anxiety will take anxiety medication and over and above practice meditation when they get home (Zollman & Vickers, 1999).

- **Alternative**: An alternative practice that is used *as an alternative* to conventional medicine. Proven alternative medicine is not common, and the Western doctors do not recommend it. An example would be a person who is suffering from diabetes treating it with just diet instead of metformin or synthetic insulin (Barnes, Bloom, & Nahin, 2008).

- **Integrative**: Complementary and conventional medicine are *utilised together* in a synchronized approach. An example would be a person who is in pain, treating it with both pain killers and acupuncture or breathing technique (Zollman & Vickers, 1999).

The three common types of CAM therapies (Subramani & Lakshmanaswamy, 2017) include:

- **Natural products –** These are usually purchased as food supplements. Included in the list is herbs, prebiotics, vitamins, etc.
- **Mind and body practices –** These are the practices that are deemed therapeutic to the mind and body. Examples of these include acupuncture, chiropractic care, breathing exercises, different massage therapies, etc.
- **Whole medical systems –** These often are based on a certain perspective and inspire "self-curing." These are not founded on evidence-based medicine. Examples of these include homeopathy, traditional Chinese medicine, etc.

1.2.1 The meaning of CAM

Complementary and alternative medicine (CAM) or "complementary health approaches" are a group of various medicinal and healthcare practices and products (indigenous or imported) that are not currently deemed to be a part of Western medicine (James, Wardle, Steel, & Adams, 2018). Normally, the individuals that opt for CAM methods are looking for ways to increase their health and wellbeing or to seek relief from relieve symptoms that are linked with prolonged, even life-ending, sicknesses or the side effects of Western treatments for them (Kooreman & Baars, 2012). Different explanations behind utilising CAM involve having an all-inclusive wellbeing reasoning or a transformational capability that alters one's truth and requiring more prominent authority over a person's very own wellbeing (Tabish, 2008).

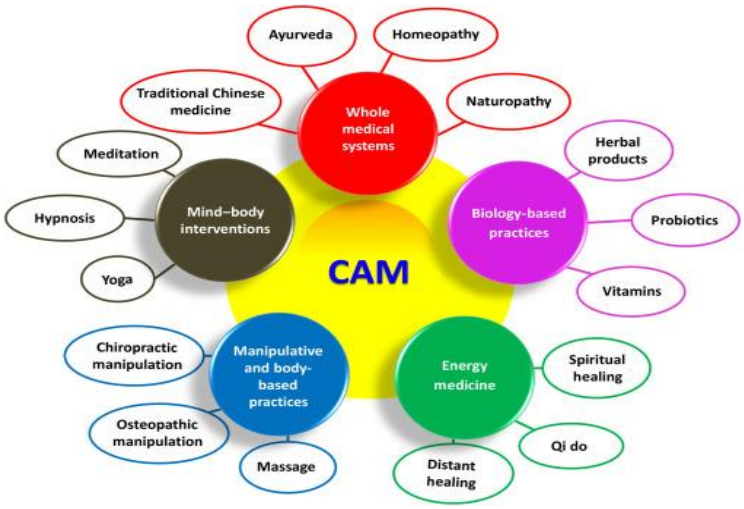

Figure 1.2: Classification of CAM (Subramani & Lakshmanaswamy, 2017)

CAM has been utilised in different populations for different purposes, including emotional help, improvement of health and personal satisfaction (Jang, Kang, & Kim, 2017). Normally, over 80% of Africa's populations depend on traditional healing modalities including herbal remedies, for health maintenance and therapeutic management of disease (Mbada et al., 2015). The reasonable proof is progressively evident that some complementary medicine mediations offer significant incentive to the healthcare system in improving clinical results and lessening the weight of chronic illness (Mozaffarian, 2008).

Normally, population-based and healthcare facility-based overviews appear to demonstrate that TM utilisation still assumes a significant role in healthcare delivery in South Africa,

covering a wide scope of conditions from chronic conditions, complex of mind or psychosocial issues, generalised pain, to HIV/AIDS and other sexually transmitted infections. Other schools of thought in South Africa have also shown the significance of conventional healthcare experts in the treatment of the conditions such as mental disorders, cancer, diabetes, hypertension and stroke, youth medical issues, and hearing disability (Peltzer, 2009).

"I never said HIV does not cause AIDS. What I said is that a virus cannot cause a syndrome" (Gqirana, 2016) page 1. This statement by President Mbeki caused a huge concern in the world, especially when it was coming from a President whose country was one of the worst hit in the world by HIV prevalence. This statement led to a lot of talk about HIV/AIDS denialism. The then minister of health, Shabalala-Msimang didn't help matters when she added onto the President's statement by saying that the "consumption of garlic, beetroot and lemon delays the development of HIV into AIDS-defining conditions" (le Roux, 2006). The speech by President Mbeki was alluding to the fact that there are so many factors that need to be considered, such as socio-cultural phenomenon, poverty and diseases, when discussions about HIV/AIDS arise and how to best address the then rampant new infections numbers.

A balanced and wide-ranging diet is the best source of essential vitamins and minerals. However, nutrient insufficiencies occur, including in populations with plentiful food supplies and the means to acquire nutrient-rich foods (Ward, 2014). Multivitamin and mineral supplements are CAMs most commonly used dietary supplement worldwide. Malnourishment in the form of protein–energy malnutrition and micronutrient shortages, remains a main health burden in developing countries. It is globally the most important risk factor for illness and death, with thousands of pregnant women and young children particularly affected (Müller & Krawinkel, 2005).

"Nootropics are natural supplements or drugs that have a beneficial effect on brain function in healthy people. Many of these can boost memory, motivation, creativity, alertness and general cognitive function. Nootropics may also reduce age-related declines in brain function". The examples include omega-3 fatty acids, resveratrol, caffeine, phosphatidylserine, acetyl-L-carnitine, ginkgo biloba, S-adenosyl methionine and creatine. Some of these nootropics are plant-based such as *Bacopa monnieri* and *Rhodiola rosea*

(West, 2016) page 1. Taking them as supplements is vital for the wellbeing and optimal functioning of the brain.

CAM has been practiced in the world for centuries. In fact, most of Western medicine started off as CAM, until its efficacy was tested in a scientific laboratory, patented, and mass produced for everyone to use. The benefits of using CAM vary from need to need. With such a vast use of CAM in South Africa, how much money is spent on it? Is it prescribed for treatment purposes or for staying "healthy" reasons? Who is following up if there are no adverse and/or harmful effects to the concurrent users of CAM and Western medicine? If true numbers of users are known, then the department of health can incorporate controlled CAM use, especially to the patients on chronic medication.

South Africa is a developing country that still has a lot of challenges in healthcare and wellbeing of its citizens. Rural South Africa still struggles to access healthcare facilities, so they rely heavily on the local herbalist and/or common village/community CAM knowledge for treating ailments. However, managing chronic conditions such as diabetes, hypertention and HIV/AIDS has also made its way into the list of local herbalist managed illnesses. Also, South Africa is still struggling to serve a balanced plate for its citizens, meaning that diet supplements are a necessity for the health and wellbeing of the young minds and the minds of those helping to develop them. There is an urgent need for the continous use of some of the CAM therapies and products for staff and students of UKZN because some studies have shown that the supplements can help with:

- **Healthy ageing:** As the human body gets older, its need for nutrition increases. Body metabolism becomes slower and is altered by the ageing process and as such struggles to absorb the nutrients. Taking supplements can help bring the required daily amounts to promote healthy body functioning (Hathcock, 1997).
- **Good for the heart:** Type 2 diabetes and heart-related complications are the leading causes of death worldwide "Vitamins B_1, B_2, B_6, K_1, niacin (B3), CoQ_{10} and magnesium, all play a role in cardiovascular health". Diet alone does not provide the daily needed amounts, which is why supplementing is necessary (Hathcock, 1997).
- **Boosts immunity:** Vitamin C is a strong antioxidant that is linked to strengthen the immune system by supporting innate and adaptive immune system (Carr & Maggini, 2017).

- **Healthy brain function:** Vitamins D consumption may decrease the risk of cognitive decline, while vitamin E may reduce the risk of developing dementia (Mann, 2010).
- **Supports eye health:** Vitamins A, C, E, Niacin (B_3), and selenium support eye health (Brown, Bron, Harding, & Dewar, 1998).
- **Healthy hair and skin:** Vitamins B_3 (Niacin), biotin, and vitamin C are linked to fuller hair, and for healthy skin, vitamins A, C, E, and CoQ_{10} (Hathcock, 1997).
- **Feel better:** Thanks in large part to the vitamin B family, taking a multivitamin is associated with a boost in energy levels, decrease in stress and anxiety (Hathcock, 1997). In this day and age of all kinds of stresses and mental illness, it is imperative to have a healthy brain chemicals balance.

With all the information provided in this section of the study, it is imperative that CAM use frequency is known, the types of products and therapies that South Africans prefer because these kinds of information can help the department of health improve on the healthcare rollouts, especially to the disadvantaged communities of South Africa.

1.3. Problem Statement

Consumers of CAM and traditional medicine (TM) methods choose health practices that speaks to their personal opinions about health (Astin, Shapiro, Eisenberg, & Forys, 2003). Though economic aspects need to be considered when making this decision, the underlying incentives are not always foreseeable. For example, a common misconception is that patients choose CAM and TM methods because they are low-cost substitutes to Western medical care. The truth is, there are instances sometimes where the cost of CAM or TM is much more expensive than the cost of accessing a Western medical service, several studies have reported (Debas et al., 2006).

Sub-Saharan Africa is known worldwide as one region of the world in which CAM has been known to be widespread in its practice for centuries, with a considerable population numbers dependent on it to preserve their health or prevent and treat contagious and non-communicable infections (Mbutho, Gqaleni, & Korporaal, 2012). The economic impact of CAM is wide-ranging, adding at least R2.9 billion (US$2.2 million) to the South African economy alone (James et al., 2018). This in itself is a huge problem for developing countries because the department of health's budget is put aside for Western medicine. Which in itself is a problem for people living in the rural parts of these countries and have to rely solely on traditional health practitioners and/or their own plant use knowledge.

1.4. Aim of the study

With all the background information given above, this study therefore aims to conclude on the frequency of CAM usage across staff and students of UKZN, Durban campuses, residing in eThekwini Municipality, and who use CAM to improve their health and not to manage a condition. Also, how much money they spend on their choices of CAM therapies.

1.5. Objectives

The objectives of this study are:

1. To determine the statistical representation of staff and students of UKZN residing in eThekwini Municipality that use CAM
2. To find out how many of the participants that use CAM to manage a chronic disorder
3. To better understand the reason/s behind their choice of CAM therapies and products
4. To better understand the financial expenditure on CAM therapies and products monthly

1.6. Research Questions

1. What is the statistical representation of staff and students of UKZN Durban campuses residing in eThekwini Municipality that use CAM?
2. How many of these participants use CAM to manage and or monitor a condition?
3. What influences their choice of CAM therapies/products?
4. How much do they spend on CAM therapies monthly?

1.7. Significance of the study

This study is significant for several reasons which include:

1. CAM therapies are generally accessible, inexpensive and frequently utilised in low- and middle-income countries (WHO, 2004). This means that the students and staff of UKZN can access these products and therapies for their own consumption anywhere.

2. Alternative medicine is popular and readily avilable in the KZN province. UKZN community therefore can access their go-to therapies and products anywhere. People are seeking for more ways to support and improve health, doing so using less invasive, hollistic, affordable approaches to support their wellbeing. So, if it known which products are consumed by the citizens, this information is essential for healthcare provision at national/provincial/community levels. Some products have been shown to interfere with the normal functioning of Western medicine. This can therefore be avoided if the use of CAM became included and acknowledged in healthcare mainstream.

3. The need to continue to seek alternative ways of healing a sick body vary, but the most common ones are related to microorganisms developing resistance to antibiotics. Meaning that alternative treatments are therefore necessary. Also, some of the herbal medicines have not been validated for their benefits and safety yet, but are being consumed because of lack of other alternatives. So finding out which plants are being used and for which conditions adds to the existing body of knowledge.

4. This was a pilot study for a much bigger study, to be conducted by the researcher through college of Health Sciences, that is aimed to cover the entire province of KZN. It is therefore assisting the researcher in establishing the validity of research based upon the knowledge published in the discipline, before embarking on a much bigger scale.

1.8. Research Methodology

1.8.1. Quantitative method and the questionnaire

Quantitative methods highlight objective dimensions and the statistical, mathematical, or numerical analysis of data collected using polls, questionnaires, and surveys, or by influencing pre-existing statistical data by means of computational techniques (Johnson, Onwuegbuzie, & Turner, 2007). Quantitative research is based on collecting numers data and making it simpler transversely all groups of people or to explain a specific incidence (Mackenzie & Knipe, 2006).

A questionnaire is a research instrument made up of a sequence of questions with collecting information from participants in mind. A questionnaire can be completed either by a face-to-face setup, over the telephone, using a computer or by posting it to the would-be participants. These surveys give a generally modest, brisk and effective method for getting a lot of data from a large sample of individuals. Information can be gathered reasonably quickly in light of the fact that the researcher does not need to be available when the surveys are being completed. This is invaluable for big populations where researcher-to-participant meeting would be illogical. However, a downside with conducting a questionnaire survey is that respondents may lie because of a certain status they would want to uphold sometimes. Many participants feel that they need to present an attractive image of themselves, thus may lie or twist realitya little bit to look great (McLeod, 2018).

Questionnaires can be a compelling method for estimating the personal conduct, attitudes, choices, feelings and, intentions of reasonably large quantities of participants more economically and rapidly than other techniques. Frequently, a questionnaire utilises both open and closed questions to gather information. This is valuable as it implies both quantitative and qualitative information can be acquired.

1.8.2. Statistical Package for the Social Sciences (SPSS) Data Analysis

Statistical Package for the Social Sciences is the set of software programs that are combined together in a single package. The essential use of this program is to investigate logical information related with the sociology. This information can be utilised for statistical surveying, studies, information mining, and so forth (Thomes, 2018). SPSS is structured so that it can deal with a large set of variable information designs.

1.9. Limitations of the Research

This study is intended at collecting data from staff and students of UKZN residing in eThekwini Municipality, meaning that the findings will be limited to just these participants.

1.10. Organisation of Research Dissertation

This dissertation will be organised as follows:

1.10.1. Chapter 1 – Introduction

This chapter introduces the quantitative study that was conducted amongst staff and students of UKZN, Durban campuses, which reside at eThekwini Municipality on the use of CAM. In this introductory Chapter the justification for this study is explained and an overview of the dissertation is provided. The Chapter starts off by presenting the context within which this study was conducted as well as the researcher's background. It then proceeds to explain the rationale and objectives of the study. The theoretical background used in this study. Finally, an overview of the way in which the study was conducted is provided.

