



**NEAR EAST UNIVERSITY**  
**INSTITUTE OF GRADUATE STUDIES**  
**DEPARTMENT OF NURSING**

**THE PREVALENCE AND DETERMINANTS OF COMPLEMENTARY AND  
ALTERNATIVE MEDICINE FOR COUGHING CHILDREN IN ABUDWAK,  
SOMALIA**

**A Dissertation Submitted in Partial Fulfillment of the Requirements of Master's  
Degree in Nursing**

**HASSAN AHMED DIRIE**

**NICOSIA**

**DECEMBER 2023**

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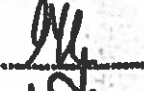

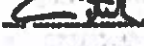
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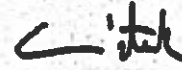
**DECEMBER 2023**

**Approval**

We certify that we have read the thesis submitted by The Prevalence and Determinants of Complementary and Alternative Medicine for Coughing Children in Abudwak, Somalia and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Nursing.

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### **Declaration**

I hereby declare that this thesis follows the academic and moral guidelines established by the Institute of Graduate Studies at Near East University. It encompasses the collection and presentation of data, analysis, and conclusions. Upon thorough deliberation, I affirm that I have diligently acknowledged and attributed all external information and data utilized in this effort, keeping carefully to all prescribed regulations and academic protocols.

Hassan Ahmed Dirie

15/12/2023

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## ABSTRACT

### The Prevalence and Determinants of Complementary and Alternative Medicine for Coughing Children in Abudwak, Somalia

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#### Summary

**Objectives:** This study investigates the prevalence and determinants of Complementary and Alternative Medicine (CAM) utilization among coughing children in Abdudwak, Somalia, focusing on local health practices and contributing to integrative healthcare strategies, highlighting the growing popularity of Complementary and Alternative Medicine in culturally diverse communities.

**Methods:** The study employed a descriptive, cross-sectional, and comparative, encompassing 415 parents of children getting medical care at the pediatric outpatient departments of Jazeera and Midnimo Hospitals. A structured questionnaire to gather data by questionnaire. The data was analyzed using the statistical package of social science SPSS version 22. basic categorization. The study successfully achieved its objectives through the implementation of classification, categorization, and coding of interviews. And chi-square test was conducted to evaluate the correlation between the intake of complementary and alternative medicine and the results showed a P-value of less than 0.05.

**Results:** The prevalence of Complementary and Alternative Medicine for coughing children in Abdudwak, Somalia was 74%. The parents had administered traditional therapies to their children on several occasions, primarily as a temporary solution until they could access medical assistance. The main complementary and alternative medicine utilized for the coughing children included 147(35.4%) utilized camel milk boiled with black pepper, 75 (18%) used black seed oil, 47(11%) used honey while only 35(8.4%) of the respondents were used other herbal remedies. (41.70%) of the respondents were heard CAM from their family or friends. (75.4%) of the respondents were Satisfied with CAM utilization, and (88%) of respondents reported that they obtained health benefits from the Use of traditional medicines.

**Conclusion:** The study identified diversity, accessibility, and availability as the primary factors influencing the utilization of complementary and alternative medicine. To avoid the effects of cough conditions in context of child health parents utilize traditional therapies

**Keywords:** traditional medicine, cough, children and respiratory tract infections.

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### **List of Abbreviations**

ARTI	Acute respiratory tract infections.....	5
ATM	African Traditional Medicine.....	2
ACE	Angiotensin-converting enzyme .....	13
BB-CAM	Bio-based complementary and alternative medicine.....	8
CAM	complementary and alternative medicine .....	1
HDI	herb-drug interaction.....	10
MTB	Mycobacterium tuberculosis .....	10
NCCAM	National Center for Complementary and Alternative Medicine ....	8
RTIs	Respiratory tract infections .....	5
SPSS	Statistical Packages for the Social Sciences.....	16
SSA	Sub-Saharan Africa.....	6
TCM	Traditional Chinese Medicine .....	1
TM	Traditional medicine .....	11
TCAM	Traditional, complementary, and alternative medicine .....	5
WHO	World Health Organization .....	2

## **CHAPTER I**

### **Introduction**

#### **1.1 Statement of the Problem**

Coughing is a forceful expulsion of air from the throat, characterized by a unique sound, typically performed with the glottis in a closed position, currently a significant portion of the global population is using complementary and alternative medical treatments, and this trend is seen in high-, middle-, and low-income countries. (Diorio.et.al, 2017). Despite the increasing accessibility of modern healthcare, an important percentage of the global population still relies on complementary and alternative medicine (CAM treatments. Furthermore, in many developing countries, up to 80% of the populace uses complementary and alternative medicine. (Erchafo.et.al., 2022). Complementary and alternative medicine is widely utilized in poor nations due to its greater accessibility, affordability, efficacy, and safety compared to conventional medical treatment especially for coughing children. (Erchafo.et.al., 2022). It could be perceived as a form of self-preservation. Children with severe neuromuscular disability now require a robust cough reflex to effectively expel mucus from their airways, as they struggle to take deep breaths. (Galway and Shields., 2019). Children can derive advantages from alternative and complementary medicine treatments. They can serve as a supplementary treatment to existing medications, perhaps diminishing the reliance on antibiotics. (Wopker.et.al., 2020). The utilization of complementary and alternative medicine (CAM) in response to the COVID-19 pandemic in 2019, Substantial focus is dedicated to scientific validation of the effectiveness of Traditional Chinese Medicine (TCM) medications in improving the well-being of diagnosed patients. (Jeon.et.al., 2022). Eventually, Somalia recognized the significance of complementary and alternative medicine (CAM) therapies, and employing honey as a remedy for coughing in children has proven to be an effective method for alleviating coughs and sore throats. Combine honey, lemon juice, and ginger with warm water, Consistent use of camel milk is purported to yield numerous health advantages. Camel milk may have initially been infused with black pepper due to its potential therapeutic benefits. Moreover, it is crucial to emphasize the substantial advantages of

black seed oil in treating coughing youngsters residing in Somalia. Abdullah's 1988 study on complementary and alternative medicine is one of the last research articles in this field and it reveals a scarcity of recent research articles on complementary and alternative medicine (CAM) in Somalia throughout the last three decades. The negative impacts of the Somali civil war have led to significant gaps in the public's comprehension of the healthcare profession. However, I found it fascinating to see that Abdudwak district had not previously undertaken any research on this subject, indicating the need for additional investigation. Therefore, it is imperative to investigate and ascertain the frequency and causative aspects of utilizing complementary and alternative medicine (CAM) in children experiencing coughing in Abdudwak, Somalia. (Abdullahi, 1988).

## **1.2 Purpose of the Study**

The primary objective of this study was to investigate the effects on children receiving cough at Midnimo and Jazeera Hospitals in Abdudwak, Galmudug state, Somalia, who are also utilizing complementary and alternative medicine,

To find out what particular therapies of Complementary and Alternative Medicine is commonly used for coughing children,

To Know the social demographic factors, influence the utilization of complementary and alternative medicine for coughing children in Abudwak, Somalia?

To investigate underlying factors that contributes to children with coughs to utilize complementary and alternative medicine.

To assess the satisfaction level of Somali children with a cough for the utilization of complementary and alternative medicine,

To determine problems associated with the use of complementary and alternative medicine for treating coughing children in Abdudwak, Somalia.

### **1.3 Research Questions**

1. Which specific therapies of Complementary and Alternative Medicine have you utilized for children suffering from cough in Abdudwak District, Galmudug State, Somalia?
2. What are the social demographic factors influence the utilization of complementary and alternative medicine for coughing children in Abudwak, Somalia?
3. What is the connection between Complementary and Alternative Medicine and children with cough in Abdudwak District, Galmudug State, Somalia?
4. What is the satisfaction level with the utilization of complementary and alternative medicine for children with cough in Abdudwak District, Galmudug State, Somalia?
5. What are the problems associated with the use of complementary and alternative medicine for treating coughing children in the Abdudwak District, Galmudug State, Somalia?