1.10.2. Chapter 2 – Literature Review

This chapter shows a broad summary of previous research studies on CAM worldwide. Scholarly articles, books, and other sources relevant to CAM were thoroughly surveyed. In this chapter, the review enumerates, describes, summarises, objectively evaluates and clarifies previous research on CAM use in the world, Africa and South Africa.

1.10.3. Chapter 3 – Research Methodology

This chapter in additional details will outline the research strategy, the research method, the research approach, the methods of data collection, the selection of the sample, the research process, type of data analysis, the ethical considerations and the research limitations of the project.

1.10.4. Chapter 4 – Results and Discussion

This chapter will summarise the collected data and the statistical treatment, and/or mechanics of analysis. The first paragraph will briefly restate the problem, taken from Chapter 1. Explanation of the object of each experiment, question, or objective, point out salient results, and present those results by Table, Figure, or other form of summarised data will be carried out.

It will include stating clarifications, declaring opinions, elucidating the effects of findings, and making recommendations and predictions for future research. This will attempt to:

- Answer those inquiries presented in the introduction (focal research questions)
- Show how the responses are bolstered by the outcomes
- Clarify how the appropriate responses fit comparative with the current collection of information about the subject

1.10.5. Chapter 5 – Conclusion and Recommendations

In this chapter the conclusions consequent from the outcomes of this study on the use of CAM by staff and students of UKZN Durban campuses residing in eThekwini Municipality are defined. The conclusions were based on the purpose, research questions and results of the study. The implications of these findings and the resultant recommendations will also be explained. Recommendations were based on the conclusions and purpose of the study.

1.11. Summary

Complementary medicine in South Africa encompasses a wide range of therapies ranging from traditional practices that have only recently been regulated, to widely accepted alternative therapies that are recognised by the medical fraternity within the country (Abdullahi, 2011). Women are more likely to use CAM therapies than men; usage appears to increase as education level increases; use patterns vary by race, depending on the type of CAM therapy considered; and those who use CAM generally use more than one CAM modality, and do so in combination with conventional medical care (Alwhaibi & Sambamoorthi, 2016).

It is estimated that up to 70% of the South African population will consult with a complementary medicine professional before seeking for conventional medicinal aid, and CAM is by a wide margin the most prevalent elective treatment in South Africa (Abdullahi, 2011).

However, research is furthermore indicating that 1 of every 3 CAM users do not disclose their complementary medicine use to their conventional medicine providers, presenting a huge, immediate and secondary threats of antagonistic impacts and harm because of hazardous simultaneous utilisation of CM and Western medication use (Foley, Steel, Cramer, Wardle, & Adams, 2019).

With the information highlighted above on the use of CAM in South Africa, and the lack of users disclosing to their Western doctors, it is critical for the department of health to be aware of this information for future chronic treatment plans for the common chronic conditions such as diabetes, hypertension, and HIV/AIDS. Also, it will be interesting to find out just how much money is used towards CAM. Furthermore, what dictates the choice/s of CAM use by staff and students of UKZN Durbn Campuses residing in eThekwini Municipality. The next chapter presents literature aligned to the study.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

A literature review chapter represents a broad summary of previous studies on a topic. It will explore available information in relation to CAM and its use from books, scholarly articles, and any other relevant sources, providing a description, summary, and critical evaluation of CAM use.

The World Health Organization (WHO) classifies 65–80% of the world's healthcare welfare as alternative medicine, along these lines from the perspective of the population proportion, more individuals utilise CAM than present day Western prescription (Qi, 2013). Albeit much consideration has been centred on CAM, scientific proof for most CAM is as yet scanty. Development of CAM as an existing type of medication relies upon whether precise proof can be gathered (Qi, 2013).

Plant use for medicinal purposes has been documented since primeval times, and they continue to be a valuable source of new medications (Siew et al., 2014). Different countries have traditional or indigenous methods of health-giving which are thought to be in relation to cultural practices and history. In “developing countries”, alternative medicine can be the “backbone” of healthcare practices, especially in inaccessible or rural regions (Güler, Manav, & Uğurlu, 2015). It is clear that CAM practices are socially influenced over a period of time (Gale, 2014). Some procedures of alternative medicine are popular not only in their country of origin but are also used worldwide. Consequently, complementary medicine such as homeopathy, yoga, and reiki are also in extensive use worldwide (Qi, 2013).

There is an increase in levels of chronic illnesses worldwide rendering an ever-increasing healthcare costs. Patients and healthcare providers equally are asking for healthcare services to be strengthened, highlighting on individual-centred care (Van Vuuren & Holl, 2017). There are a lot more people that use CAM to seek medical relief. South Africa has a diversity of plants species and a rich cultural heritage of traditional healing practices. There is wealth of published work from the anti-infective to anti-diabetic properties of South African plant extracts (Afolayan, Grierson, & Mbeng, 2014).

2.2. Definition of key terms

2.2.1. Complementary Medicine

Complementary medicine refers to a group of therapeutic and diagnostic therapies that exist mainly outside the organisations where conventional healthcare is taught and provided (Ernst Ernst et al., 1995). Complementary medicines (also known as 'traditional' or 'alternative' medicines) include vitamins, minerals, herbal, aromatherapy and homoeopathic products. Complementary medicines may be either listed or registered, depending on the ingredients incorporated and the claims made on them (Goh, Vitry, Semple, Esterman, & Luszcz, 2009).

2.2.2. Alternative Medicine

Alternative medicine refers to the medicinal products and practices that are not part of standard Western care. Conventional medical care refers to what medical doctors, doctors of osteopathy, and allied health professionals, such as nurses and physical therapists, practice. Alternative medicine is used in place of standard medical care. Examples of alternative practices include homeopathy, traditional medicine, chiropractic, and acupuncture. Complementary medicine is not the same as alternative medicine (Shiel Jr, 2018).

2.2.3. Complementary and Alternative Medicine

Complementary and alternative medicine is a group of diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine (Ratini, 2019). Complementary medicine is used together with conventional medicine, and alternative medicine is used in place of conventional medicine. Integrative medicine combines conventional and CAM treatments for which there is evidence of safety and effectiveness (Abou-Rizk, Alameddine, & Naja, 2016).

2.2.3.1. Five categories of CAM

a) Whole Medical Systems

Whole medical systems are comprehensive systems with a distinct philosophy and description of disease, diagnosis, and therapy. They include the following (Kessler & Michalsen, 2012):

- **Ayurveda** - Ayurvedic medicine is one of the world's oldest holistic ("whole-body") healing systems. It was established in India more than 3 millennia ago. It's founded on the conviction that health and wellness rely on an intricate balance amongst the mind, body, and soul. Its paramount objective is to endorse good health, and not to battle illness (Hazra & Panda, 2013).
- **Homeopathy** - is a medicinal system that is centred on the belief that the body can heal itself. The users of this system use small amounts of natural substances, such as plants and minerals. It is believed that these plants and minerals will kick start the healing process (Chaufferin, 2000).
- **Naturopathy** - Naturopathic medicine is a system that utilises natural remedies to help the body heal itself. It encompasses many therapies such as herbs, massage, acupuncture, exercise, and nutrition as a therapy (Nair & Nanda, 2014).
- **Traditional Chinese Medicine** - TCM is a primordial system of health and wellness that has been utilised in China for many millennial years. TCM doesn't centre on science and medicine. Instead, it's centred on balance, coordination, and vitality (Xue & Roy, 2003).

b) Mind-Body Medicine

Mind-body medicine is based on the philosophy that mental and emotional factors control physical health using a system of co-dependent neuronal, hormonal, and immunologic connections all through the body. Behavioural, psychologic, social, and spiritual techniques are used to augment the mind's capacity to affect the body and consequently to reserve health and to prevent or treat disease (Pert, 2010). Because scientific proof supporting the positive outcomes of mind-body medicine is abundant, most of these methods are now seen as mainstream. The following techniques are used in the treatment of chronic pain, coronary artery disease, headaches, insomnia, and as aids during childbirth (Astin et al., 2003):

- Biofeedback
- Guided imagery
- Hypnotherapy

- Meditation, including mindfulness
- Relaxation

These techniques are also utilised to assist patients deal with disease-related and treatment-related symptoms and to prepare them for surgery.

c) Biologically Based Practices

Biologically based practices use naturally-occurring elements to affect health. These practices include (Gansler, Kaw, Crammer, & Smith, 2008):

- Botanical medicine and natural products
- Chelation therapy
- Diet therapies

d) Manipulative and Body-Based Practices

Manipulative and body-put together practices concentrate fundamentally with respect to the body's structures and frameworks (for example bones, joints, delicate tissues). These practices depend on the conviction that the body can direct and mend itself and that its parts are interdependent (Cassileth et al., 2007). They include:

- **Chiropractic -** In chiropractic therapy, the association between the structure of the spine and other articulating surfaces and their interaction with the nervous system is thought to be key to maintaining or restoring health (Rothwell, Bondy, & Williams, 2001).
- **Massage -** In massage therapy, body tissues are influenced to lessen pain, relieve muscle tension, and reduce stress. The therapeutic significance of massage for many musculoskeletal indicators is commonly acknowledged (Field, 2002).
- **Reflexology -** is an alternate of massage therapy that depends on manual pressure applied to specific areas of the palm or foot; these areas are believed to correspond to different organs or body systems via meridians. Stimulation of these areas is believed to eliminate the blockage of energy responsible for pain or symptoms in the corresponding body part (Mackey, 2001).
- **Cupping -** is used in traditional Chinese medicine. Cupping is believed to increase blood flow to the site of application, thereby improving healing in that area. The air inside a cup is heated, often using a rubber pump in modern practice. The heated cup is immediately inverted and placed on the skin. The resulting vacuum sucks the skin

partway into the cup, which may be left in place for several minutes (Cao, Li, & Liu, 2012).

- **Scraping** - also called gua sha, involves rubbing a dull implement across lubricated (oiled or wet) skin, usually on the back, neck, or extremities. Recently, scraping has become popular in athletics, particularly weight lifting. Scraping is believed to increase blood flow to an area and enhance metabolism and healing. Depending on the tool used, scraping may also be called coining or spooning (Xu et al., 2012).
- **Moxibustion** - is a therapy within traditional Chinese medicine. Desiccated moxa herb (a mugwort) is burned usually just above but sometimes directly on the skin over acupuncture points. The herb may be in the form of incense sticks or wool (Huayuan & Tangyi, 1996).
- **Acupuncture -** a therapy within traditional Chinese medicine, is one of the most widely established complementary therapies in the Western world and is often part of integrative medicine. It is also sometimes considered a manipulative therapy (G. Ernst, Strzyz, & Hagmeister, 2003).

e) Energy Medicine

Energy medicine aims to manipulate delicate energy fields (also called biofields) believed to occur in and around the body and as such affect health. All energy therapies are founded on the credence that a universal life force (qi) or subtle energy resides in and around the body (Micozzi, Ergil, Gabler, & Palanjian, 2011). Historically, a vital force was speculated to explain biologic processes that were not yet understood. As biologic science progressed, this force was dismissed. Some investigators continue to explore the existence of the biofield and subtle energies (Oschman, 2015).

Energy medicine is a component of several therapies, including the following:

- **Acupuncture** - a system of complementary medicine in which fine needles are injected in the skin at precise points along what is considered to be lines of energy (meridians), utilised in the management of numerous physical and mental disorders (Lee et al., 2007).
- **Magnets** - Magnet therapy (an energy therapy) utilises static magnetic fields (constant fields produced by permanent magnets) or pulsed electromagnetic fields (intermittent magnetic fields produced by an electromagnet). Practitioners place magnets on the body or place injured body parts in an induced electrical field to reduce pain or enhance healing (Grunhaus et al., 2000).

- **Therapeutic touch** - Therapeutic touch is a type of energy medicine. The philosophy behind this modality is to use the therapist's energy (biofield) to influence the patient's biofield (Olson & Sneed, 1995).
- **Reiki** - is a type of energy medicine which originated in Japan. In reiki, practitioners intend to channel energy through their hands and transfer it into the patient's body to promote healing (Raingruber & Robinson, 2007).
- **Qigong and Tai chi** - components of traditional Chinese medicine using gentle postures, mindful movement, and the breath to bring the patient's energy into better balance (X. Liu et al., 2015).

2.2.3.2. CAM use in South Africa

Complementary medicine in South Africa encompasses a wide range of therapies ranging from traditional practices that have only recently been regulated to alternative therapies that are widely recognised by medical aids within the country (Abdullahi, 2011).

2.2.3.3. Legislation Amendments to the Medicines and Related Substances Act, 1965

Recent alterations to the Medicines and Related Substances Act, 1965 (Act No. 101 of 1965) as drafted out by the Department of Health (DoH) and Medicines Control Council (MCC) have defined new limits for the showcasing and sale of CAM in South Africa. The Health Products Association of Southern Africa (HPASA), together with consulting partner, Saige, gives a short outline of the prerequisites (Smith, 2014).

The legislation, distributed into law on 15 November 2013, requires certain principles to be met utilising a phased-in approach for usage. These measures incorporate, among others, the evacuation of restricted substances and planned substances (by December 2013), changes to name information on pack (by 15 February 2014) and enlistment of certain item groups with the MCC (a few dates and call-ups). This identifies with items that fall inside the CAMs definition as outlined by the DoH and MCC (Smith, 2014).

Moreover, most, if not every, reciprocal prescription should be fabricated in a MCC-authorized pharmaceutical plant and all CM importers, retailers, wholesalers and advertisers are required to get a permit to import and sell these items (Smith, 2014).

According to the amended law (Wilson-Spath, 2014) page 1:

- "CAMs used in alternative medical disciplines such as homeopathy, naturopathy, Ayurveda, osteopathy, phytotherapy and aromatherapy are included in a new category of regulated medicines, called category D
- All other CAMs that do not fall in this new category are included in the existing category A, together with conventional medicines
- All existing and new CAMs must be submitted to the MCC for safety, quality and efficacy assessment and registration
- All category D medicines must be appropriately labelled and any product not registered with the MCC must carry a label declaring: This medicine has not been evaluated by the Medicines Control Council. This medicine is not intended to diagnose, treat, cure or prevent any disease
- All CAM products that contain banned substances (e.g. apiol or kava kava) which are potentially dangerous to public health must be withdrawn
- All CAMs manufacturers and wholesalers must be licensed".

2.2.3.4. Attitude about using CAM

CAMs extensive use in the community requires modifications in knowledge and approaches among and within the various health professions (Walker et al., 2017). Understanding inspirations for CAM treatment is significant, in light of the fact that frames of mind get from wishes for non-pharmacological treatment, to be increasingly associated with treatment and stay away from symptoms (Gaul, Schmidt, Czaja, Eismann, & Zierz, 2011).

Peltzer and colleagues in 2009 confirmed that the traditional health practitioners are involved in pregnancy care at 88.9%, prenatal check-ups at 75.9% and conducting postpartum visit at 76.9% (Peltzer, Phaswana-Mafuya, & Treger, 2009). The utilisation of herbal products during pregnancy has been extensively studied to different degrees in different countries. The findings have shown a wide range in its frequency use because of cultural and regional differences.

Another study by Maputle and colleagues in 2015 demonstrated that the postnatal women are of the belief that informing their obstetric provider regarding having utilised CAM during pregnancy or potentially in their perinatal period would influence adversely their care given

by the obstetric care provider. Women's experience of pregnancy is not just a medical incidence but one that also echoes her traditional values, family as well as her own beliefs (Maputle, Mothiba, & Maliwichi, 2015).

In different South African cultures, the use of traditional medicines is deeply intertwined into the cultural and religious beliefs (Mokgobi, 2014). "According to the WHO, traditional medicines include diverse health practices, approaches, knowledge and beliefs about incorporating plant, animal and/ or mineral based medicines, spiritual therapies, manual techniques and exercises applied singly or in combination to maintain well-being as well as to treat, diagnose or prevent illness" (Mahomoodally, 2013).

2.2.3.5. CAM use for management of diabetes mellitus

Diabetes mellitus is a main reason of morbidity and mortality worldwide with an expanding predominance. The WHO approximations sit at a prevalence of 347 million individuals with diabetes worldwide in 2013 (Medagama & Bandara, 2014). The frequency is expected to double between 2005 and 2030. The more prominent extent of this expansion would be in the low to middle income nations of Asia, Africa and South America. There is a rising pattern worldwide for patients to utilise CAM in trying to improve the results of their ailments just as to improve general wellbeing. What's more, CAMs have increased scholarly, modern and monetary interest because of its high frequency of utilisation (Medagama & Bandara, 2014).

Here are some therapies that are being studied in an attempt to manage/monitor/treat the common chronic conditions. They present potential, but they are far from being cleared for utilisation (Fetterman & Hurd, 2019). Some have shown promise, such as:

- **Alpha-lipoic acid.** This is an antioxidant produced by the body, but it is also found in organ meats like liver and kidneys, and in dark vegetables like spinach and broccoli. In some people, it can lower blood sugar and help reduce or prevent the nerve damage that is a complication of diabetes (Fetterman & Hurd, 2019).
- **Chromium.** This is a trace mineral found in whole-grain bread and some vegetables. It is sold as chromium picolinate, chromium chloride, or chromium nicotinate. It appears to be safe when taken in low doses and for short periods. But doses over that amount could harm the kidneys. Because chromium seems to help glucose metabolism, research is looking at the right dosage to help manage diabetes (Fetterman & Hurd, 2019).

- **Polyphenols.** These are antioxidants found in green tea, olive oil, and dark chocolate, among many other foods. Researchers are doing studies to show if polyphenols can lower blood sugar and cholesterol in diabetic patients (Fetterman & Hurd, 2019).
- **Ginseng.** CAM practitioners have utilised this plant root for hundreds of years for different illnesses. These illnesses include headaches, fatigue, diabetes, and fever. Some studies have shown that it can reduce blood sugar. But it can also have the same negative effects as drinking too much coffee. It can cause anxiety, diarrhoea, high blood pressure, and sleeplessness. Also, the concentration of the active ingredients changes according to the time of year when the root is harvested (Fetterman & Hurd, 2019).
- **Exercise** is one natural treatment that does work for diabetes. It can control body weight and lower blood sugar—and most of the time, it is free. Just about any exercise is helpful, but particularly aerobic exercises, such as walking, bicycling, and dancing (Fetterman & Hurd, 2019).

2.2.3.6. The use of CAM for HIV/AIDS management

The disease burden in Africa, which is relatively very high compared to developed countries, has been attributed to various factors that include poverty, food shortages, inadequate access to healthcare and unaffordability of Western medicines to the majority of African populations (Nyika, 2009). The rollout of antiretroviral therapy in the South African public health sector in 2004 was heralded by the politicisation of HIV-infection which was used to promote traditional medicine for the management of HIV/AIDS. One decade has passed since; however, questions remain on the extent of the use of CAM by HIV-infected patients (Nlooto & Naidoo, 2016). HIV-infected patients may turn for their health management to public, private, household/self-care and other community based non-formal health sectors such as traditional and faith healers, herbalists and other vendors (James et al., 2018). Exploring the beliefs and practices of CAM use among People Living with HIV/AIDS (PLWHA) could be vital, since some of these therapies may adversely affect the outcomes of the conventional HIV treatment (Syed et al., 2016)

2.2.4. Decision-Making Competence (DMC)

Decision-making competence is viewed as "a multidimensional concept because several abilities are required for good decision making. Commonly cited dimensions for defining and measuring DMC include the ability to (1) structure a decision problem, (2) understand relevant information, (3) integrate information and reason about it, and (4) appreciate the personal significance of information and the limits of one's decision skills" (Finucane & Lees, 2005).

2.2.4.1. Economic Factors That Influence the Use of CAM

Users of CAM and traditional medicine approaches choose health practices that resonate with their beliefs about health. Although economic factors play a role in this choice, the underlying incentives are not always predictable. For instance, a common misconception is that patients opt for CAM services because they are cheaper alternatives to conventional medical care. Even though there are certain instances where the cost of treatment using CAM is much cheaper than the cost of accessing a conventional medical service, several studies have found that CAM cost the same or more than conventional treatments for the same conditions (Debas et al., 2006). Total consumptions for CAM treatments in the united stated of America were evaluated at US $14 billion in 1990, US$27 billion in 1997 and US$34 billion in 2007 (Herman, Poindexter, Witt, & Eisenberg, 2012).

Sub-Saharan Africa is one region of the world in which CAM has long been held to be widespread, with a considerable number of its population relying on it to maintain their health or prevent and treat communicable and non-communicable diseases. The economic influence of CAM is extensive, contributing at least R2.9 billion (US$2.2 million) to the South African economy alone (James et al., 2018).

2.3. Theoretical Framework

The assessment for the reasons for choosing different CAM therapies use in this study will be directed by the behavioural model of health services, and the model guided by consumer's ability to make the decision. Aday-Andersen model for behaviour of health services utilise a conceptual framework which can be used to predict or explain the individual's usage of health services that is, predisposing, enabling, and need characteristics (Hendrickson, Zollinger, & McCleary, 2006).

Human and decision-making behaviour can be predicted. There are factors that can be used as determining factors in how an individual would make a decision (Dietrich, 2010). Age, (preferred for explicit emotion-control tactics), and circumstantial impacts on decision-making behaviour (e.g., induced emotions) could elicit significant control results. Effects possibly change focal spontaneous and insightful procedures intricate in making a decision. So, to better explain and envisage neuropsychological associates of making a decision under independent risk conditions, a model is extended with respect to possible impacts (Levin et al., 2012). This agrees with specific decision-making frame-model, such as the Person-Task-Fit Framework.

2.3.1. The Person–Task Fit (PTF) Framework of Decision-Making Competence (DMC)

In contrast to traditional approaches, PTF views DMC as the degree of congruence between characteristics of the decision maker and the demands of the task and context (Finucane & Lees, 2005). Specifically, the PTF framework makes the following major claims:

1. The superiority of a judgement or decision could be prejudiced by characteristics of the individual "(e.g., age, education, spatial-verbal skills, experience); task (e.g., information complexity, framing); and context (e.g., cultural values, social norms)".
2. Individual, task, and context characteristics could act autonomously or interactively to influence DMC.
3. Proficient decision-making happens when an individual's intellectual capabilities and other characteristics sufficiently match the burdens of the decision task or context.

4. Age-related modifications in DMC must be inferred with reference to how developmental changes in decision-maker characteristics impact the ability to effectively meet the demands of various decision tasks and contexts.

By focusing on the relevant characteristics of the decision maker, task, and context, and how these factors interact, the PTF framework enables for questions to be asked on how individual difference variables predict DMC, given various decision environments.

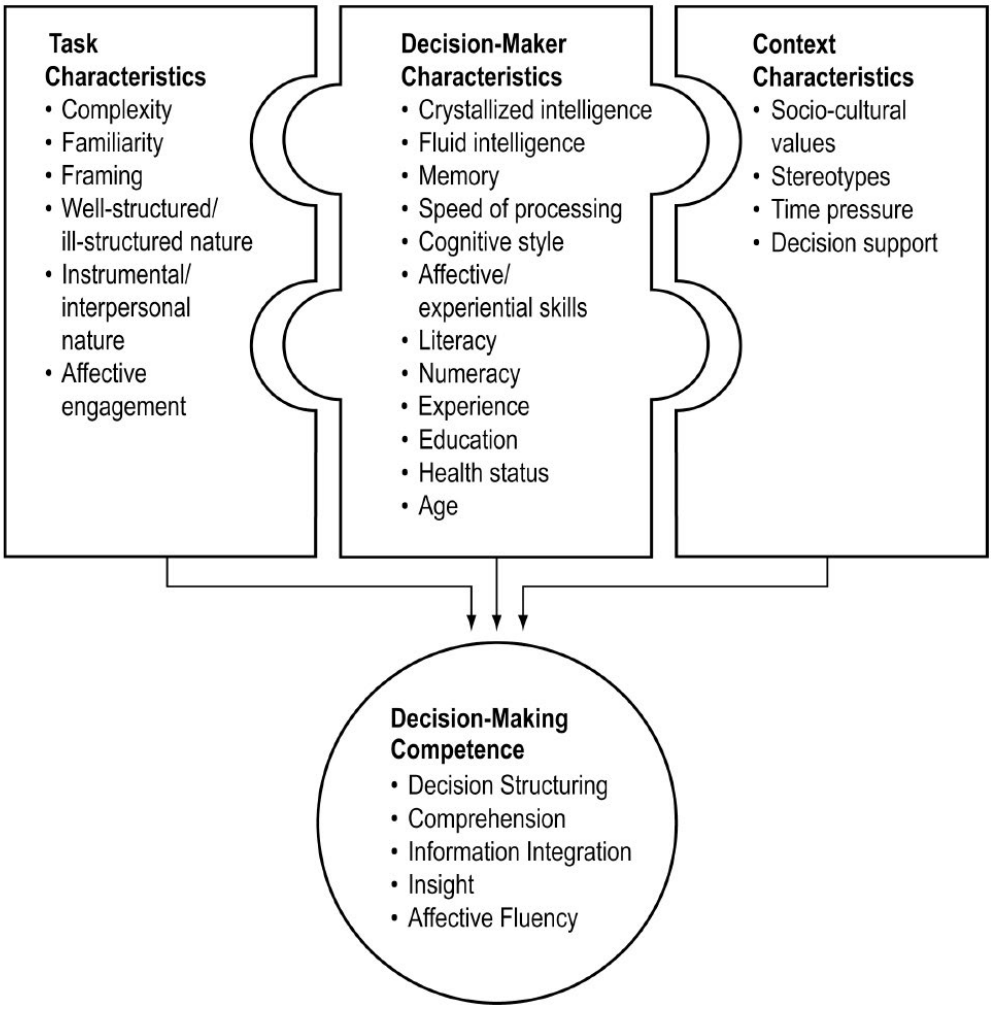

Figure 2.3.1: The Person-Task Fit Framework (Finucane & Lees, 2005).

2.3.2. Aday-Andersen model for behavioural health services

It is a conceptual model that can be used to predict or explain an individual's usage of health services i.e. predisposing, enabling, and need characteristics (Hendrickson et al., 2006). The Andersen Healthcare Utilisation Model - is a conceptual model intended at representing the factors that lead to the usage of healthcare services. According to the model, usage of healthcare services (including inpatient care, physician visits, dental care etc.) is determined by three subtleties: biasing factors, facilitating factors, and necessity. Biasing factors can be characteristics such as ethnic group, age, and health-related beliefs. For example, a person that believes healthcare services are an efficient treatment for an illness is more than likely to seek healthcare. Examples of supporting factors could be family support, access to healthcare cover, that individual's community, and so forth, represents both perceived and actual need for healthcare services. The original model was developed by Ronald M. Andersen, a health services professor at UCLA, in 1968 (Andersen, 1995).

2.3.3. Stress

This is an undefined body's response that is, against emotions, primarily impartial in terms of intrinsic or extrinsic valence. Stress triggers mind, body, and behavioural reactions. The neurochemical substances produced by stress stimulate the limbic system, and the prefrontal cortex and can disturb the normal functioning of these brain parts. Consequently, stress changes central routes involved in decision-making under unbiased threatening circumstances. Studies done before using modified versions of the Cambridge Gambling Task, indicated that stress does affect risk taking (Schiebener & Brand, 2015).

Potential gains versus potential loss triggers has been shown by past studies to trigger very different patterns of taking a risk or avoiding it. Using typical decision-making responsibilities, for which the perceptive and emotional processes accompanying the decisions are already mentioned in literature, may explain how the use of information is employed in these basic processes (Schiebener & Brand, 2015).

2.3.4. Individual Factors

Factors that could forecast decision-making behaviour, compatibly, modify the main decision-making processes will be discussed briefly below. The focus is on gender, age, and personality traits (Henderson & Nutt, 1980).

a) Gender

Making a decision under unclear situations, males in general seem to acquire the possibilities of the task sooner than female participants i.e. males usually Figure what to do sooner than females (Weisberg, DeYoung, & Hirsh, 2011). Also, generally males take more risks (smoking, risky sports, etc.) when compared to females. However, when it comes to trying on new cosmetics and herbal therapies, females seem to be more agreeable to giving it a try than males (Schiebener & Brand, 2015).

b) Age

Ability to make a decision under objective situations has been studied in different age groups. Children were shown to take higher risks when compared to adults. Their curiosity takes over their limited experience on consequences to their actions (Schiebener & Brand, 2015).

c) Personality, Impulsivity, and Self-Control

Substantial relations amongst decision-making and impulsivity-associated facets are regularly reported (Kertzman, Kagan, Vainder, Lapidus, & Weizman, 2013). For example, taking risky decisions can be related with impulsive feeling seeking and determination. When a person is physically sick, it is expected for them to become more impulsive and lose a little bit of self-control, in the hope that when they use CAM, it will help manage or cure whatever condition they may be suffering from (Schiebener & Brand, 2015).

2.3.5. Predisposing characteristics

Predisposing characteristics refer to socio-demographic that might impact the use of health services, socioeconomic status, attitudes and beliefs. . With respect to CAM use, several studies have shown that men are less likely to use a diversity of CAM therapies than women are (Babitsch, Gohl, & von Lengerke, 2012).

2.3.5.1. Enabling characteristics

According to the behavioural model, there are sources that may increase or decrease the use of health service. Enabling factors include things such as individual's income, health insurance status, and access to Western healthcare service (Jahangir, Irazola, & Rubinstein, 2012).

2.3.5.2. External influences

There are sociocultural influences on beliefs, knowledge and behaviours. This becomes apparent when a decision needs to be made regarding a product. Deciding which one to go for is influenced by sociodemographic, knowledge on the product and behaviours of those using it or in the same social status.