### **1.4 Significance of the Study**

African Traditional Medicine (ATRM) is an integral aspect of the indigenous community in Africa. In several regions, traditional medicine serves as the sole means of accessing medical treatment due to its convenient accessibility, affordability, and widespread availability, more than 80% of individuals in Africa utilize complementary and alternative medicine. (WHO, 2005). The African civilizations highly valued traditional African medicine, acknowledging the crucial role of its practitioners in safeguarding the health of their communities. According to the World Health Organization,(WHO) traditional, complementary, and alternative medicine provide a wide range of benefits to individuals. (WHO, 2020). Several nations in Latin America, Asia, and Africa address certain fundamental healthcare requirements through the utilization of traditional medicine. Many indigenous African cultures employ a significant amount of traditional medicine specifically targeted for ocular ailments. The usage rate of it in Africa ranged from 13.2% to 82.3%. (Nigussie.et.al, 2022). The findings of this study provide insights into the application of complementary and alternative medicine for pediatric cough treatment and will contribute to the development of policies and practices in this field. This will facilitate data-driven decision-making while also considering culturally competent and integrated healthcare.

## **1.5 Limitations**

This study utilized a cross-sectional method to evaluate the factors linked to traditional medical practice. However, it is important to recognize that this design cannot establish causal links with relevant factors and there is also Lack of monitoring measurement for coughing among children in Abdudwak District, Galmudug State, Somalia.

## **15 Definition of Terms**

**CAM:** The term complementary and alternative medicine or CAM, encompasses a diverse range of medical practices that are not exclusive to any particular country and are not often recognized as part of conventional medicine. (Who, 2012).

Nevertheless, complementary and alternative medicine includes a wide range of medical and healthcare practices, systems, and commodities that are typically not regarded as a component of conventional medicine. (Crawford & Zabel, 2003).

**Cough:** From a clinical standpoint, children's cough differs significantly from that of adults in some areas, while also exhibiting considerable variation; both acute and chronic coughs are conceivable. The Children can experience a variety of coughs. Prolonged acute cough, lasting 4–8 weeks, is now being more widely acknowledged as a symptom of protracted bacterial bronchitis and other respiratory tract infections. Acute cough, which usually lasts shorter than 2 weeks, is regarded to be only a symptom. A chronic cough persists for duration beyond four weeks in the kids. (Iulia.et.al., 2014 ).

**Children:** A person who is at the stage of development before puberty and has not yet reached sexual maturity or the age of legal adulthood. (Iulia.et.al., 2014 ).

## CHAPTER II

### 2.0 Literature Review of the Study

#### 2.1 Theoretical Framework

##### 2.1.1 The Meaning of Complementary and Alternative Medicine

This practice is occasionally known as complementary and alternative medicine (CAM). These treatments are utilized in combination with or as substitutes for traditional medicine. Many people choose complementary and alternative medicine to improve their general well-being. is experiencing a growing trend of popularity on a global scale, especially in developed countries; approximately 80% of residents living in underdeveloped nations depend on traditional medicine, which involves the use of herbal remedies, for their healthcare and treatment. (Kazeem.et.al, 2008). complementary and alternative medicine is an abbreviation for complementary and alternative medicine, it includes a wide range of therapeutic thoughts and practices that are not commonly associated with conventional healthcare. Recent data shows a notable rise in the use of complementary and alternative medicine therapies among both adults and children, indicating improvements in the effectiveness of pharmaceuticals. (Fadime.et.al, 2021). Globally, acute respiratory tract infections (ARTI) constitute the primary cause of sickness and mortality. In 2016, 2.38 million people died from lower respiratory tract infections worldwide. They were the primary cause of mortality among children aged five and below. Respiratory infections (RTIs) are the main reason why children are admitted to hospitals. Respiratory tract infections (RTIs) constitute 20% of hospital admissions in the United States. (Sandra.et.al, 2022). Approximately 60% of the global population utilizes indigenous remedies derived from botanical sources. Individuals residing in impoverished nations commonly hold the belief that herbal and natural products are superior due to their lower cost and reduced likelihood of causing adverse effects. Scientists based in Riyadh, Saudi Arabia, have previously documented several prevalent forms of traditional medicine, a portion of individuals engage in various practices, including reading the Holy Quran (62.5%), seeking prescriptions from herbalists (43.2%), undergoing cautery (12.4%), and receiving cupping treatment. (Bakhotmah, 2010). Traditional, complementary, and alternative medicine (TCAM) is a group of medical methods that are not part of the official healthcare system. It doesn't matter if the medicine

comes from another country or not. Along these lines, traditional bone setting and the use of traditional birth helpers in Africa are two examples of complementary and alternative medicine (CAM). So are herbal medicines or goods from the area and CAM supplies and methods from other countries, like acupuncture or chiropractic. What the World Health Organization. (WHO, 2019). Says that TCAM can make healthcare better by integrating it, making sure that the goods and services that communities use are controlled, and using TCAM's power to make things last longer and be more reliable. About 80% of people in Africa get better with traditional medicine. (Ayima.et.al, 2021).

A careful study found that the 32 non-Sub-Saharan African countries with the highest rates of TCAM provider use were: It's 34.7% in Australia, 35.4% in France, 16.7% in Russia, more than 50% in mainland China, over 50% in the Philippines, and over 20% in the US, Chile, and South Africa. Lots of people in Sub-Saharan Africa (SSA) use traditional, complementary, and alternative types of medicine, according to a new study that looked at them all. Based on the poll data, there is a high prevalence, with an estimated mean of 58.2% This ranges from 4.6% in urban areas of Ethiopia to 94% in semi-urban areas of Nigeria and Ethiopia. It was found that the rates of TCAM practitioner use were different in ten papers. They ranged from 1.2% to 67% (mean: 28.8%), with four studies having small sample numbers. 77.1% of people in Tanzania were found to have it. The WHO says that 60% of people in Tanzania and Uganda use TCAM, 70% of people in Benin and Rwanda do, and 90% of people in Ethiopia use it. (Ayima.et.al, 2021). Traditional medicine (TM) includes many practices such as traditional Chinese medicine, which are also classified as forms of complementary and alternative medicine. The term traditional medicine can also refer to a holistic medical system. Traditional and complementary medicine (TM/CAM) can be classified into two separate categories: pharmacological approaches, which utilize pharmaceuticals such as herbal medicines, animal derivatives, and minerals; and non-pharmacological approaches, which consist of treatments such as acupuncture, manual techniques, and spiritual therapies, typically administered without the use of drugs. Within areas where the current healthcare infrastructure When conventional medicine is not incorporated into the government healthcare system, it depends on allopathic medicine, in the healthcare system, TM is often categorized as complementary alternative or non-conventional therapy. (WHO, 2019).



There exist numerous alternative treatments that deviate from conventional medical care. The term used to refer to these practices is traditional, complementary, and alternative medicine (TCAM). These treatments can originate domestically or internationally, Africa uses traditional herbal treatments and bone-setting techniques, in addition, they are combined with foreign supplementary and alternative medical treatments and techniques, such as chiropractic therapy and physiotherapy. TCA has long been utilized by numerous individuals in Sub-Saharan Africa as a means to maintain good health and address both communicable and non-communicable ailments. (James.et.al, 2018).

### **2.1.2 Complementary and Alternative Medical Systems**

Alternative medicine encompasses a wide range of diverse practices that strive to achieve optimal health and well-being. Often, these techniques are supported by long-standing customs and are not integrated into the curriculum of Western medical institutions. These methods include therapies such as acupuncture, Tai Chi, herbal therapy, Reiki, chiropractic manipulation, and other similar practices. The word "alternative medicine" encompasses a wide range of diverse therapeutic modalities. it was founded during the 19th century to distinguish alternative methods from allopathic medicine, many individuals commonly use the phrase allopathic medicine regularly moreover, it is commonly referred to as Western medicine, evidence-based medicine, conventional medicine, or mainstream medicine. (Kisling & Stiegmann, 2022). Traditional medicine comprises a wide range of treatment methods that make use of cures originating from plants, animals, or minerals, as well as spiritual therapies and physical exercises. Whether acting alone or together, they can prevent, identify, or cure diseases by engaging in any of the above actions worldwide corporation has arisen, placing significant emphasis on conventional health practices to address the increasing relevance of traditional medicine. Every year, wealthy countries invest billions of dollars in traditional treatment methods. In 2012, the United States allocated over \$32 billion towards traditional healthcare. The World Health Organization, predicts that the anticipated growth will reach a total of \$60 billion by 2021. Many people utilize traditional eye medicine, which is a form of traditional medicine. Ethiopia's prevalence of traditional medicine utilization was 70.1%. (Shambel.et.al, 2022). CAM stands for complementary and alternative medicine. Acupuncture, herbal medicine, homeopathy, massage therapy, and yoga are among the

various treatments classified as complementary and alternative medicine. The use of complementary and alternative medicine is widespread, and people's reasons for using it, such as for the management of severe or chronic illnesses, remain important. Various regions and countries may employ different strategies to both encourage and deter criminal behavior. The factors that contribute to this situation include the utilization of biological therapy, variations in economic conditions, and contrasting perspectives on complementary and alternative medicine. an essential aspect is comprehending the attributes of consumers who engage in complementary and alternative medicine. (Galbraith.et.la, 2018). Herbal remedies are commonly utilized by individuals of all ages, including both adults and children. The use of herbal medications presents numerous issues due to the absence of regulation by the US Food and Drug Administration. Unlike traditional drugs, manufacturers of herbal medicines are not required to demonstrate their efficacy and safety before market release. (Graziano&Rosa, 2016).

Yoga refers to the state of being joined or connected. yoga is a spiritual practice derived from the Hindu religion. Various forms of yoga employ distinct tactics and methodologies to facilitate individuals in enhancing their self-awareness and establishing profound connections with both themselves and their surroundings. Many yoga techniques incorporate a sequence of postures, regulated respiration, and mindfulness to enhance your physical and mental well-being, induce relaxation, and promote overall feelings of well-being. Practitioners of holistic health, such as chiropractors, naturopaths, osteopaths, and shiatsu therapists, frequently incorporate yoga or yoga therapy into their comprehensive treatment regimens to enhance well-being and promote physical resilience. (Grossman, 2018). Traditional Chinese medicine, which includes methods like acupuncture and herbal treatment, strongly supports the field of complementary and alternative medicine. Moreover, it played a crucial role in the advancement of integrative medicine. What causes the difference between the anticipated outcomes of contemporary drugs, which are intended to directly address the fundamental mechanisms of diseases, and their real effects as observed in the clinical environment the cause of the divergence between the anticipated effects of Zheng-specific therapy, and primary emphasis of traditional Chinese medicine, and the observed outcomes in real-world scenarios The integration of Western treatment with Chinese herbal medicine in integrated medicine requires strong

grounds. When combining complementary and alternative medicine (CAM) with Western medicine, it is crucial to clearly understand the impact of CAM ideology on Western medicine. (Ai-Ping.et.al, 2004).

### **2.1.3 Kinds of Complementary and Alternative Medicines**

Various classifications have been employed to characterize the expanding realm of complementary and alternative medicine (CAM). CAM, an abbreviation for Complementary and Alternative Medicine, encompasses a wide range of healthcare treatments that are typically not part of the curriculum in traditional biology schools. These techniques are rated on a scale of 1 to 5. Within this classification, there are complementary and alternative medicine (CAM) techniques that are generally considered beneficial by most physicians, although only for certain purposes. (Christopher, 2008). According categories are manipulative and body-based therapies, mind-body therapies, energy therapies, biologically based therapies, and "Alternative medical systems. (Christopher, 2008).

#### **2.1.3.1 Patterns of Mind-Body Therapy**

Mind-body treatment is a modality of healthcare. Mind-body therapy as defined by the National Center for Complementary and Alternative Medicine (NCCAM), encompasses several approaches aimed at enhancing the mind's capacity to impact physiological function and symptoms. Regularly participating in these activities helps reduce anxiety and fosters a mood of tranquility. Considering that stress worsens neurological conditions in adults, and children implementing mind-body techniques that relieve stress could be advantageous for them. (Rebecca, 2010).

#### **2.1.3.2 Biologically Based Therapies**

Bio-based complementary and alternative medicine (BB-CAM) is utilized by individuals with cancer for several purposes, such as cancer prevention and treatment, enhancement of their immune systems, optimization of their overall health, and management of pain, illness, and insomnia resulting from their condition. (Kathryn, 2020 ). Numerous investigations have been conducted on animal models and cell cultures to ascertain the impact of supplements and herbal medications utilized in complementary and alternative medicine (CAM) on them. Insufficient data exists regarding the long-term advantages of

these medications, particularly when employed in conjunction with other therapies. (Kathryn, 2020 ).

#### **2.1.3.4 Manipulation and Utilization of Body-Based Therapy**

Considering psychosocial factors is widely recognized as crucial for cancer patients, given the adverse impact of cancer treatments on both their mental and physical well-being. Non-pharmaceutical treatments also referred to as "Complementary and Alternative Medicine" (CAM), are becoming more prevalent in assisting individuals. Reflexology, osteopathic medicine, and chiropractic adjustments are frequently cited as instances of "manipulative and body-based practices, However, there is presently a scarcity of conclusive evidence to substantiate their efficacy. Unclear or having multiple possible meanings. (Calcagni, 2019).

#### **2.1.3.5 Therapeutic Energy**

The concepts indicate that individuals who are sick or ill will exhibit symptoms in both their physical body and their bio-field, regardless of the type of injury or disease. The objective of energy treatments is to restore equilibrium to the energy inside the bio-field. This enhances an individual's overall well-being and expedites the process of recuperation. This therapist's main goal is to restore equilibrium in the bio-field by physical procedures that eliminate any obstructions and facilitate the smooth circulation of energy within or above the body; it is believed that promoting the tranquility of the bio-field can enhance the body's natural capacity for self-healing (Qianlai, 2016). It is becoming more and more important for cancer treatment practitioners to determine if their patients are using complementary and alternative medicine (CAM). This is because CAM has the potential to completely transform cancer treatment; Cancer survivors are more likely to use complementary and alternative medicine (CAM) because their doctors prescribe it to them. Moreover, individuals diagnosed with cancer are more likely to reveal their use of complementary and alternative medicine. (Qianlai, 2016).

#### **2.1.4 Adverse Effects of Complementary and Alternative Medicine**

Globally, herbal products are widely utilized as additional and/or alternative medicine, despite the lack of sufficient facts regarding their safety. The use of Codicil herbs as a source of pharmacological compounds is also increasing in popularity. The administration

of herbal treatments and conventional drugs is a significant source of apprehension. The most prominent adverse effect of the medication is the herb-drug interaction (HDI). Interpreting the results in a methodical approach might provide insights into several aspects of health. Several herbal medicines have been found to have potential human-drug interactions HDIs based on animal studies. However, a few HDIs have been extensively investigated through human studies and case reports Pharmacokinetic half-dose interval is affected by various factors, such as alterations in the gastrointestinal tract that impact drug absorption, modifications in metabolic enzymes and transport proteins, and changes in renal function that facilitate the elimination of medications and their metabolites from the body. it is acknowledged that pharmacodynamics drug interactions might arise from the inherent drug-like characteristics of some substances the repercussions may either accumulate, contradict, or collaborate with one other. (Fasinu, 2012 ). There is a common misconception among certain individuals that herbal treatments are inherently safe due to their botanical origins. These medications may induce adverse reactions such as dyspnea, dermal irritation, hypersensitivity, cephalalgia cognitive disarray, agitation, xerostomia, convulsions, fatigue, tachycardia, emesis, and diarrhea. Furthermore, there have been well-documented instances of highly adverse reactions. According to reports, individuals who drink kava may suffer from hepatotoxicity, which is a condition characterized by liver damage, Furthermore, the utilization of widely recognized herbal treatments has been associated with anaphylactic reactions that could potentially lead to fatality. The combination of prescription drugs and natural remedies might result in various outcomes. Individuals who are prescribed anticoagulant medications such as aspirin or warfarin should exercise caution when consuming cherries with Ginkgo biloba, as they are more susceptible to adverse effects. (Graziano&Rosa, 2016).