2.3.6. EThekwini Metropolitan Municipality

EThekwini Metropolitan Municipality is a metropolitan municipality created in 2000, which includes the city of Durban, South Africa and surrounding towns. EThekwini is one of the 11 districts of KwaZulu-Natal province of South Africa. It was formed from seven formerly independent local councils and tribal land. EThekwini Municipality is located on the east coast of South Africa in the Province of KwaZulu-Natal (KZN). The Municipality spans an area of approximately 2 297km² and is home to some 3.5 million people. It consists of a diverse society, which faces various social, economic, environmental, and governance challenges.

Figure 2.3.2. The map of eThekwini Metropolitan Municipality

2.4. Study Objectives

This study is to conclude on the frequency of CAM use across staff and students of UKZN Durban campuses residing in eThekwini Municipality, and to show what percentage of the population uses CAM to improve their health and not to manage a chronic disease. Also, how much money they spend on their choices of CAM therapies. Previous studies are showing that people use CAM to treat conditions including diabetes mellitus, headaches, arthritis and joint pains, stress, skin disorders, backaches, hypertension and nasal disorders. Half of the CAM users used allopathic medicines concurrently (Singh, Raidoo, & Harries, 2004).

Because of the increasing load of chronic illness in low and middle income countries, driven by TB and HIV, as well as cardio-vascular disease and diabetes, limited healthcare systems are prepared to meet the necessities of recurrently ill patients, predominantly underprivileged patients who have inadequate resources with which to seek out regular healthcare. As a result, low and middle income countries often fail to alleviate increasing chronic disease burdens and choose to use CAM (Goudge, Gilson, Russell, Gumede, & Mills, 2009).

In Western countries, 40–90% of patients suffering from cancer utilise CAM. In most of these countries, patients pay for CAM from their own pockets. This is why there is an continuing dialogue pertaining to whether or not health insurance establishments must compensate payments and, if so, which terms must this be done under (Huebner et al., 2017). It is because of some of the findings from previous studies that objectives of this study were borne. They are listed below:

2.4.1 To determine the statistical representation of people in eThekwini Municipality that use CAM

2.4.2 To find out how many of the people that use CAM suffer from chronic diseases

2.4.3 To better understand the reason/s behind their choice of using CAM therapies

2.4.4 To better understand the financial spending on CAM therapies annually

2.5. Conclusion

The utilisation of all types of medicine is subjective to economic and socio-cultural aspects. In economically-disadvantaged communities where access to biomedical services is poor, there is proof of a prevalent dependence on traditional healers, even for serious illness. In wealthy countries, where biomedical services are readily available, a significant amount of CAM is utilised for ailment prevention and health promotion reasons (Kraft, 2009). There is also proof that CAM is commonly used as an addition to biomedical treatment by patients with serious illness such as cancers and to self-manage long-term health complaints such as low back pain. Nevertheless, the socio-cultural factors manipulating CAM use in prosperous societies are still not well documented (van der Sluijs, Lombardo, Lesi, Bensoussan, & Cardini, 2013). Research continues to show that CAM users are more likely to be female, better educated, middle-aged and report poorer health status than non-users (Kristoffersen, Stub, Salamonsen, Musial, & Hamberg, 2014).

CAM use appears to be driven more by correspondence with values and beliefs than by dissatisfaction with biomedicine but motivation to use CAM is further complicated by costs and benefits as experienced by consumers (McFadden, Hernández, & Ito, 2010). Although the true rate of CAM use can be expected to differ between countries because of economic, social and cultural factors, the prevalence rates estimated by surveys are also affected by methodological factors (Harris, Cooper, Relton, & Thomas, 2012). The next chapter represents all the methodologies used to gather and analyse data for this study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Introduction

"Research methodology is the specific procedures or techniques used to identify, select, process, and analyse information about a topic" (Peffers, Tuunanen, Rothenberger, & Chatterjee, 2007). In this chapter the research methodology used in the study is explained. The geographical area where the study was piloted, the study design and the population and sample are described. The instrument used to collect the data, including methods implemented to maintain validity and reliability of the instrument, are described.

3.2. Research design

There are four (4) main types of quantitative research designs: descriptive, correlational, quasi-experimental and experimental. The variances amongst these four types largely recounts to the level the researcher plans for control of the variables in the experiment (Creswell & Creswell, 2017).

a) **Descriptive Design** defines the recent status of a variable or phenomenon. In this design, the investigator does not begin with a supposition, but usually develops one after data gathering (Lambert & Lambert, 2012).

b) **Quasi-Experimental Design** (often referred to as Causal-Comparative) seek out to establish a cause-effect relationship between two or more variables. The investigator does not assign groups and does not manipulate the independent variable. Control groups are identified and exposed to the variable. Results are compared with results from groups not exposed to the variable (Furtak, Seidel, Iverson, & Briggs, 2012).

c) **Experimental Designs**, often called true experimentation, utilises the scientific technique to establish cause-effect correlation among a group of variables in a research study. Investigators strive to control for all variables apart from the one being manipulated (the independent variable). The effects of the independent variable on the dependent variable are collected and analysed for a relationship (Grimshaw, Campbell, Eccles, & Steen, 2000).

d) **Correlational Design** searches for the association amongst variables by means of statistical analyses. Though, it does not search for cause and effect and thus, is frequently observational in terms of data collection (Beauvais, Stewart, DeNisco, & Beauvais, 2014).

Based on the information provided above, quasi-experimental design was employed for this study. Relationships between variables were explored and manipulated using the IBM SPSS Statistics 15 package.

3.3. Research Philosophy

A research philosophy is a principle about the way in which information about a phenomenon ought to be accumulated, broken down and used. The term *epistemology (what is known to be true* (Scheiner, Hudson, & VanderMeulen, 1993)) as opposed to doxology *(what is believed to be true* (Badescu, 2017)) encompasses the various philosophies of research approach. The motivation behind science, at that point, is the way toward changing things accepted into things known: *doxa to episteme*. Two main research beliefs have been identified in the Western tradition of science, namely positivist and interpretivist (Mkansi & Acheampong, 2012).

3.3.1. Positivist Research Philosophy

Positivism is a logical system deeply embedded in science and mathematics. It's based on the interpretation that whatever exists can be substantiated through experiments, observation, and mathematical/logical proof. Everything else is non-existent (Dudovskiy, 2019). Likewise, positivists more often than not accept that logical advancement will kill, or possibly pointedly decrease, the issues confronting humanity. Positivists are quite often solid pragmatists – that is, they accept that what we experience as the truth is truly out there on the planet. At the end of the day, they put stock in target truth. They likewise will in general prevent the impact from claiming things like hypothetical and social inclinations that impede science (Johnson & Onwuegbuzie, 2004). "Positivism divides all statements into three categories: true, false, and meaningless (neither true nor false)". A meaningless statement is one that is not transparent enough to be tested using positivistic means (Leitch, Hill, & Harrison, 2010).

3.3.2. Phenomenological Research Philosophy

Phenomenology is an extensive control and strategy for demand in reasoning, grew to a great degree by the German philosophers Edmund Husserl and Martin Heidegger, which is dependent on the motive that reality encompasses items and occasions ("marvels") as they are observed or understood in the human cognizance, and not of anything autonomous of human cognizance (Knobe & Nichols, 2013). It very well may be viewed as a part of Metaphysics and of Philosophy of Mind, albeit huge numbers of its defenders guarantee that it is identified with, however particular from, the other key teaches in theory (Metaphysics,

Epistemology, Logic and Ethics), and that it speaks to progressively an unmistakable method for taking a gander at reasoning which has repercussions on these different fields.
It has been contended that it varies from different parts of reasoning in that it will in general be more illustrative than prescriptive. It is just remotely identified with the epistemological teaching of phenomenalism (the hypothesis that physical articles don't exist as things in themselves yet just as perceptual wonders or packages of sense-information arranged in time and in space) (Converse, 2012).

A positivist investigation approach was chosen for this study because positivists believe that knowledge can be “revealed” or “discovered” through the use of the scientific method. The “discovered” knowledge allows for the provision of likely explanations of the bases of things that happen in the world. A positivist approach emphasises experimentation, observation, control, measurement, reliability and validity in the processes of research. This denotes a quantitative approach (Nel, 2016).

There are three main types of Phenomenology:

a) **Realist Phenomenology (or Realistic Phenomenology):** Husserl's initial definition, in light of the principal version of his "Consistent Investigations", which had as its objective the examination of the purposeful structures of mental goes about as they are aimed at both genuine and perfect articles (Vandenberghe, 2003).

b) **Transcendental Phenomenology (or Constitutive Phenomenology):** Husserl's later detailing, following from his 1913 "Thoughts", which takes the instinctive experience of marvels as its beginning stage, and attempts to remove from it the summed up basic highlights of encounters and the quintessence of what we experience, putting aside inquiries of any connection to the normal world around us (Moerer-Urdahl & Creswell, 2004).

c) **Existential Phenomenology:** Heidegger's extended definition, as explained in his "Being and Time" of 1927, which takes as read that the onlooker can't separate himself from the world (thus can't have the withdrawn perspective Husserl demanded). It is in this way a mix of the phenomenological technique with the significance of understanding man in his existential world (Thompson, Locander, & Pollio, 1989).

3.4. Study Population

“Study population is an aggregate or totality of all the objects, subjects or members that conform to a set of specifications” (Rudhumbu, 2014). In this study, the population was staff and students of the University of KwaZulu-Natal, Durban campuses who resided in eThekwini Municipality. Both men and women of all races, age groups, educational status, and socio-economic status who were either registered or employed by the university during 2019 qualified to participate in this study.

“UKZN enjoys more than a century of historical academic advancements. It was established in 2004 following a merger between the University of Durban-Westville and the University of Natal. The merged institution has a total student body of more than 45 000. UKZN is organised on a College model, namely: The College of Agriculture, Engineering and Science; The College of Health Sciences; The College of Humanities; and The College of Law and Management Studies. Of the 46 520 students registered in 2016 at UKZN, 13 064 were postgraduate students”.

“Women made up 26 631 of the student body. The University is a multicultural environment. In 2016, it was home to 2 209 international students from 71 countries. While most full-time students are from the SADC region and the rest of Africa, UKZN also attracts full-time students from China, India, Europe, the USA and elsewhere. UKZN has in its employment over 4000 staff members (both professional and academic) to cater to the needs of all the students registered with this institution”. All the information on UKZN staff and students was obtained from UKZN @ a glance webpage.

3.5. Sampling Techniques

A research population is commonly an enormous gathering of people or items that is the principle focal point of a logical inquiry. In any case, because of the large sizes of populations, scientists frequently can't test each person in the population since it is extremely costly and tedious. This is the motivation behind why researchers depend on sampling techniques.

Population sampling is the way toward taking a subset of subjects that is representative of the whole population. The example must have enough numbers to warrant factual investigation. It is similarly done to save time, money and effort while leading the investigation. All things considered, each researcher must remember that the perfect situation is to test every one of the people to acquire dependable, legitimate and precise outcomes. In the event that testing every one of the people is unthinkable, that is when we depend on sampling methods. Performing population sampling must be directed effectively since blunders can prompt erroneous and deceiving information (Young, 2019).

3.5.1. Types of Sampling

3.5.1.1. Non-Probability Sampling

In this type of population sampling where members of the population do not have equal chance of being selected. Due to this, it is not safe to assume that the sample fully represents the target population. It is also possible that the researcher deliberately choose the individuals that will participate in the study (Acharya, Prakash, Saxena, & Nigam, 2013). Non-probability population sampling method is useful for pilot studies, case studies, qualitative research, and for hypothesis development. This sampling technique is generally utilised in focus groups that are not inspired by the parameters of the whole population. A few analysts lean toward this testing method since it is cheap, quick and easy.

3.5.1.2. Probability Sampling

In probability sampling, every individual in the population have equal chance of being selected as a subject for the research. This method guarantees that the selection process is completely randomised and without bias (Marshall, 1996). The advantage of using probability sampling is the accuracy of the statistical methods after the experiment. It can

also be used to estimate the population parameters since it is representative of the entire population. It is also a reliable method to eliminate sampling bias (Tansey, 2007).

Types of Probability Sampling

a) **Simple random sampling** is a completely random method of selecting the sample. This sampling method is as simple as allotting numbers to the people (test) and after that arbitrarily looking over those numbers through a computerized procedure. At long last, the numbers that are picked are the individuals that are incorporated into the example. There are two manners by which the examples are picked in this strategy for testing: Lottery framework and utilising number creating programming/arbitrary number Table (Kadilar & Cingi, 2006). This sampling technique usually works around large population.

b) **Stratified random sampling** involves a method where a larger population can be divided into smaller groups that usually don't overlap but represent the entire population together. While examining these groups can be sorted out and after that draw an example from each group independently. A typical strategy is to group by sex, age, ethnicity and comparable ways. Parting subjects into fundamentally unrelated gatherings and afterward utilising straightforward arbitrary testing to pick individuals from the groups. Individuals in every one of these groups ought to be particular with the goal that each individual from all groups persuade equivalent chance to be chosen utilising straightforward likelihood (Ding, Hsieh, Wu, & Pedram, 1997). This sampling method is also called "random quota sampling"

c) **Cluster random sampling** is a way to randomly select participants when they are geographically spread out. Rather, the analyst haphazardly chooses zones and arbitrarily chooses from inside those limits. Bunch testing normally investigations a specific population where the example comprises of in excess of a couple of components, for instance, city, family, college and so on. The bunches are then chosen by partitioning the more prominent populace into different littler segments (Madow, 1968).

d) **Systematic sampling** is when every "nth" individual is chosen to be a part of the study sample. For instance, each fifth individual can be picked to be in the example. Deliberate inspecting is an all-encompassing execution of a similar old likelihood procedure where

every individual from the group is chosen at ordinary periods to form an example. There's an equivalent open door for each individual from a population to be chosen utilising this testing method (Yates, 1948).

Because of its simplicity and easy to do, cost-effectiveness, and is non-technical, a stratified random sampling was chosen for this study. Participants were stratified according to their gender, race, residential area, and age. The inclusion criteria was that the participants had to be staff and students of UKZN's four Durban campuses, residing in eThekwini Municipality.

3.6. Sample Size

Sampling is a process used in statistical analysis in which a predetermined number of observations are taken from a larger population. The technique is used to test from a bigger population depends upon the sort of investigation being performed, however it may include straightforward arbitrary examining or methodically inspecting (Kenton, 2019).

Another definition of sample size is a count of the individual samples or observations in any measurable setting, for example, a logical analysis or a popular supposition study. In spite of the fact that a moderately direct idea, decision of sample size is a basic assurance for a task. Too small a sample yields problematic outcomes, while an excessively large sample demands a decent planning of time and assets (MacCallum, Widaman, Zhang, & Hong, 1999).