### **2.1.5 Challenges in the Administration of Complementary and Alternative Medicine**

Various challenges arise in the administration of complementary and alternative medicine (CAM) in Africa. The issues may vary across different countries or regions, but the following are some prevalent difficulties that impact a significant number of them. (James.et.al., 2018;) **Absence of Comprehensive Standards and Regulations:** Numerous African countries lack comprehensive standards and regulations for complementary and

alternative medicine (CAM). This may raise questions about the quality, safety, and effectiveness of CAM treatments. The services provided by CAM practitioners can vary due to discrepancies in their training and licensing. (James.et.al., 2018;) Insufficient awareness and knowledge of complementary and alternative medicine (CAM) practices among individuals may hinder their utilization and acceptance. Many individuals may be unaware of the advantages and disadvantages associated with various forms of alternative and complementary medicine. In order to enhance knowledge regarding complementary and alternative medicine (CAM), it is imperative to establish educational initiatives targeting both the general public and healthcare professionals. (James.et.al., 2018;) Elements of religious beliefs and societal customs: Certain CAM approaches originate from religious and cultural origins. The presence of conflicting beliefs and practices can create difficulties in integrating CAM with other religious and cultural perspectives. Certain religious or cultural factions harbor aversion or complete dissent towards specific complementary and alternative medicine (CAM) therapies, resulting in increased difficulty for individuals to assimilate and gain acceptance. (James.et.al., 2018;) Traditional medicine (TM), also known as ethno-medicine, folk medicine, native healing, or complementary and alternative medicine, is the most ancient kind of medicine that continues to be utilized in the present day. for centuries, individuals have relied on non-conventional and geographically distinct therapeutic approaches to effectively manage and combat a diverse array of diseases that have posed a risk to their existence is diverse and encompasses a wide range of subjects. Consequently, various cultures have developed their distinct traditional medical practices, commonly referred to as Traditional Medicine; Illustrations of such cures encompass traditional African practices. Therefore, you now comprehend the reason behind the absence of a universally accepted definition for the phrase. However, a widely accepted definition of Traditional medicine has been made available. (Abdullahi, 2011). According to the World Health Organization Traditional medicine refers to the cumulative total of all the theories, beliefs, and experiences of many civilizations that have contributed to our acquisition of fresh knowledge, abilities, and behavioral patterns. Regardless of its logical coherence, it is employed to promote individuals' well-being and prevent, diagnose, enhance, or Address both mental and physical ailments. (Abdullahi, 2011).

### **2.1.6 Complementary and Alternative Medicine utilization in Somalia**

Herbal medicine is increasingly prevalent worldwide, so in Somalia, Rural residents place a higher importance on traditional medical procedures due to their significant role in their social lives. Many Somalis are said to either utilize herbal remedies or have done so previously. In many regions of Somalia, traditional medicine is commonly employed to address a wide range of ailments, including fevers, asthma, pharyngitis, respiratory difficulties, and dermatological conditions. Certain individuals residing in rural regions of Somalia abstain from utilizing conventional medicinal practices. Alternatively, they employ Daawo-Dhireed, a widely recognized herbal remedy. Over time, every individual group of travelers has developed its distinct indigenous wisdom. Elders imparted knowledge of herbal healing to indigenous people living in nomadic communities. Traditional herbal remedies continue to be utilized and adhered to by age-old practices. (Hasan.et.al, 2022). The traditional Somali treatments include three main approaches: physical manipulations, dietary or herbal interventions, and religious healing. Physical manipulation therapies primarily focus on females and involve operations such as tooth removal, scraping, and cupping, which can cause suffering, Specific therapeutic alternatives, such as massage, are both safe and sensitive. (Ferdjallah and Hassan, 2021).

#### **2.1.6.1 Herbal remedies**

In Somali traditional medicine, referred to as Herbal remedies/Daawo-Dhireed in the Somali language, are extensively employed by a substantial population in the Horn of Africa. the importance of traditional Somali medicine is of utmost importance to our community, and we strongly support its investigation, improvement, and incorporation into the broader healthcare system for the Somali population. the research results were published in the Journal of Ethno-pharmacology. the publication is titled Inventory of Plants Used in Traditional Medicine in Somalia: Plants. (Hassan.et.al, 2022).

#### **2.1.6.2 Honey as a traditional medicine**

Honey possesses a highly intricate chemical composition that is contingent upon the specific plant of origin. It has been utilized for sustenance and therapeutic purposes since antiquity. Evidence from the Stone Age indicates that honey was utilized by humans approximately 8,000 years ago. Natural honey holds significant prominence in traditional

medicine. It is employed in contemporary medicine after being utilized in several research organizations. According to popular belief, honey Exhibit the capability to inhibit the growth of around 60 varieties of bacteria, certain fungi, and certain viruses. The antioxidant properties of honey are crucial for combating many ailments triggered by multiple factors. Various components, such as organic acids, proteins, phenolics, enzymes, and the Maillard reaction Positive aspects. Honey has also been utilized in the treatment of several inflammatory, cardiovascular, and gastrointestinal conditions. Cough condition. Honey is an organic substance that offers numerous advantages for one's well-being. It is purported to contain over 200 distinct compounds. In addition to fructose and glucose, honey contains various additional components, including amino acids, vitamins, minerals, enzymes, and fructo-oligosaccharides the composition of honey is determined by the plants the bees consume. (Eteraf-Oskouei and Najafi, , 2012). Cough is a common symptom frequently observed in ill children in my medical practice. Almost every day, a child's cough and upper respiratory tract disease are assessed. Can honey be considered advantageous for youngsters experiencing cough symptoms. (Goldman, 2014).

Honey is used for treating coughs falls under the category of complementary and alternative medicine. researchers investigating honey as a therapy for coughs can employ the following theoretical framework: Conduct a study on the historical use of honey in treating coughs in ancient medicine. the various ways in which different societies have employed honey for the purpose of treating respiratory ailments. Observe the antibacterial and anti-inflammatory properties of honey. Consider how these characteristics can diminish coughing caused by infection and inflammation. honey to alleviate coughing. It has the potential to alleviate throat pain, provide a sense of calmness in individuals, and stop coughing. Honey is employed for the treatment of coughs in varying manners across distinct countries. The utilization of honey varies across different cultures. Honey is typically considered safe for older children, although it is advisable to seek medical advice before administering it to a specific demographic. It is essential to comprehend the mechanism by which honey alleviates coughs. (Goldman, 2014)



### **2.1.6.3 Camel milk boiled with black pepper as a traditional medicine**

Consumption promotes renal health in individuals. Furthermore, it is employed to prevent or address gastrointestinal issues such as acid reflux, malnutrition, and overall debility. Camel milk is known to induce emesis or diarrhea in individuals who suspect poisoning or contamination, which is rather intriguing. It eliminates excessive bile, known as (Dacar), to maintain the proper functioning of the body's digestive systems. It is crucial for maintaining proper bodily processes, growth, and nourishment. Immediately after collection, the freshly obtained camel milk is promptly utilized to address any issues about the body's humoral system. Additionally, cold acidic milk is utilized as an additional component. Camel milk is purported to contain a diverse array of proteins. (Ferdjallah and Hassan, 2021). Consumption of camel milk leads to substantial improvement in the status of those afflicted with drug-resistant Tuberculosis. Patients with comparable symptoms experienced a notable decrease in coughing, sputum production, and chest discomfort after consuming one liter of camel milk daily. Additionally, the inclusion of immunoglobulins in camel milk can have advantageous effects on the management of Crohn's disease and the augmentation of the immune system. (Mohammadabadi, 2020). Camel Milk serves as the primary source of nourishment for newborn babies and adults in developing countries, the presence of bioactive compounds and constituents in milk plays a crucial role in promoting regular growth and supporting the proper functioning of the immune system. Camel's milk offers numerous health benefits, such as combating pathogens and cancer, reducing hypertension, increasing beneficial cholesterol levels, and preventing diabetes, Camel's milk possesses potent antibacterial chemicals that can effectively combat tuberculosis, even when conventional medications are ineffective, camel's milk has the potential to alleviate symptoms such as heat, shortness of breath, and cough. Milk proteins, like other proteins found in food, have inherent Angiotensin-converting enzyme (ACE) inhibitory, peptides within their fundamental composition. These peptides are also present in fermented camel's milk. (Swelum.et.al, 2021).

treatments for coughs. the effects of black pepper and camel milk, investigate traditional cures for coughs or respiratory problems that involve the utilization of black pepper and camel milk. Analyze past instances when this combination has been used and explore the current societal beliefs about its effectiveness. reflect on how these characteristics could

potentially reduce cough symptoms, which are commonly linked to inflammation and infections. and characteristics can alleviate cough symptoms, which are frequently triggered by inflammation and viruses. Consider the various methods in which pairs can be utilized. Black pepper includes a substance that can enhance the body's ability to absorb nutrients. the impact of black pepper and camel milk on lung health. This could entail alterations in mucus production, coughing patterns, or overall lung functionality. Discover the beneficial compounds present in camel milk and black pepper that contribute to the maintenance of lung health. the mechanism of action and potential synergistic effects of various medications to understand their therapeutic benefits. (Ferdjallah and Hassan, 2021).

#### **2.1.6.4 Black seed oil as a traditional medicine**

Black seed oil or *Nigella sativa*, is a perennial plant belonging to the Ranunculaceae family, shows robust growth in various habitats, with its native range encompassing Eastern Europe, the Middle East, and Western Asia. The seeds are small, measuring roughly 1 to 2 mm in width and 2 to 3.5 mm in length. They have a dark gray or black color, similar to sesame seeds. These seeds, known by different names worldwide including black cumin, kalonji, Al-Habba Al-Sawdaa, or Al-Kammoon Al-Aswad, are highly praised for their outstanding nutritional content. According to Islamic tradition, Prophet Muhammad (PBUH) stated that *Nigella sativa* seeds have healing abilities for all illnesses save death. In the Bible, they are known to as the seed of blessing. *Nigella sativa* is acknowledged as a medical plant with many health advantages within the wider framework of herbs, spices, and medicinal plants. This recognition is based on Islamic prophetic medicine derived from Quranic scriptures and Hadith, as well as Greek medicine. Scientifically validated, black seed oil obtained from *Nigella sativa* contains many substances, including sugars, proteins, glucose, rhamnase, xylose, and arabinose, as well as vital vitamins such as thiamine, niacin, riboflavin, pyridoxine, and folic acid. These elements contribute to its acknowledged effectiveness in treating many health conditions, in line with historical and religious beliefs regarding its therapeutic qualities. (Sewara.et.al., 2019). Black cumin is formally known as *Nigel Sativa*. this is a floriferous botanical species originating from Asia and the Mediterranean region. The plant's seed has been utilized medicinally for over a millennium, providing relief for fatigue, allergies,

and even more severe ailments such as asthma. However, for the Somalis, it holds a more profound significance beyond mere monetary worth. One could erroneously perceive it as sacred. (Yussuf, 2023). Black pepper, scientifically named (*Piper nigrum* L), and is widely recognized as the "King of spices. It is a widely favored spice that adds a unique flavor to dishes and enhances the taste of other components, Herbs and spices have been essential for human nourishment since the beginning of civilization. For generations, they have been used to enhance the taste, appearance, and smell of food, and are also known for their ability to preserve and offer therapeutic benefits. (Heerasing, 2019).

## **2.2 Related Research**

### **2.2.1 Uses of CAM for Couching Children**

*Mycobacterium tuberculosis* (MTB), the causative agent of tuberculosis (TB), is a major worldwide health issue. Global disease surveillance in 2017 documented almost 10 million recorded instances of illnesses and 1.3 million reported deaths. In the same year, Ethiopia documented around 172,000 newly diagnosed cases of tuberculosis. Consequently, the country achieved the fourth position among African nations and the tenth position globally in terms of having a substantial disease burden. Specifically, pastoralist groups inside the country, especially in the Somali Region, exhibit a greater vulnerability to illness. As to the global end TB plan, the most efficient strategy to eliminate the pandemic in the next ten years is to swiftly detect tuberculosis infections and commence treatment. (Getnet.et.l, 2019).

Children exhibiting symptoms such as wheezing, sore throats, fevers, nasal congestion, and difficulty eating are most probable to be suffering from acute respiratory tract infections (ARTIs). Most colds and coughs are primarily caused by upper respiratory tract infections. The disorders that are treated include acute rhinitis, acute rhinosinusitis, acute otitis media, acute nasopharyngitis, acute laryngitis, pharyngitis/tonsillitis, and laryngitis. Bronchitis, pulmonary disorders, and bronchiolitis can all have an impact on the lungs. (Lucas.et.al, 2018)

Asthma is a prevalent and chronic health condition that is widespread globally. The prevalence of asthma in affluent nations has tripled over the past three decades compared to the prevalence observed three decades ago. Furthermore, there is compelling evidence indicating that this upward trend in prices is persisting. The Global Initiative for Asthma (GINA) predicts that the global asthma population will reach 400 million by the year 2025. This represents an increase from over 300 million in 2004. The prevalence of asthma among adults in the United States ranges from 1% to 3%, whereas children have a prevalence rate of asthma ranging from 9% to 20%. It is a primary factor contributing to children being hospitalized. Approximately 5% of the urban population in China possesses this condition. A recent study revealed a global prevalence of asthma diagnosis in 4.3% of individuals. Australia has one of the highest prevalence rates of any affluent nation, with 21.0% of its population affected by the disorder. Conversely, China has the most minimal incidence rate (0.2%) among all wealthy nations. The prevalence of asthma symptoms in children aged 6 to 7 is 2.8% in Indonesia and 37.6% in Costa Rica. The issue is prevalent in 3.4% of adolescents aged 13 and 14 in Albania, and in 31.2% of individuals in the Isle of Man. Significant disparities exist throughout different regions of the globe regarding the prevalence of asthma symptoms in children. While asthma is more prevalent in more developed nations, the symptoms tend to be more severe in such regions. (Hon.et.al, 2018)

Asthma is a chronic inflammatory condition characterized by recurrent exacerbations, leading to progressive lung damage. An ailment characterized by heightened sensitivity of the airways can be triggered by either direct or indirect stimulus. Additionally, it is a chronic inflammatory condition that impacts the respiratory system, resulting in reduced efficiency, diminished quality of life, and increased healthcare expenses. Common respiratory symptoms associated with this condition encompass dyspnea, chest constriction, persistent cough, and impaired expiration. The onset of the sickness might be triggered by several factors such as allergies, irritants, physical exertion, environmental changes, or respiratory infections. According to the regulations, a diverse range of prescription medications should be employed for the treatment of asthma. This group of medications includes leukotriene modifiers, mast cell stabilizers, theophylline, long-

acting beta-agonists, combination inhaled long-acting beta-agonist/corticosteroid, and inhaled corticosteroids. (Yildiz and Yavuz, 2021).

Parents typically sought medical attention for their children's acute respiratory tract infections (ARTIs) rather than managing them themselves. As a consequence, Australia receives an annual influx of approximately 6 to 7 million individuals. Furthermore, acute lower respiratory tract illness is the primary cause of mortality among children worldwide. Signs of an acute respiratory tract infection (ARTI) include fever, sore throat, cough, nasal congestion, and difficulty eating due to mucus. The study examined illnesses affecting the upper and lower respiratory systems, including coryza, acute nasopharyngitis, acute pharyngorhinitis, and acute rhinitis, all of which are commonly referred to as colds and coughs. Several health issues include asthma, pneumonia, tonsillitis, and laryngitis. (Sandra Lucas, 2019)

## CHAPTER III

### 3.0 METHODOLOGY

#### 3.1 Research Design

The study incorporates cross-sectional, descriptive, and quantitative, comparative research techniques.

#### 3.2 Participants / Population & The Sample / Study Group

The researcher gathered data from a sample of parents with children aged 0 to 12 years old, who had coughing conditions. The researcher was interviewed with 415 participants at the hospitals located in study area. This group was considered to be the primary target population of the study. For my investigation, I randomly chose Midnimo and Jazeera hospitals. Midnimo Public Hospital, a specialist medical institution, prioritizes women and children's health and medical equipment and supplies. Private Jazeera Hospital provides excellent healthcare for newborns and pregnant women. I chose two specialist pediatric hospitals to expand my study and sample size.

The sample size was obtained using the methods provided by (Fisher et al, 1990), Formula.

$$\text{Sample size: } n = \frac{z^2 Pq}{d^2}$$

Where n = represents or required sample size.

Z = confidence level, for 95%, and corresponds to a value of = (1.96.)