The University of KwaZulu-Natal has about 50 000 staff and students currently employed or registered for 2019 across 5 campuses. This study sampled from the 4 UKZN campuses in Durban, that is Howard College, Westville, Edgewood and Medical School. The staff and students numbers for these 4 campuses equate to just under 40 000.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where n_0 is the true sample size and N is the population size (Israel, 1992).

$$n = 200 / 1 + [(200 - 1) / 40\,000]$$

$$= 200 / 1 + 4.975x10^{-03}$$

$$= 199 \approx 200 \longrightarrow$$

3.7. Research Instrument

Research instruments are tools created or used by researchers to achieve the study's listed objectives when doing an investigation. In a manner of speaking, these instruments are organised devices that guide the accrual of data with the ultimate objective of assessment (Edekin, 2018).

There are several type of research instruments, these include;

a) Questionnaire - is an investigation instrument comprising of a progression of questions and different aides to accumulate data from respondents. It is generally applied particularly in distinctive review contemplates (Boynton & Greenhalgh, 2004). Points of interest of utilising a survey include:

i. "Can reach a large number of people relatively easily and economically
ii. Provide quantifiable answers
iii. Relatively easy to analyse
iv. Less time consuming than interview or observation".

b) Interview - is one of the most common methods of collecting information from participants. It is not surprising, then, that interviewing can be performed in several formats (Castillo-Montoya, 2016):

i. **Structured interviews**, in which the wording of the questions and the grouping is the equivalent to starting with one meeting then moving on to the next; the respondents must go through a number of answers that have been written ahead of time.
ii. **Semi-structured interviews**, in which the interviewer poses significant questions similarly each time, however is allowed to modify the arrangement of the questions and to test for more data; respondents can address the questions in any capacity they pick.
iii. **Unstructured interviews**, in which interviewers have a rundown of themes that need respondents to discuss, however they are allowed to state the questions as they wish; the respondents are allowed to reply in any capacity they pick.

c) Achievement test. This is a form of instrument that is mainly used in school to determine the performance of students. Other examples include Rating scale, Checklist, etc. (Rana & Mahmood, 2010).

d) Focus Group - some important points to remember about the focus group as a means of collecting information:

i. This method is every now and again used to investigate another issue in checking and assessment contemplates, and to find what a gathering of individuals or project worker may think or feel about an inquiry or issue.

ii. The goal is to provide an opportunity for participants to talk to one another about a specific topic.

iii. The facilitator is there to guide the discussion but should avoid intervening in the discussion.

e) Observation Method - it is, perhaps, the technique mostly mimics the daily life occurrences. It includes watching and recording the conduct of people or gatherings, or the occurrences that happen in a specific spot. One of the upsides of utilising this methodology is that the researcher may pick when and where to do observations, thus guarantee that a decent possibility of seeing the individuals can be had or the conduct hoped to be observed.

The questionnaire utilised in this study to collect data was adapted from the international questionnaire to measure use of complementary and alternative medicine (I-CAM-Q) designed back in 2009 (Quandt et al., 2009).

3.8. Data Analysis

Data analysis is the process of evaluating data using analytical and statistical tools to mine useful information. There are several data analysis methods, including data mining, text analytics, business intelligence and data visualisation (Sridhar, 2018).

Data analysis is a part of a larger process of deriving research acumen. The process includes one or more of the following steps (Sridhar, 2018):

- **Defining Objectives:** Any study must begin with a set of clearly defined objectives. Much of the decisions made in the rest of the process depends on how clearly the objectives of the study have been stated.
- **Posing Questions:** An effort is made to ask a question in the problem domain.
- **Data Collection:** Information pertinent to the inquiry must be gathered from the fitting sources. At the point when information is being gathered utilizing reviews, a survey to be introduced to the subjects is required. The inquiries ought to be suitably demonstrated for the measurable technique being utilised.
- **Data Wrangling*:*** Crude information might be gathered in a few distinct organizations. The gathered information must be cleaned and changed over so information investigation devices can import it. The information investigator must total these various types of information and convert it into a structure appropriate for the examination devices.
- **Data Analysis*:*** This is where the cleaned and aggregated information is brought into analysis tools. These tools enable you to investigate the information, discover designs in it, and ask and answer what-if questions. This is the procedure by which sense is made of information assembled in research by legitimate use of measurable techniques.
- **Drawing Conclusions and Making Predictions*:*** This is where, after adequate examination, conclusions can be drawn from the information and fitting expectations can be made.

For this study, IBM SPSS Statistics 15 software was used to analyse data. It was chosen because it offers the user a lot of control. Since the software remembers the location of the variables and cases, it provides quicker and accurate data analysis. Also, with the wide range of graphs, methods and charts, screening and cleaning data within SPSS is great for future analysis. Furthermore, the output is usually kept apart from the data, reducing the risk of overwriting any other information by accident.

3.9. Validity and Reliability

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform (Kimberlin & Winterstein, 2008). It is uncommon, if almost inconceivable, that an instrument be 100% accurate, so validity is commonly estimated in degrees. As a procedure, approval includes gathering and breaking down information to evaluate the accuracy of an instrument. There are various factual tests and measures to evaluate the legitimacy of quantitative instruments, which for the most part includes pilot testing (Morse, Barrett, Mayan, Olson, & Spiers, 2002).

External validity is the extent to which the results of a study can be generalised from a sample to a population (Lynch, 1999). As a procedure, approval includes gathering and breaking down information to evaluate the precision of an instrument. Content validity refers to the appropriateness of the content of an instrument (Lynn, 1986). As it were, do the measures (questions, perception logs, and so forth.) precisely survey what needs to be known? This is especially significant with accomplishment tests.

Reliability can be thought of as consistency. Does the instrument consistently measure what it is intended to measure? It is not possible to calculate reliability; however, there are four general estimators that may be encountered in reading research (Stemler, 2004):

- **"Inter-Rater/Observer Reliability:** The degree to which different raters/observers give consistent answers or estimates.
- **Test-Retest Reliability:** The consistency of a measure evaluated over time.
- **Parallel-Forms Reliability:** The reliability of two tests constructed the same way, from the same content.
- **Internal Consistency Reliability:** The consistency of results across items, often measured with Cronbach's alpha".

Relating Reliability and Validity

- Reliability is directly related to the validity of the measure. There are several important principles. First, a test can be considered reliable, but not valid.
- Second, validity is more important than reliability.
- Finally, the most useful instrument is both valid and reliable.

3.10. Ethical Considerations

There is wide agreement among researchers that research ethics approval processes can be bureaucratic, time-consuming and frustrating (Newson & Lipworth, 2016). Research ethics is a world-wide set of principles governing the way any research involving interaction between the researcher and other humans or human tissue or data relating to humans, is designed, managed and conducted (Pimple, 2002).

Ethical considerations in research are critical. Ethics are the standards or models that distinguish between good and bad. They help to decide the contrast among adequate and unsatisfactory practices. For what reason are moral contemplations so significant in research? To start with, moral norms forestall against the creation or distorting of information and in this manner, advance the quest for learning and truth which is the essential objective of research.

Moral conduct is additionally basic for synergistic work since it supports a situation of trust, responsibility, and common regard among analysts. This is particularly significant when considering issues identified with information sharing, co-initiation, copyright rules, privacy, and numerous different issues. The open needs to be guaranteed that analysts pursued the fitting rules for issues, for example, human rights, creature welfare, consistence with the law, irreconcilable circumstances, wellbeing, wellbeing guidelines, etc. The treatment of these moral issues significantly sway the honesty of the examination venture and can influence whether the task gets subsidizing (Resnik, 2011).

The aim of ethical review is to protect participants. They are a valuable piece of the investigation procedure and not only a methods for getting to information. Be that as it may, ethical review also helps to protect the researcher. By getting moral endorsement you are showing that you have clung to the acknowledged moral benchmarks of an authentic research study which could expand enrolment potential (Coleman & Bouësseau, 2008).

An ethical clearance **(ethics number: HSS/0208/019M)** together with gatekeeper's permission were obtained from Ethics Committee of the University of KwaZulu-Natal and the office of the Registrar, respectively. Copies of these documents are attached at the end of this dissertation.

3.11. Conclusion

Research techniques are summed up and built up methods for moving toward research questions. Research techniques are separated into subjective and quantitative methodologies and include the particular examination exercises of gathering and dissecting research information so as to respond to the specific research question. The next chapter will be discussing findings from this study gathered using a questionnaire and SPSS software. These findings will be discussed in relation to the study objectives.

CHAPTER 4: RESULTS AND DISCUSSION PRESENTATION

4.1. Introduction

In this chapter, the analysis, results, interpretation and discussion of the findings is presented with reference to the aim of the study, which was to determine the frequency of CAM use across students and staff of UKZN (Durban campuses) residing in eThekwini Municipality in KwaZulu-Natal Province. The findings will be discussed together with what is already published in the area of CAM use. CAM incorporates nowadays or renewed old practices that are claimed to have preventive or healing therapeutic effects. For the most part, these practices are not recognised in healing science. In addition, they are not founded on proof or sound logical speculations. CAM incorporates different treatments and natural products, for example, homeopathy, massage-based treatment, naturopathy, diet treatment, and other comparable practices (Ray, Chakrabarty, Paul, & Som, 2018). For the purpose of this study, any form of medical therapy that is not included in modern scientific guidelines or not recommended by major scientific associations has been classified under CAM.

"South Africa's mid-year population is estimated to have increased to 57,73 million in 2018, representing an overall increase of 1,55% between 2017 and 2018. The second largest population with 11,4 million people (19,7%) remains KwaZulu-Natal after Gauteng. The mid-year population estimates 2018 report indicate that the female population in the country has remained stable year on year at approximately 51%. The highest proportions of those younger than 15 years in South Africa, live in Gauteng (21,1%) and KwaZulu-Natal (21,0). The estimated HIV prevalence rate is approximately 13,1% among the South African population, which represents an increase from 2017 Figure of 12,9%. The total number of people living with HIV is estimated at approximately 7,52 million in 2018. For adults aged 15–49 years, an estimated 19,0% of the population is HIV positive. KwaZulu-Natal province carries the highest number of HIV positive individuals" (StatsSA, 2018).

The study was conducted for four weeks from the 16th of September to 05th of October 2019. This was a campus-based cross-sectional survey involving participants aged 18 years and above. Informed consent was obtained from all participants. The study protocol was

approved by UKZN ethics committee (ethical clearance number HSS/0208/019M) and gatekeeper's permission was obtained from the office of UKZN's Registrar to allow for Durban campuses survey. These campuses form part of the tertiary institutions in KwaZulu-Natal province.

This was a questionnaire-based survey which was structured and modelled based on the international questionnaire to measure use of CAM (I-CAM-Q) (Quandt et al., 2009). The first part of the questionnaire inquired about the demographic data of the participants, such as age, gender, educational level, occupation, type of residency and ethnic/race group they belong to. The second part contained questions about the use of CAM, influencing factors for the use of CAM, and the choice of therapy and/or natural products. In the second part, data on CAM use were recorded as a binary response (yes/no). A binary response model which was used to analyse this data is defined as the regression model in which the dependent variable is a binary random variable that takes on only the values zero and one (Horowitz & Savin, 2001). Values closer to 1 were considered to show a close relationship between two variables. On the other hand, values closer to -1 were considered to show lack of relationship between two variables.

The third part of the questionnaire presented questions about the individual's belief on CAM use. In this part, data on CAM beliefs were recorded as a multivariate response (1 to 5, strongly disagree to strongly agree). Multivariate logistic regression analysis was used to analyse data, and it is defined as an extension of bivariate (i.e. simple) regression in which two or more independent variables are taken into consideration simultaneously to predict a value of a dependent variable for each subject (Sperandei, 2014). Cronbach's alpha was calculated because it is the most common measure of internal consistency ("reliability") that is commonly used when there are multiple Likert questions in a questionnaire that form a scale and there is a need to determine if the scale is reliable. The results are presented in the next subtopic. A value above 0.70 was considered to mean that there is reliability, or internal consistency, of a set of scale or test items. Questions, such as those for the influencing factor on the use of CAM, were open ended. Cross sectional quantitative data was analysed using IBM SPSS Statistics 25. The Pearson's chi-square test was used to analyse categorical data. A P value of <0.05 and <0.01 was considered to be statistically significant. Percentage and proportions were also used to present our findings.

4.2. Reliability and validity

Reliability and validity are concepts used to evaluate the quality of research. They show how well a plan, procedure or test estimates a measure. Reliability is about the consistency of a measure, and validity is about the precision of a measure. It's essential to consider reliability and validity when making the exploration configuration, arranging strategies, and reviewing the outcomes, particularly in quantitative research (Middleton, 2019).

Table 4.2: Cronbach's alpha value for the participant's beliefs about CAM use.

		N	%
Cases	Valid	229	100.0
	Excluded[a]	0	.0
	Total	229	100.0

Reliability Statistics	
Cronbach's Alpha	N of Items
.871	13

SPSS Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is thought to be a measure of scale dependability. Cronbach's alpha is not a statistical test – it is a coefficient of reliability (or consistency). The alpha coefficient for the thirteen Likert statements in part C of this study is 0.871 (Table 4.2 above), suggesting that the items have relatively high internal consistency. A reliability coefficient of 0.70 or higher is considered acceptable in most social science research situations (Mayadevi et al., 2019).

4.3. Demographic Data Presentation

The participants were staff and students of UKZN, Durban campuses, residing in eThekwini Municipality. In this study, no participants left even after being given the option to opt out.

Table 4.3: Demographic characteristics of the study participants.

Parameter		*Number*	*Percentage*
Age	10-20 years	51	22,3%
	21-30 years	97	42,4%
	31-40 years	47	20,5%
	41-50 years	25	10,9%
	51-60 years	6	2,6%
	> 61 years	3	1,3%
Gender	Female	158	69,0%
	Male	71	31,0%
Race	Black	168	73,4%
	Coloured	9	3,9%
	Indian	45	19,7%
	White	6	2,6%
	Other	1	0,4%
Residency	Suburbs	134	58,5%
	Township	26	11,4%
	Informal Settlement	3	1,3%
	Rural	5	2,2%
	Student Residence	60	26,2%
	Not chosen	1	0,4%
Education Level	High School	72	31,4%
Completed	Undergraduate Degree/Diploma	38	16,6%
	Honours/BTech	53	23,1%
	Masters/MTech	48	21,0%
	PhD/DTech	15	6,6%
	Other	3	1,3%

A total of 229 people participated, most of whom (42.4%) were aged 21–30 years. Only 71 of our participants (31.0%) were men. Out of 229 participants, 168 (73.4%) belonged to the Black ethnic group. A total of 134 (58.5%) participants resided in the suburbs, and 60 (26.2%) stayed in the university's student accommodation. These and other demographic characteristics are shown in Table 4.3 above.

4.4. Reasons for using CAM

“Complementary medicine refers to a group of therapeutic and diagnostic disciplines that exist largely outside the institutions where conventional health care is taught and provided. Complementary medicine is an increasing feature of healthcare practice, but considerable confusion remains about what exactly it is and what position the disciplines included under this term should hold in relation to conventional medicine” (Zollman & Vickers, 1999).

All the while the use of CAM is on the rise worldwide and has become a multi-billion dollar industry, there are various reasons why people opt for CAM therapy and products as opposed to the conventional Western medicine. Some of those reasons are discussed below:

1. **Using therapies to help you feel better**

Many complementary therapies focus on unwinding and lessening pressure. They may quiet the patient’s feelings, soothe nervousness, and increase the general feeling of wellbeing and prosperity (Abrahão, Bomfim, Lopes-Júnior, & Pereira-da-Silva, 2019).

2. **Reducing symptoms or side effects**

There is developing proof that specific complementary treatments can control a few manifestations of malignancy and treatment reactions in cancer patients (Ali-Shtayeh, Jamous, Jamous, & Salameh, 2013).

3. **Feeling more in control**

At times it may feel like the primary care physician settles on a significant number of the choices about the patient’s treatment. It can feel like the patient doesn't have a lot of say over what happens to them. Numerous individuals say complementary treatment gives them a chance to play a progressively dynamic role in their treatment and recuperation, in partnership with their advisor (Saxe et al., 2008).

4. **Natural and healing therapies**

Many patients like the idea that complementary therapies seem natural and non-toxic. Some complementary therapies can help with specific symptoms or side effects. But not much is known about how they might interact with conventional treatments like cancer drugs or

radiotherapy. And some types of CAM may make conventional treatment work less well. And some might increase side effects (Sirois, Salamonsen, & Kristoffersen, 2016).

CAM use in England is common for musculoskeletal and mental health problems, but varies by gender, location, and socioeconomic status (SES). It is mainly self-referred and self-financed; some is General Practitioner-endorsed and/or referred, especially for individuals of lower SES (Sharp et al., 2018).

A study done in 2018 on the Norwegian population showed that the majority of the participants (90.2%) would see a medical doctor (MD) only if they were suffering from a chronic, non- life-threatening disease and were in the need of treatment. Men over the age of 60 with a university education tended to see a MD only. Only 9.8% of all respondents would in addition visit a CAM provider. Being an intentional user of a MD plus CAM provider was associated with being a woman under the age of 60. The respondents believed that CAM providers have professional competence based on formal training in CAM. They also believed that individuals seeing a CAM provider have poor health and are driven by the hope of being cured. Further, that they have heard that others have good experience with such treatment (Kristoffersen et al., 2018).

Another study conducted by Liu and others in 2014, reported that women were more prominent users of CAM than men, and those familiar with CAM or with strong beliefs in its effectiveness were much more likely to use CAM (M. A. Liu et al., 2014).

Table 4.4: Reasons for CAM use by men and women

CORRELATIONS				
		Gender	Treating or Managing a Condition	Promoting Health
Gender	Pearson Correlation	1	-.026	.068
	Sig. (2-tailed)		.695	.304
	N	229	229	229
Treating or Managing a Condition	Pearson Correlation	-.026	1	-.398**
	Sig. (2-tailed)	.695		.000
	N	229	229	229
Promoting Health	Pearson Correlation	.068	-.398**	1
	Sig. (2-tailed)	.304	.000	
	N	229	229	229
***. Correlation is significant at the 0.01 level (2-tailed).*				

This study's findings are in agreement with previous studies mentioned above. Over 70% of our female participants said they use CAM to promote health. Even when we compare the genders, females (over 67%) admitted to using CAM to treating or managing a condition. Data was analysed to test Pearson's correlation coefficient because it is the test statistics that measures the statistical relationship, or association, between two continuous variables. It is known as the best method of measuring the association between variables of interest because it is based on the method of covariance. There is correlation between the two variables listed in a Table 4.4 above, where it is statistically significant at $p < 0.01$ level.

4.5. Ethnicity/Race and CAM Use

“Traditional healers who practice in South African can broadly be grouped into three types; the traditional doctor or *inyanga* who is typically male and uses herbal and other medicinal preparations for treating disease (or herbalist); *isangoma* (Zulu) or diviner, usually a woman who operates within a traditional religious supernatural context and acts as a medium with the ancestral shades; and the faith healer who integrates Christian ritual and traditional practices” (Peltzer, Mngqundaniso, & Petros, 2006).

A study by Rhee and coworkers in 2017, aimed to examine the prevalence of CAM use by race/ethnicity and to identify sociodemographic and health-related factors associated with CAM use among US adults with moderate mental distress (MMD). They found that nearly 40% of adults with MMD used CAM in the past year compared with 32% of those without MMD (P<.001). Also, in adults with MMD, past year CAM use differed by race/ethnicity, ranging from 24.3% (blacks) to 44.7% (Asians) and 46.8% (others) (P<.001). Being younger, female, living in the west, higher education, being employed, more than 4 ambulatory care visits, and functional limitations were associated with higher odds of CAM use (P<.01) (Rhee, Evans, McAlpine, & Johnson, 2017).

Race has been reported to affect the use of CAM, but there is very little research on the use of CAM by ethnicity in Korea. A study by Hwang and others in 2014 researched this assumption on Korean ethnic groups. Sixty-two percent of their study participants reported the use of CAM. Multivitamins (53.3%), acupuncture (48.9%), and traditional Korean herbal medicine (38.9%) were popular CAM modalities in their sample. Other notable CAM modalities included herbal plants, therapeutic massage, and moxibustion therapy. The majority of CAM users (52.2%) received CAM services to treat diseases or as a secondary treatment while receiving conventional care (Hwang, Han, Yoo, & Kim, 2014).

Table 4.5: One way analysis of variance between races and CAM use

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Treating or Managing a Condition	Between Groups	.598	4	.150	.631	.641
	Within Groups	53.105	224	.237		
	Total	53.703	228			
Promoting Health	Between Groups	.345	4	.086	.391	.815
	Within Groups	49.385	224	.220		
	Total	49.729	228			

This study compared the different races that participated in this study. The findings are showing no statistical evidence that the reasons for using CAM by our participants was dependent on their race/ethnic group. One way ANOVA was used because it is a parametric test that compares the means of two or more independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. The findings are shown in Table 4.5 above.

4.6. Highest education attained and CAM use

Past findings have shown that those with higher education are associated with higher uses of CAM (M. A. Liu et al., 2014).

Studies have only occasionally differentiated CAM use according to gender. A study by Kristofferson and coworkers found that a total of 33% of the participants reported use of any CAM within the last twelve months, women more often than men (42% and 24%, respectively). When limited to visits to a CAM provider, they found 17% use among women and 8% among men. The relationship between the demographic variables and being a CAM user differed significantly between men and women with regard to age, household income, and marital status. They did not find significant differences between men and women concerning education and self-reported health in the Norwegian population they studied (Kristoffersen et al., 2014).

Table 4.6: Correlation between highest levels of education attained and CAM use.

CORRELATIONS				
		Highest Grade Completed	**Treating or Managing a Condition**	**Promoting Health**
Highest Grade Completed	Pearson Correlation	1	-.211**	.043
	Sig. (2-tailed)		.001	.513
	N	229	229	229
Treating or Managing a Condition	Pearson Correlation	-.211**	1	-.398**
	Sig. (2-tailed)	.001		.000
	N	229	229	229
Promoting Health	Pearson Correlation	.043	-.398**	1
	Sig. (2-tailed)	.513	.000	
	N	229	229	229
***. Correlation is significant at the 0.01 level (2-tailed).*				

This study analysed the participants' responses to highest education attained and the reasons behind using CAM practices and products. Pearson coefficient shows a significant correlation ($p<0.01$) between highest education level attained and CAM use to treating or managing a condition. Also, a significant correlation between the level of education attained and CAM use to promote health. The findings are presented in Table 4.6 above.

4.7. Typical influencers to using CAM

With growing health awareness and the increased popularity of self-management of health, interest in CAM use is growing (Misawa et al., 2018). Intentional use of CAM is associated with positive attitudes, trustworthiness, and presumed positive experiences in the CAM-patient-setting. Intentional CAM users also have the impression that CAM providers have professional competence based on formal training in alternative therapies (Kristoffersen et al., 2018).

A study by Burke and colleagues in 2015 hypothesised that there is an association between lack of health knowledge, lower educational attainment, and other key socioeconomic indicators. This basically meant that individuals with lower education and income levels are less likely to know about CAM practices. Their study found that lack of knowledge as a reason for non-use was strongly associated with lower education levels and income. Those who attended college were 58% less likely to indicate lack of knowledge as a reason for non-use, and individuals with higher incomes were 37% less likely (Burke, Nahin, & Stussman, 2015).

Every nation has its very own arrangement of medicinal learning dependent on the nearby culture and past experience. Therefore, restorative ideas and understandings can shift fundamentally starting with one nation then onto the next. For example, a customary Chinese prescription for the heart will not regard indistinguishable conditions from heart drugs in ordinary medication. This is on the grounds that the term 'heart' in customary Chinese drug doesn't just mean the physical organ 'heart', yet in addition incorporates a few capacities regular medication would credit to the cerebrum. This is a case of how basic social misconception can without much of a stretch happen. At the point when prescriptions are being exchanged outside business sectors, the local consumers regularly wrongly apply their very own therapeutic ideas and comprehension to the imported conventional medications, frequently bringing about misconception and ensuing abuse (WHO, 2004)

Table 4.7: Cultural and religious influences to CAM use.

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
African	14.491	4	3.623	18.979	.000
Asian	7.546	4	1.887	24.814	.000
Chinese	.459	4	.115	2.820	.026
Western	3.216	4	.804	4.002	.004
Thai	.115	4	.029	1.344	.254
Other	.525	4	.131	2.328	.057
No Influence	.325	4	.081	.207	.934
Spiritualism	.154	4	.038	.455	.769
Judaism	.007	4	.002	.128	.972
Christianity	9.197	4	2.299	10.826	.000
Buddhism	.056	4	.014	1.071	.372
Jehovah's Witness	.014	4	.004	.271	.896
Hinduism	6.281	4	1.570	29.382	.000
Nazareth (Shembe)	.068	4	.017	.399	.809
Islam	.815	4	.204	6.613	.000
Other	.027	4	.007	.259	.904
No Influence	1.938	4	.484	2.508	.043

P<0.05 is statistically significant

Collected data for this study was explored as to what influences the participants to use CAM. In the questionnaire, common different South African cultural and religious practices were listed. One way ANOVA was performed in the data collected for significance. Some of the cultural and religious influences were statistically significant ($p<0.05$) influencers to the participants. Findings are presented in a Table 4.7 above.

4.8. CAM therapies, natural products and their use

WHO strategy for CAM revolves around research into the alternative techniques as well as education and training for the practice. However, recent years have seen a surge in popularity for CAM in Western countries as well, with many being willing to pay out of pocket for these treatments. Integration of these practices into national health systems can allow them to be regulated and safely practiced along with conventional medicine for the best possible outcomes (Douthit, 2017).

In this study, 20 types of CAM modalities were included to define CAM use: acupuncture, meditation, aromatherapy (aromatic oils), exercise, Ayurveda, reiki, diet, reflexology, chiropractic, relaxation/breathing technique, spiritual healing, shiatsu, herbal medicine, traditional Chinese medicine (TCM), homeopathy, vitamins and minerals, hypnosis, yoga, massage, and other.

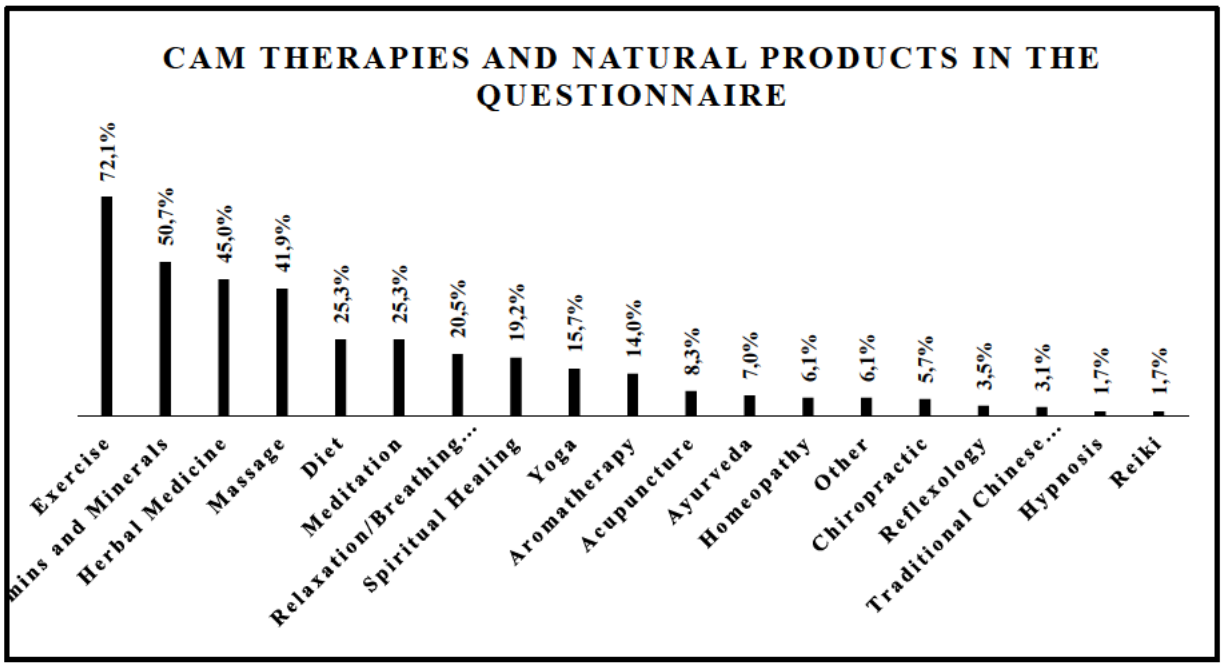

Figure 4.8: Nineteen (19) most common CAM therapies among participants

Over 72% of our participants answered yes to exercise, which was followed by taking vitamins and minerals (50.7%), herbal medicine (45.0%) and so forth. The least used modalities on the list were hypnosis and reiki (1.7% each). Shiatsu was on the list but none of our participants answered yes to be or having used it before. Figure 4.8 above lists these therapies and products from the most to the least commonly used (in percentage to the total number of participants).

4.9. Money spent on CAM use monthly

Factors such as the expanding selection and utilisation of normal enhancements/health prescription combined with government activities to advance appropriation of the treatment is relied upon to make income age roads. Correlative and elective types of treatment are utilised in the treatment of incessant infirmities, long haul torment among others and are likewise utilised for extra nutrients and other dietary supplementation of customary eating routine. Also, with extensive increment in the expenses of traditional drug and tendency towards body wellbeing instead of pharmaceutical fix is probably going to support the market over the conjecture time frame.