P=the prevalence of traditional medicine usage of CAM in Ethiopia was 70%. (Shambel.et.al, 2022). However, we utilized for prevalence.

q = 1-P.

$$n = \frac{z^2 Pq}{d^2} = \frac{1.96^2(0.5)(1 - 0.7)}{(0.05)^2} = 230$$

Therefore, to increase the sample size of study the final sample size for this study was  $n = 415$

### **3.3 Data Collection Tools/Materials**

A paper-based, standardized, open-ended, and closed-ended questionnaire was used during the data-collecting process.

#### **3.3.1 Content validity and Validity Ratio**

Content validity evaluates the extent to which a test or poll accurately represents its subject matter. Content validity in complementary and alternative medicine (CAM) refers to the extent to which a study instrument or evaluation tool encompasses essential concepts, practices, and experiences. In order to ensure the legitimacy of the information, researchers and tool developers must encompass all concepts and practices related to CAM. The content validity of Complementary and Alternative Medicine (CAM) in a certain environment is contingent upon various factors. The review tool should encompass acupuncture, herbal therapy, black pepper-boiled camel milk, black seed oil, honey, yoga, and various other treatments. This tool must maintain a neutral stance towards complementary and alternative medicine, involve CAM professionals at the initial stages of the planning process. Professionals in complementary and alternative medicine (CAM), including practitioners, experts, and educators, possess expertise in various modalities. Their viewpoints have the ability to influence the fundamental principles, attitudes, and behaviors of the evaluation instrument.

The Content Validity Ratio (CVR) evaluates the accuracy and usefulness of a measurement equipment or technology. Validating quizzes, tests, and polls with this word. The Content Veracity Questionnaire score is 0.818.

First of all, the researcher drafted a questionnaire that pertained directly to his study, afterwards, he sent the questionnaire to seven esteemed professors, to soliciting their insights to ascertain the content validity ratio (CVR) and evaluate its accuracy and reliability and to determine the content validity index (CVI), after suggestions of the professors he modified the questionnaire by including the viewpoints and recommendations of the academics.

Eventually, a trial surveys was conducted at Midnimo General Hospital twice before two weeks of the actual study to assess the questionnaire relevance, clarity, and usability. In order to accomplish this, we directed each participant to fill out the pilot questionnaire on two distinct time intervals. This measure was implemented to ensure the precision of the data collection instruments. The questions in this set were modified to enhance clarity, hence improving the accuracy of the test results. The study's instruments were evaluated for effectiveness using the test-retest method. Test p-value was 0.09 in this study. See Appendix A.

### **3.4 Data Collection Procedure**

During the Data collection procedure face to face interviews was done to collect Data from the study participants. The Data was collected in September, 2023. the researcher provided a brief overview of complementary and alternative medicine therapies. All participants also verbally gave their informed consent after reading or having the accompanying consent form read to them. Finally, each participant was allocated a minimum of 10 to 15 minutes to complete the interview. Afterwards the interviewer re-evaluated the collected Data to correct any possible errors.

### **3.5 Data Analysis Plan**

The data was analyzed using SPSS Version 22, an abbreviation for Statistical Packages for the Social Sciences. The study utilized both descriptive and inferential statistics. Descriptive methods, such as tables and charts were employed to summarize statistics such as percentages, frequencies, mean, and standard deviations.



### 3.6 Study Plan

2023									
Activities	1-30 June	1-30 July	1-15 August	16-31 August	1 -15 September	16-26 September	1-31 October	1-30 November	15 December
Topic selection									
Approval of the research title									
Chapters 1 and 2									
Research proposal and instruments									
Ethical permission documents									
Data collection									
Data analysis and results									
Conclusion and Recommendations									
Submission of the graduation Thesis									

### 3.7 Ethical aspects

The study received approval from the Ministry of Health & Human Services in Galmudug state, Somalia, as well as the ethics council. The permission is assigned the reference number MoH/GMS/DGO-0267-2023. on September 7, 2023. In addition, the Ministry of Education and Higher Education of Galmudug state of Somalia permitted an authorization to conduct research. Ref:DGM/MOECHE/DG/0167/2023, at 10 September 2023.both ministries expressed their verbal and writing approval after being informed about the circumstances. See Appendix B and C.

## CHAPTER IV

### 4.0 Findings and Discussion

This chapter comprises data analysis, presentation, and interpretation of the study's findings the section contains subsections that examine the interviewees' overall demographic data and was examined with particular attention to important characteristics associated with the frequency of use of complementary and alternative medicine among children who are experiencing cough symptoms.

**Table 4.1 Demographic Variables of Parents**

<b>n=415</b>		
<b>Type</b>	<b>Frequency</b>	<b>Percent (%)</b>
Public Hospital	307	74.0
Private Hospital	108	26.0
<b>Age of Parent</b>		
Mean	31.639	
Median	30.000	
Minimum	16.0	
Maximum	60.0	
Std. Deviation	8.1305	
<b>Sex of parents</b>		
	<b>Frequency</b>	<b>Percent (%)</b>
Male	121	29.2
Female	294	70.8
<b>Residence</b>		
	<b>Frequency</b>	<b>Percent (%)</b>
Urban	300	72.3
Rural	63	15.2
Internally Displaced Persons (IDPs)	52	12.5
<b>Marital status</b>		
	<b>Frequency</b>	<b>Percent (%)</b>
Single	12	2.9
Married	341	82.2
Divorced	51	12.3
Widowed	11	2.7

<b>Demographic Variables of Parents</b>		
n=415		
<b>Occupation</b>	<b>Frequency</b>	<b>Percent (%)</b>
Student	14	3.4
Business-person	35	8.4
Employed	79	19.0
Unemployed	46	11.1
Housewife	190	45.8
Laborer	32	7.7
Pastoralists	19	4.6
<b>Educational Level</b>	<b>Frequency</b>	<b>Percent (%)</b>
Illiterate	146	35.2
Non-formal education	111	26.7
Primary level	81	19.5
Secondary level	47	11.3
University-level	30	7.2
<b>Family Income</b>	<b>Frequency</b>	<b>Percent (%)</b>
Income is equal to expenditures	87	21.0
Income is much more than expenditures	36	8.7
Income is less than expenditures	292	70.4

According to table,4.1 the majority of the respondents 307(74%) were from public Hospitals, the mean the age of the parent respondents was 31.639, the majority of the parent respondents 294(70.80%) were female, the majority of the parent respondents 300(72.30%) lived in Urban, the majority of the parent respondents 341 (82.20%) were married, the majority of the parent respondents 190(45.8) were housewives, the majority of the parent respondents 146(35.20%) were Illiterate, the majority of the parent respondents 292(70.40) their Income was less than their expenditures.

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**Table 4. 2 Demographic Variables of Children**

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	<b>n=415</b>	
<b>Age of children</b>	<b>Frequency</b>	<b>Percent (%)</b>
0-6 months	30	7.2
7-12 months	34	8.2
1-3 Years	203	48.9
4-6 Years	94	22.7
7-12 Years	54	13.0
<b>Sex of child</b>	<b>Frequency</b>	<b>Percent (%)</b>
Male	158	38.1
Female	257	61.9
<b>Breastfeeding of a child</b>	<b>Frequency</b>	<b>Percent (%)</b>
Exclusive	113	27.2
Non-Exclusive	302	72.8
<b>Educational Enrollment</b>	<b>Frequency</b>	<b>Percent (%)</b>
Enrolled	72	17.3
Un enrolled	343	82.7

According to Table 4.2, the majority of the children 203 (48.9%) were between 1-3 years old, the majority of the parent respondent's children 257 (61.90%) were female, the majority of the parent respondent's children 302(72.80) were not breastfed, the majority of the parent respondent's children 343 (82.70) were not educationally enrolled.