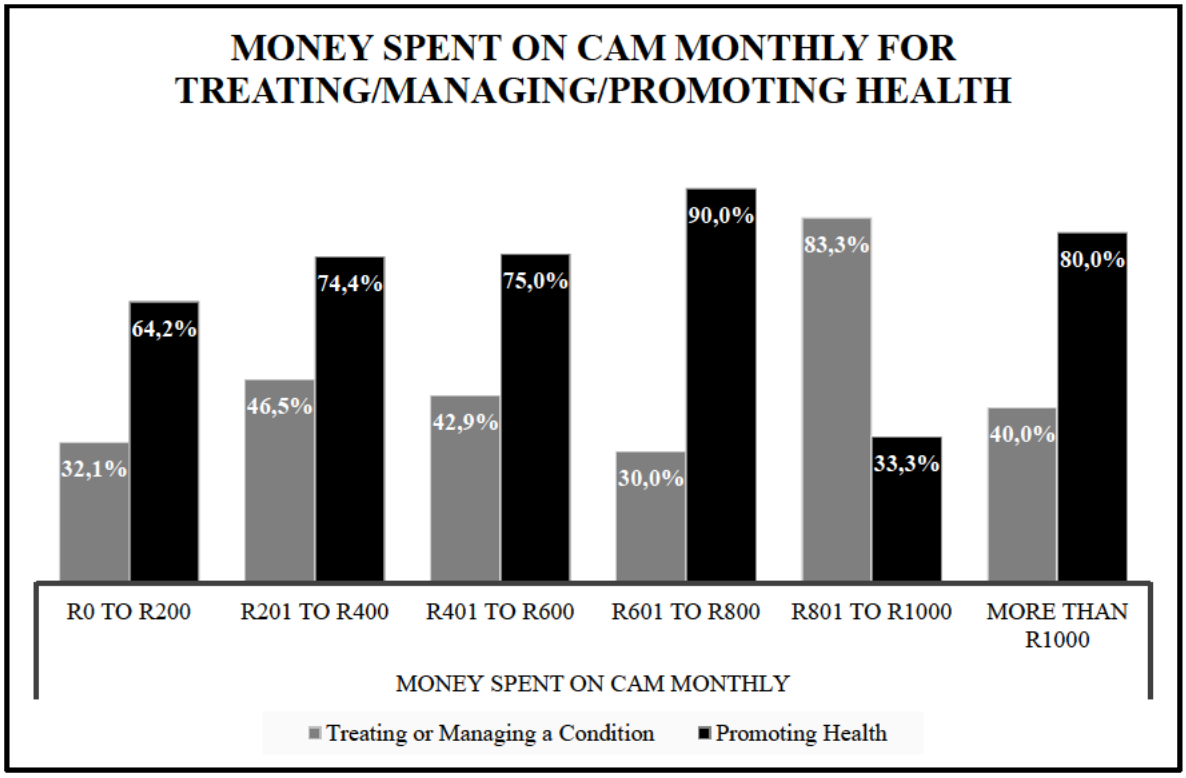

Figure 4.9: Monthly spending on CAM and its use

The Figure 4.9 above is showing money spent on monthly basis and the responses in relation to what the participant is using that CAM for. In almost all the monthly spending categories, there is a significant difference between CAM being used for promotion health, or to treat and/or manage an existing condition.

4.10. Perceptions on CAM use

As the overall weight of incessant infection keeps on rising, ailment counteractive action and wellbeing advancement become progressively significant segments of general wellbeing. Albeit, customarily, numerous CAM practices have stressed wellbeing advancement, this has not been the focal point of the bulk of CAM look into. Be that as it may, CAM specialists could be viewed as a general wellbeing asset to expand the populace's entrance to certain clinical preventive administrations (Hawk, Adams, & Hartvigsen, 2015). It is assessed that in the US around 30–40% of the all-inclusive community use CAM and, among the individuals who use them, about 80% include patients with interminable pathologies (Bozza et al., 2018).

A large percentage of individuals with disease utilise some type of CAM. Most patients who use CAM are not disappointed with conventional medicine yet find that CAM medications appeal to their qualities and convictions about wellbeing and life. Being diagnosed with cancer and undergoing treatment is a terrifying, strenuous, and challenging experience. CAM claims to numerous patients with cancer in light of the fact that these medications regularly offer an opportunity to take control, feel much improved, and decrease uncomfortable side effects, for example, agony, exhaustion, and queasiness (Edzard Ernst, FMEdSci, Drews, & Savarese, 2015).

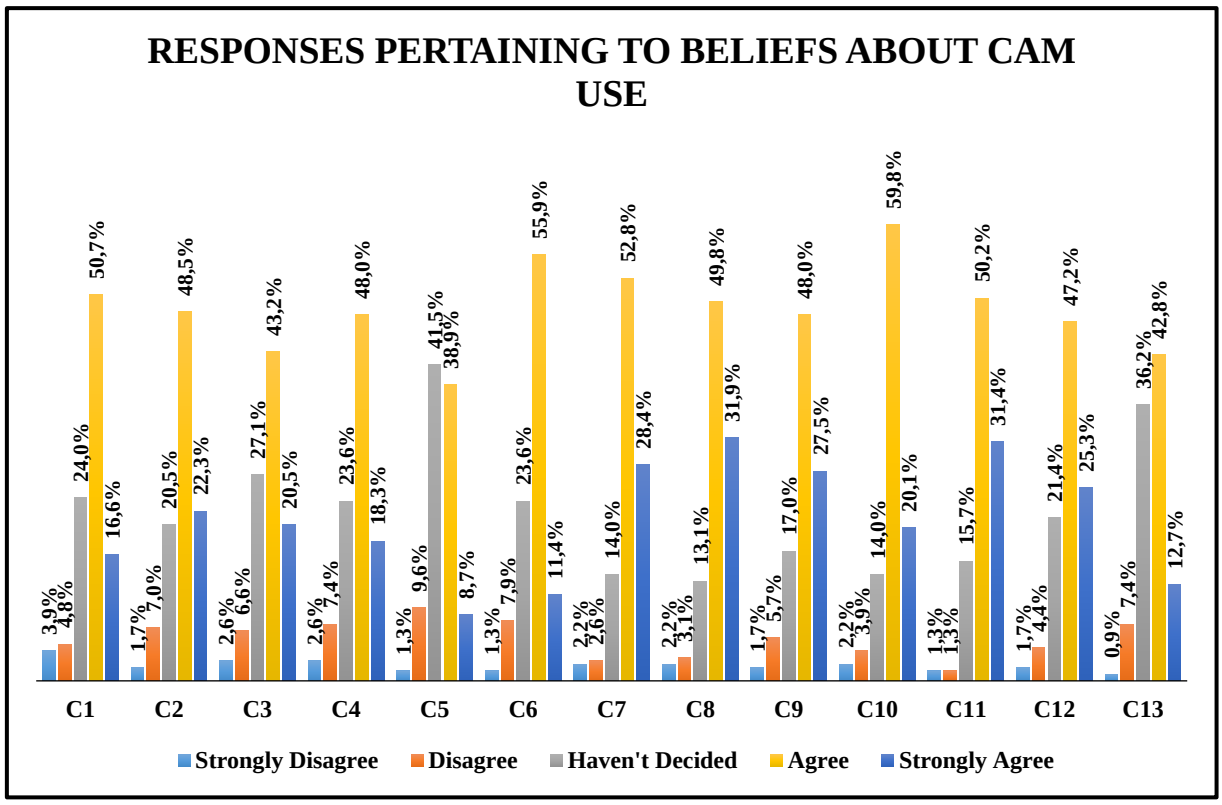

Figure 4.10: Responses to 13 statements concerning participants' beliefs about CAM use

Part C of the questionnaire included statements concerning participants' beliefs about CAM use. Responses were to choose from "strongly disagree" to "strongly agree" i.e. there were five options to choose from. There were thirteen statements to choose from. Each bar has a percentage representing the responses of that option out of 229 participants. These responses are listed in Figure 4.10 above.

4.11. Conclusion

After analysis of data collected from our participants, the following conclusions could be drawn: Even with so many CAM options available for all to use, decision-making about it is particularly challenging, because proof is often absent or less satisfactory than anticipated. As with conventional therapies, there is a moral vitality to develop good evidence through research into CAM therapies to enable cognisant decision-making and informed consent and to advance the quality of care. Widespread and growing use of CAM makes the need for research even more pressing. The next chapter will be presenting the ultimate conclusion on the study and recommendations drawn from the findings.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

There are a number of reasons why people use CAM. It is used mostly for treating mild to moderate illnesses (Welz, Emberger-Klein, & Menrad, 2018). People often use CAM to help them feel better and cope with having a chronic condition and treatment. There is growing evidence that certain complementary therapies can help to control some symptoms of the common chronic conditions and treatment side effects. Also, many people like the idea that CAM seem natural and not poisonous. Furthermore, some people believe that using specific CAM therapies instead of conventional treatment might help control or cure their chronic condition.

This chapter summarises findings from this study in relation to the research objectives. Conclusions based on the findings as listed and discussed in Chapter 4 are provided. The recommendations, centred on the findings and conclusions are also provided. Lastly, limitations to this research and suggestions for further study are also provided.

5.2. Brief summary of objectives

This study aimed to determine the frequency of CAM use across staff and students of the University of KwaZulu-Natal (UKZN), Durban campuses, residing in eThekwini Municipality; to show what percentage of the population uses CAM to improve their health and not to manage a chronic disease. Also, how much money they spend on their choices of CAM therapies.

The objectives of this study included:

1. Determining the statistical representation of staff and students of UKZN residing in eThekwini Municipality that use CAM. Volunteers for this study was 229.
2. Finding out how many of the participants that use CAM to manage a chronic disorder. Statistical analyses of data was performed to determine if there was any connection between CAM use and treating/managing a condition. There was a significant link between these two variables.
3. Better understanding the reason/s behind their choice of CAM therapies and products. Most of the participants use CAM to promote health. They also indicated the use of CAM together with conventional medicine prescribed by the medical doctor.
4. Better understanding the financial expenditure on CAM therapies and products monthly. The spending seemed to be related to age. The older the person gets, more products they seem to need to promote health, meaning more money spent.

5.3. Conclusions drawn from research findings

In the present day and age, more attention is being paid on influences different types of CAM has on a human body. There are numerous points of interest to utilizing CAM over conventional medicine and drugs. Health care professionals themselves are becoming more and more open to alternative medicine and the benefits it can have for the body. Below are the conclusions could be drawn from this study:

5.3.1. Monthly expenditure on CAM

The increasing expense of social insurance implies that numerous South Africans have far less cash to spend on medications for sickness. Consumers are in this manner progressively deciding on self-medication, a trend encouraged by widening access to the internet. A developing number of individuals are looking into their wellbeing concerns and potential cures on the web, even before looking for advice from pharmacists. This pattern is expanding consumers' trust in their capacity to self-medication. This study has shown that there's over 45% of participants that are spending below R200 per month on CAM. This finding however is not a true reflection because most of the participants are busy with their postgraduate studies, meaning they are not earning a salary.

5.3.2. Reasons for CAM use

People use CAM for a variety of reasons. People have become more interested and informed about CAM because of:

- The expanded accessibility of information on the internet.
- Health promotion and treating/managing a chronic condition
- Increased contact with different societies that generally use CAM.
- The discernment that CAM is more obvious, more secure, and more affordable than conventional prescriptions.
- Distrust of and frustration with the healthcare system.
- A developing acknowledgment that numerous alternative therapies add to wellbeing and health (Ventola, 2010).

5.4. Future Recommendations

Research into the safety of healthcare presents challenges. The first priority for CAM is safety i.e. to have it on record the measurement of actual harm from CAM therapies. The second priority is more research into beliefs and attitudes of practitioners, public and professional organisations, and what influences those attitudes. The final research area would be the procedures used to ensure safe practice, and their effectiveness (White et al., 2014). Particular problems that must be addressed include:

- "The apparently low incidence of harmful incidents;
- The limited regulatory setting for CAM practice including the omission of CAM interventions from most mainstream adverse event reporting schemes;
- The widespread perception of CAM as natural and safe;
- The complexity of CAM therapies;
- Interactions between CAM and conventional care;
- Professional complacency; and
- The special challenges unique to specific CAM therapies such as the concept of a 'healing crisis'".

Medicines have evolved over time and so has the realisation of the importance of quality control and regulatory processes (Fourie, Oosthuizen, & du Toit, 2017). CAM therapies include a wide variety of botanicals and nutritional products, such as dietary supplements, herbal supplements, and vitamins. Many of these "natural" products are considered to be safe because they are present in, or produced by, nature. However, that is not true in all cases. In addition, some may affect how well other medicines work in the body.

- "For example, the herb St. John's wort, which some people use for depression, may cause certain anticancer drugs not to work as well as they should (USDepartmentofHealth, 2005).
- Herbal supplements may be harmful when taken by themselves, with other substances, or in large doses. For example, some studies have shown that kava kava, an herb that has been used to help with stress and anxiety, may cause liver damage (Fu, Xia, Guo, Yu, & Chan, 2008).
- Vitamins can also have unwanted effects in your body. For example, some studies show that high doses of vitamins, even vitamin C, may affect how chemotherapy and radiation

work. Too much of any vitamin is not safe, even in a healthy person (Carr & Maggini, 2017).

- Doctors need to be made aware by the patient if they are taking any dietary supplements, no matter how safe they think they are. This is very important. Even though there may be claims that something has been used for years, which does not prove that it's safe or effective.
- Supplements do not have to be approved by the government before being sold to the public. Also, a prescription is not needed to buy them. Therefore, it's up to consumers to decide what is best for them".

Lastly, a study carried out by Thandar and colleagues demonstrated poor knowledge and communication about CAM and aesthetic medicine between pharmacists and patients, although pharmacists showed strong interests in learning more about CAM. They concluded that there is a continuing need for education programmes and inclusion into undergraduate curricula that would assist pharmacists to advise patients on different types of CAMs (Thandar, Botha, Sartorius, & Mosam, 2017). This would benefit all involved because most individuals prefer their healthcare to be holistic, and some don't visit doctor's rooms when they are sick. Instead, they seek CAM therapies and products.

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APPENDICES

Appendix A: Turnitin Report

Mbongwa Diss

ORIGINALITY REPORT

13%	15%	6%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.ncbi.nlm.nih.gov Internet Source	2%
2	www.tgmeds.org.uk Internet Source	2%
3	onlinelibrary.wiley.com Internet Source	1%
4	www.boone.org Internet Source	1%
5	pdfs.semanticscholar.org Internet Source	1%
6	www.fastmoving.co.za Internet Source	1%
7	munin.uit.no Internet Source	1%
8	Submitted to Mancosa Student Paper	1%
9	www.science.gov Internet Source	1%

10	www.kenpro.org Internet Source	1 %
11	Submitted to Methodist Pilley Institute Student Paper	1 %
12	journals.sagepub.com Internet Source	1 %
13	gh.bmj.com Internet Source	1 %
14	Sonto M. Maputle, Tebogo M. Mothiba, Lucy Maliwichi. "Traditional Medicine and Pregnancy Management: Perceptions of Traditional Health Practitioners in Capricorn District, Limpopo Province", Studies on Ethno-Medicine, 2017 Publication	1 %
15	Submitted to Midlands State University Student Paper	1 %
16	www.vitacare.co.za Internet Source	1 %
17	diva-portal.org Internet Source	1 %

Appendix B: CAM questionnaire

CAM QUESTIONNAIRE

Please read this introduction carefully, as it will help you answer the questions.

Thank you for taking the time to complete this questionnaire. The questionnaire is designed to determine the use of complementary and alternative health therapies. Complementary and alternative medicine (CAM) is defined as any **natural health products** (example, herbal products, vitamins, minerals, traditional medicine, green tea) or **therapies** (example, acupuncture, naturopathy, homeopathy, chiropractic manipulation, yoga, reflexology, gym) you use or have used that were **NOT** suggested by a medical doctor. Generally, other health care practitioners such as Naturopaths, Traditional practitioners and Chiropractic practitioners provide CAM.

Complementary means that you would use treatments suggested by a CAM provider **at the same time** as treatments suggested by a medical doctor.

Alternative means that you would use CAM treatments **instead of** treatments that would be suggested by a medical doctor. The questionnaire is divided into three parts:

Part A: Asks information about you.

Part B: Asks information about therapies and providers that you have used.

Part C: Asks information about your beliefs towards CAM use.

Instructions

Part A: Information about you

Please respond to the following questions. If you have additional comments about a specific question, print them in the space provided at the end of the question or questionnaire.

1) **Age:** ☐10–20 ☐21–30 ☐31–40 ☐41–50 ☐51–60 ☐61–70 ☐71+

2) **Gender:** ☐Female ☐Male ☐Other

3) **Race:** ☐Black ☐ Coloured ☐ Indian ☐ White ☐Other

4) **Residence:** ☐Suburbs ☐Township ☐Informal settlement ☐Rural ☐Student residence

5) What **highest** level of education have you completed?

1 ☐Primary School
2 ☐High School
3 ☐Undergraduate Degree/Diploma
4 ☐Honours/BTech
5 ☐Masters/MTech
6 ☐PhD/DTech
7 ☐Other

6) What **cultural** traditions influence your decisions about healthcare? **(Tick all that apply)**

1 ☐African
2 ☐Asian
3 ☐Chinese
4 ☐Western
5 ☐Thai
6 ☐Other
7 ☐No Influence

7) What **religious** traditions influence your decisions about healthcare? **(Tick all that apply)**

1 ☐Spiritualism
2 ☐Judaism
3 ☐Christianity
4 ☐Buddhism
5 ☐Jehovah's Witness
5 ☐Hinduism
6 ☐Nazareth (Shembe)
7 ☐Islam
8 ☐Other
9 ☐No influence

8) In general, would you say your **health** is:

1 ☐Excellent
2 ☐Very good
3 ☐Good
4 ☐Fair
5 ☐Poor

Part B: Therapies and products that you have used

9) Which natural health products/therapies do you **use/have used** in the past? **(Tick all that apply)**

1 ☐Acupuncture
2 ☐Aromatherapy (aromatic oils)
3 ☐Ayurveda
4 ☐Special diet
5 ☐Chiropractic
6 ☐Spiritual Healing
7 ☐Herbal Medicine
8 ☐Homeopathy
9 ☐Hypnosis
10 ☐Massage
11 ☐Meditation
12 ☐Exercise
13 ☐Reiki
14 ☐Reflexology
15 ☐Relaxation/Breathing Technique
16 ☐Shiatsu
17 ☐Traditional Chinese Medicine
18 ☐Vitamins and Minerals
19 ☐Yoga
20 ☐Other

10) You have used **CAM and/or gym** for **(Tick all that apply)**

1 ☐Treating/managing illness
2 ☐Promoting health
3 ☐I have ***never used*** CAM

11) Identify the statement that best describes your **healthcare practices**:

1 ☐I use CAM **only**
2 ☐I use CAM **with** treatments given to me by my medical doctor
3 ☐I **do not** use CAM

12) Identify the statement that best describes your intake of natural health products. A natural health product includes ***vitamins and minerals*****. (Tick only one box)**

1 ☐I **do not** take natural health products
2 ☐I take natural health products on a **daily** basis
3 ☐I take natural health products on a **weekly** basis
4 ☐I take natural health products on a **monthly** basis
5 ☐I take natural health products **once a year**
6 ☐I take natural health products **less often than once a year**
7 ☐I take natural health products **occasionally** (a few times a year)

13) Identify the statement that best describes your level of visiting with a CAM provider. **(Tick only one box)**

1 ☐I **do not** see CAM providers
2 ☐I see CAM providers on a **daily** basis
3 ☐I see CAM providers on a **weekly** basis
4 ☐I see CAM providers on a monthly basis
5 ☐I see CAM providers **once a year**
6 ☐I see CAM providers **less than once a year**

14) How much money do you spend on CAM per month, **including** gym fee?

1 ☐R0 to R200
2 ☐R201 to R400
3 ☐R401 to R600
4 ☐R601 to R800
5 ☐R801 to R1000
6 ☐More than R1000

Part C: Your beliefs about CAM use

Listed below are a number of statements concerning your beliefs about CAM use. For each statement you should select the number that corresponds most closely to your belief. **Choose only one number per statement. Please do not miss any statements.**

		Strongly Disagree	**Disagree**	**Haven't decided**	**Agree**	**Strongly agree**
C1	CAM providers give good information on maintaining a healthy lifestyle	☐1	☐2	☐3	☐4	☐5
C2	There are less side effects when taking natural remedies	☐1	☐2	☐3	☐4	☐5
C3	CAM involves natural plant formulas which are healthier than taking drugs given by the medical doctor	☐1	☐2`	☐3	☐4	☐5
C4	Young adults would be more likely to use CAM if there were more CAM clinics	☐1	☐2	☐3	☐4	☐5
C5	Young adults are more empowered when using CAM because CAM providers involve them in decisions about their healthcare treatments	☐1	☐2	☐3	☐4	☐5
C6	Young adults believe that CAM builds up the body's own defences and promotes self-healing	☐1	☐2	☐3	☐4	☐5
C7	The more knowledge a young adult has about CAM, the more likely he/she is to use it	☐1	☐2	☐3	☐4	☐5
C8	Parent(s) and family can influence a young adult's CAM use by exposing them to it	☐1	☐2	☐3	☐4	☐5
C9	Young adults are more likely to use CAM if their friends are using it	☐1	☐2	☐3	☐4	☐5
C10	Young adults are more likely to use CAM if coaches and teachers discuss it with them	☐1	☐2	☐3	☐4	☐5
C11	Young adults who believe in the physical, mental and spiritual aspects of health are more likely to use CAM	☐1	☐2	☐3	☐4	☐5
C12	Young adults who fear the discomfort of treatments from medical doctors are more likely to use CAM	☐1	☐2	☐3	☐4	☐5
C13	Young adults believe that taking CAM therapies is not harmful	☐1	☐2	☐3	☐4	☐5

Appendix C: Informed Consent

UNIVERSITY OF KWAZULU-NATAL

GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Master of Business Administration Research Project

Researcher: Hlengiwe Mbongwa (031 260 8225)

Supervisor: Dr Emmanuel Mutambara (031 260 8104)

Research Office: Ms Mariette Snyman (031 260 8350)

Dear Respondent,

My name is Hlengiwe Mbongwa. I am an MBA student at the Graduate School of Business and Leadership, University of Kwa-Zulu Natal. You are invited to participate in a research project entitled: ***"The use of complementary and alternative medicine by staff and students of UKZN residing in eThekwini Municipality*** **(ethics number: HSS/0208/019M)**. The aim of this study is to determine the frequency of complementary and alternative medicine (CAM) use across staff and students residing in eThekwini Municipality, and to show what percentage of the population uses CAM to improve their health and/or to manage a chronic condition. Also, how much money they spend on their choices of CAM therapies.

Through your participation I hope to understand the reasons behind using alternative medicine by staff and students of UKZN residing in eThekwini Municipality. The findings are intended to contribute to the existing knowledge of CAM use.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about **5** minutes to complete. I hope you will take the time to complete this survey.

Sincerely

INVESTIGATOR'S SIGNATURE :_____DATE : SEPTEMBER 2019

This page is to be retained by participant

UNIVERSITY OF KWAZULU-NATAL

GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Master of Business Administration Research Project

Researcher: Hlengiwe Mbongwa (031 260 8225)

Supervisor: Dr Emmanuel Mutambara (031 260 8104)

Research Office: Ms Mariette Snyman (031 260 8350)

CONSENT

I_____ (Full names of participant) hereby confirm that:

- I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.
- I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT DATE

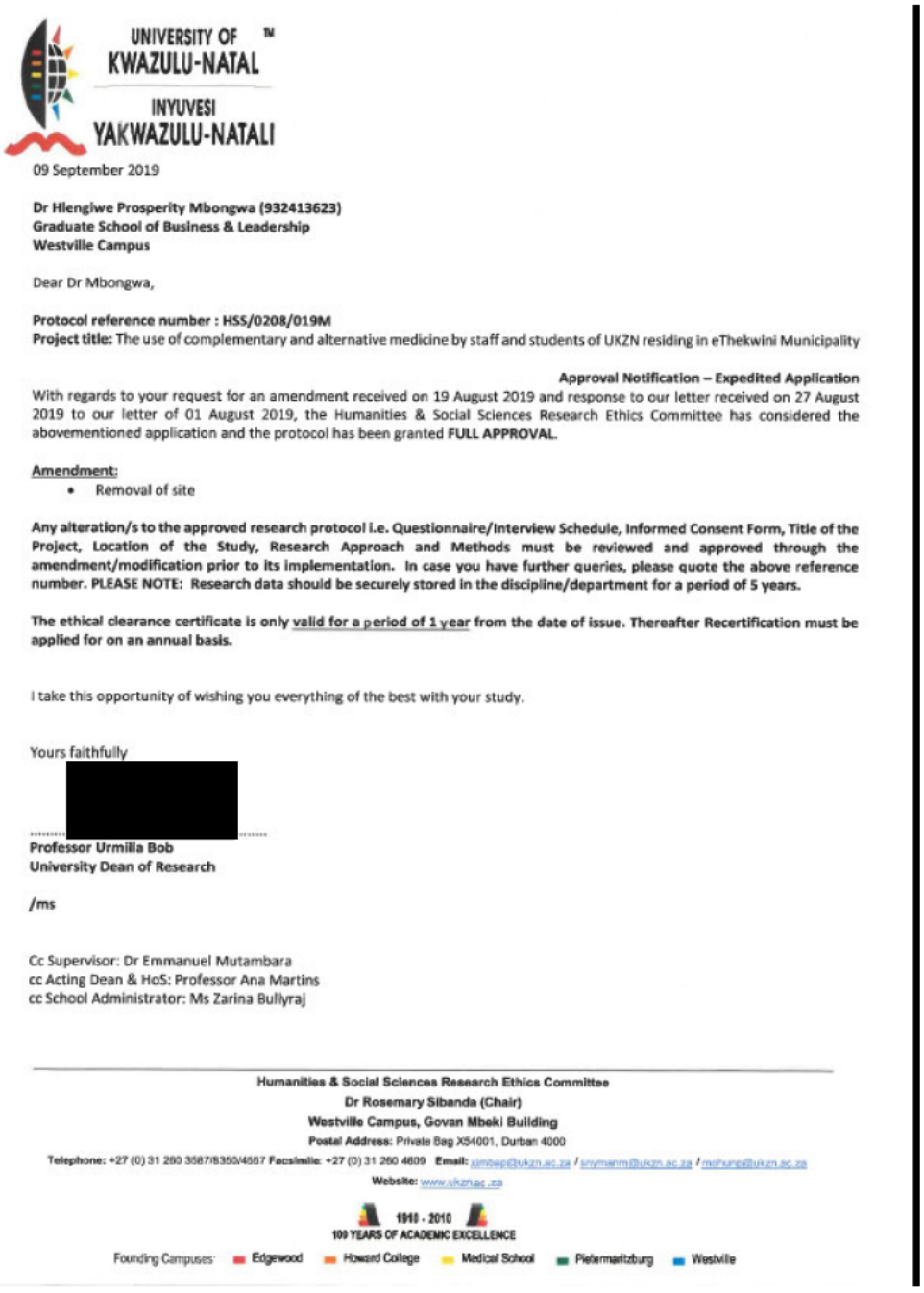
_____ _____

SIGNATURE OF PARENT/GUARDIAN DATE

_____ _____

This page is to be retained by researcher

Appendix D: Ethics approval



UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

09 September 2019

Dr Hlengiwe Prosperity Mbongwa (932413623)
Graduate School of Business & Leadership
Westville Campus

Dear Dr Mbongwa,

Protocol reference number : HSS/0208/019M
Project title: The use of complementary and alternative medicine by staff and students of UKZN residing in eThekwini Municipality

Approval Notification – Expedited Application

With regards to your request for an amendment received on 19 August 2019 and response to our letter received on 27 August 2019 to our letter of 01 August 2019, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Amendment:

- Removal of site

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 1 year from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

[redacted]

Professor Urmilla Bob
University Dean of Research

/ms

Cc Supervisor: Dr Emmanuel Mutambara
cc Acting Dean & HoS: Professor Ana Martins
cc School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee
Dr Rosemary Sibanda (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

1910 - 2010
100 YEARS OF ACADEMIC EXCELLENCE

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

Appendix E: Gatekeeper's permission

12 August 2019

Dr Hlengiwe Prosperity Mbongwa (SN 932413623)
Graduate School of Business and Leadership
College of Law and Management Studies
Westville Campus
UKZN
Email: mbongwa@ukzn.ac.za 932412623@stu.ukzn.ac.za mutambarae@ukzn.ac.za

Dear Dr Mbongwa

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN), towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

"The use of complementary and alternative medicine in eThekwini Municipality: the financial impact".

It is noted that you will be constituting your sample as follows:

- by handing out questionnaires to Staff and Students on the Westville, Howard, Edgewood and NRMSM campuses.

- with a request for responses on the website. The questionnaire must be placed on the notice system http://notices.ukzn.ac.za. A copy of this letter (Gatekeeper's approval) must be simultaneously sent to (govenderlog@ukzn.ac.za) or (ramkissoonb@ukzn.ac.za).

Please ensure that the following appears on your questionnaire/attached to your notice:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express

consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

[redacted]

REGISTRAR

ERIC NJABULO ZUMA
DIRECTOR: GOVERNANCE & ADMINISTRATION
OFFICE OF THE REGISTRAR
UNIVERSITY OF KWAZULU-NATAL
UNIVERSITY ROAD
CHILTERN HILLS, WESTVILLE, 3629