**Table 4. 3 History of Coughing children in Somalia**

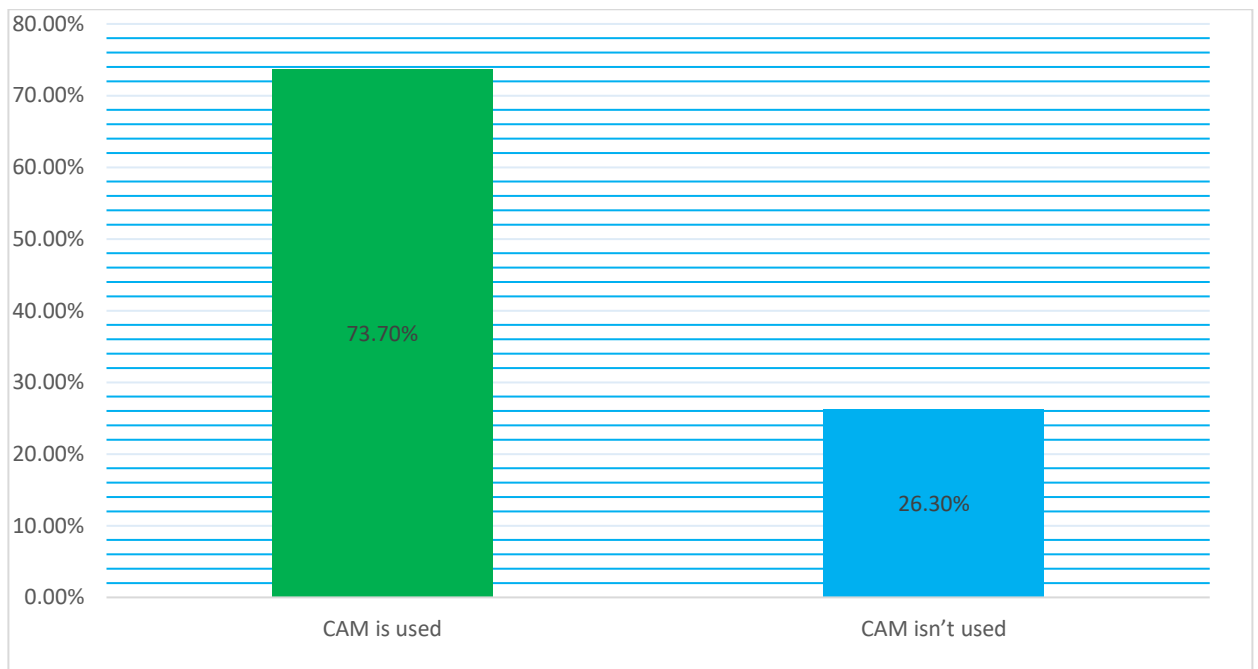
N=415		
<b>History Coughing children</b>	<b>Frequency</b>	<b>Percent (%)</b>
Rarely	223	53.7
Occasionally	145	34.9
Frequently	30	7.2
Very frequently	17	4.1
<b>Duration of Cough</b>	<b>Frequency</b>	<b>Percent (%)</b>
One week	236	56.9
Several weeks	141	34.0
One month	31	7.5
More than one month	7	1.7
<b>Cough condition</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	294	70.8
No	121	29.2

According to the Table 4.3 the majority of parents responded in the study their children 223(53.70%) were rarely coughing, the majority of children's parents responded 236 (57%) were coughing one week, the majority of parent responded their children 294 (70.80%) were getting cough conditions.

**Table 4.4 Prevalence of Complementary and Alternative**

<b>n=415</b>		
<b>Prevalence of CAM Usage</b>	<b>Frequency</b>	<b>Percent (%)</b>
CAM is used	306	73.7
CAM isn't used	109	26.3
<b>CAM usage in past two weeks</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	250	60.2
No	165	39.8

**Figure 4.1 Prevalence of complementary and alternative medicine**

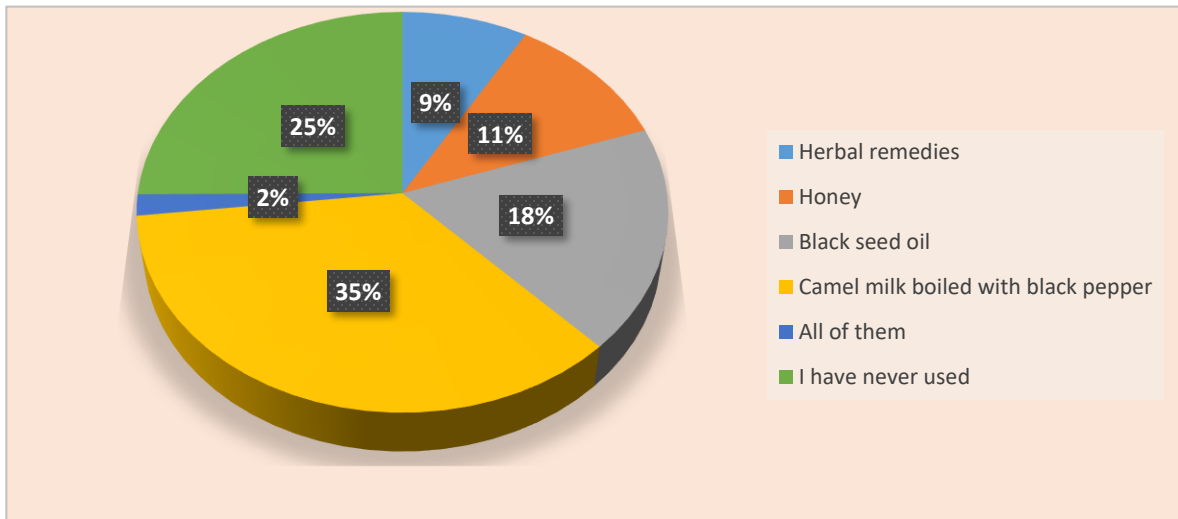


According to table 4.4 and figure 4.1 the majority of parents responded their children 306(74%) were used CAM, while only 109 (26%) were not used complementary and alternative medicine. Therefore, the prevalence of complementary and alternative was 74%. the majority of parents responded their children 250 (60.20) got CAM in the past two weeks.

**Table 4.5 Main CAMs utilized for the coughing children**

n=415		
Main CAMs utilized	Frequency	Percent (%)
Herbal remedies	35	8.4
Honey	47	11.3
Black seed oil	75	18.1
Camel milk boiled with black pepper	147	35.4
All of them	7	1.7
I have never used	104	25.1

**Figure 4.2 Main CAMs utilized for children**



According to Table 4.5 and Figure 4.3 the majority of children's parents responded 147(35.4%) utilized Camel milk boiled with black pepper, 104(25.1%) have never used, 75 (18%) used Black seed oil, 47(11%) used other herbal remedies, while only 7 (1.7%) used all the above herbal remedies.

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**Table 4. 6 Purposes and Reasons of CAM Usage for The Coughing Children**

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n=415

<b>Purposes CAM utilized</b>	<b>Frequency</b>	<b>Percent (%)</b>
preventing illness	74	17.8
promoting health,	12	2.9
All of them	24	5.8
I have never used CAM	100	24.1
Total	415	100.0

<b>Reasons for using CAM</b>	<b>Frequency</b>	<b>Percent (%)</b>
Cultural/traditional beliefs.	233	56.1
Lack of access	28	6.7
Dissatisfaction with conventional	19	4.6
CAM is perceived to be safer	8	1.9
Less expensive	16	3.9
All of them	11	2.7
I have never used CAM	100	24.1

According to table 4.6 the majority of parents responded about their children 205 (49.40%) were used CAM as treating illness, 100(24.1%) were never used CAM, 74 (17.80) were used CAM as preventing illness, 24 (5.8%) were used All of the remedies, while only 12(2.90%) were used CAM as promoting healthy. the majority of parents responded 233(56.10%). Were used for Cultural/traditional beliefs, 100 (24.1%) have never used CAM for their children, 28(6.7%) were used for Lack of access to conventional medicine, 19(4.70%) were Dissatisfaction with conventional treatments, 11 (2.70%) were believed that CAM is safer, 16 (3.9%) were used for the All of reasons, while only 8 (1.90%) were for the Less expensiveness.



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**Table 4. 7 The Knowledge Acquisition, Satisfaction, Benefits and Problems of CAM**

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**n=415**

<b>knowledge acquisition of CAM used</b>	<b>Frequency</b>	<b>Percent (%)</b>
Family or friends.	173	41.7
Local healer	84	20.2
Internet source	30	7.2
Medical person	17	4.1
all of them	12	2.9
I don't know	99	23.9
<b>Satisfaction</b>	<b>Frequency</b>	<b>Percent (%)</b>
Very satisfied	67	16.1
Satisfied	246	59.3
Dissatisfied	81	19.5
Very dissatisfied	21	5.1
<b>CAM Benefits and problems</b>	<b>Frequency</b>	<b>Percent (%)</b>
Problems	51	12.3
Obtaining Benefits	364	87.7

According table 4.8 the majority of the parent respondents (41.70%) were heard from their family or friends, the majority of parents responded about their children 246(59.3%) were Satisfied with CAM usage, the majority of parents responded about their children 364(88%) were obtaining Benefits from CAM usage while only 51(12.3%) were experienced problems.

**The Problems experienced by parents include:**

Allergic, Itching, Skin rash, Vomiting, Diarrhea, Stomach pain, Skin burns, Eye inflammations.

## Inferential Statistics

The statistical test known as a chi-square test was done to compare actual data with expectations. The objective of this test was to determine whether any disparity between the observed and expected outcomes were attributable to statistical variation or a correlation between the variables under investigation. The results indicated as substantial association between Variables Associated with the Utilization of Complementary and Alternative Medicine was discussed below tables.

**Table 4.8 Association between Variables and prevalence rate of CAM Cross tabulation**

Group		CAM		$\chi^2$ -value	P-value
		CAM is used	CAM isn't used		
Occupation	Student	10 (2.4%)	4 (1.0%)	613.227638	0.039560
	Business-person	25 (6.0%)	10 (2.4%)		
	Employed	50 (12.0%)	29 (7.0%)		
	Unemployed	37(8.9%)	9 (2.2%)		
	Housewife	138 (33.3%)	52 (12.5%)		
	Laborer	28 (6.7%)	4 (1.0%)		
	Pastoralists	18 (4.3%)	1 (.2%)		
	Total	306 (73.7%)	109 (26.3%)		
Cough	Yes	237 (57.1%)	57 (13.7%)	24.626059	0.000001
	No	69 (16.6%)	52 (12.5%)		
	Total	306 (73.7%)	109 (26.3%)		
Satisfaction	Very satisfied	65 (15.7%)	2 (0.5%)	295.497152	0.009
	Satisfied	232 (55.9%)	14 (3.4%)		
	Dissatisfied	232 (55.9%)	72 (17.3%)		
	Very dissatisfied	0 (0.0%)	21 (5.1%)		
	Total	306(73.7%)	109 (26.3%)		
Benefits	Problems	44 (10.6%)	7 (1.7%)	4.720961	0.019
	Obtaining Benefits	262(63.1%)	102 (24.6%)		
	Total	306 (73.7%)	109 (26.3%)		

**Age of children and main CAMs therapies you have utilized for the coughing child**

**Crosstabulation**

		<b>Herbal</b>	<b>Honey</b>	<b>Black seed oil</b>	<b>Camel milk boiled</b>	<b>I have never used</b>	<b>χ<sup>2</sup>-value</b>	<b>P-value</b>
Age of children	0-6 months	4 (1.0%)	1(0.2%)	7(1.7%)	10(2.4%)	8(1.9%)	26.713 <sup>a</sup>	0.820
	7-12 months	2(0.5%)	3 (0.7%)	9(2.2%)	13(3.1%)	4(1.0%)		
	1-3 Years	15(3.6%)	24(5.8%)	34(8.2%)	74(17.8%)	54(13.0%)		
	4-6 Years	7(1.7%)	15(3.6%)	16(3.9%)	35(8.4%)	20(4.8%)		
	7-12 Years	7 (1.7%)	4(1.0%)	9(2.2%)	15(3.6%)	18(4.3%)		

According to the table 4.9 the association between the prevalence rate of complementary and alternative medicine (CAM) and the occupation of the respondents. the findings indicate that the largest proportion of respondents, 138 (33.3%), are housewives. In addition, there is a notable association between the prevalence rate of CAM and occupation, as evidenced by a chi-square ( $\chi^2=613.2$ ) with a p-value of 0.039. the correlation between the prevalence rate of complementary and alternative medicine (CAM) usage and the occurrence of coughing in children among the respondents. The results indicate that the majority of respondents, specifically 237 individuals (57.1%), reported having coughing children. Furthermore, a statistically significant association was observed between the prevalence rate of CAM and coughing children, as indicated by a chi-square ( $\chi^2=24.6$ ) with a P-value 0.000001. the association between the prevalence rate of complementary and alternative medicine usage and the acquisition of traditional therapy among the participants. The findings indicate the majority of participants, 169(40.7%), expressed satisfaction. Furthermore, a strong association was observed (statistically significant) between the frequency of using complementary and alternative medicine and the use of traditional treatment, as evidenced by a chi-square test, ( $\chi^2=322.80$ ) with a P-value of 0.009. the correlation between the prevalence rate of

complementary and alternative medicine usage and the acquisition of benefits among the participants. The results show that 262(63.1%) of the participants were receiving benefits. Additionally, a strong association was seen between the rate of complementary and alternative medicine (CAM) usage and receiving benefits, as confirmed by a chi-square test ( $\chi^2=4.720961$ ) with a P-value of 0.019. the correlation between the main CAMs therapies you have utilized for the coughing child and age of your child 34(8.2%) Camel milk boiled with black pepper the results show not significant by a chi-square test ( $\chi^2=26.713^a$ ) with a P-value of 0.820.

## CHAPTER V

### 5.0 Findings and Discussions

#### 5.1 Prevalence of Complementary and Alternative Medicine Usage

This study opted for the Prevalence of complementary and alternative medicine usage Among Coughing Children in Abdudwak, Somalia 74%. This is similar to a previous investigation carried out. This analysis revealed fascinating findings, some of which align with a figure that is lower than the 77.5% reported in Nigeria. (Duru.et.al, 2016). A significant proportion of individuals in impoverished nations, approximately 80%, continue to rely on traditional medicine. Herbal medicine is extensively utilized as a commodity, resulting in a lucrative business that generates substantial profits. (WHO, 2010). Cameroon's rate of complementary and alternative medicine, treatment is lower compared to my data 68.5%. (Ayima.et.al, 2021). A comprehensive investigation indicated that 58.2% of individuals living in Sub-Saharan Africa were using CAM. (James.et.al, 2019.) Less than Ethiopia the incidence of traditional medicine usage was 70.1%. (Shambel.et.al, 2022). The primary factors that influence the usage of alternative medicine among asthma patients are their personal beliefs and positive previous experiences, as it is perceived as a comprehensive and harmless method. According to a survey, in Turkey, less than, 79% of individuals who use complementary and alternative medicine report a significant improvement in their general well-being after using it. (Yildiz, and Yavuz, 2021). In Kenya Around 64% of the patients used complementary and alternative medicine in an effort to enhance their condition. Herbal medicine was the most commonly used kind of complementary and alternative medicine. (Ong'udi.et.al, 2019). According to the research, in Uganda proportion of individuals in, specifically 68%, relied on traditional medicine. on traditional medicine as their primary approach for treating any illness. Traditional therapies employed readily available and cost-effective botanicals. Traditional medicine was not widely utilized due to the geographical distance between individuals and healthcare institutions, as well as the high associated expenses. (Logiel.et.al, 2021).

## **5.2 History of Coughing Children**

Based on the data shown, the study found that the majority of parents reported that their children experienced rare coughing 223, (53.70%), occasional coughing 145 (34.90%), frequent coughing 30, (7.20%), and very frequent coughing 17, (4.10%). a similar study (Jurca.et.al, 2017)The child exhibited a higher frequency of coughing compared to their peers. Specifically, they coughed when they were ill 69% of the time, coughed without being ill 34% to 55% of the time, and coughed at night 25% of the time.

## **5.3 Duration of cough in children**

Data presented it is evident that most parents of children reported the durations of coughing: 236 (57%) experienced coughing for one week, 141 (34%) had coughing for several weeks, 31 (7%) experienced coughing for one month, and only 7 (2%) experienced coughing for more than one month. To compare similar data was obtained by. (Thavagnanam and Shields, 2013). Coughing commenced after a period of 1-2 days characterized by fever and malaise. The coughing in all children stopped within a period of 20 days, with a median duration of 5 days. Studies on acute cough in young children indicate that 50% of cases recover within 10 days, 90% recover within 3 weeks, and the remaining 10% recover within 3 to 4 weeks, a recent comprehensive study revealed that 25% of individuals with acute cough remained unwell even after a duration of 2 weeks.

## **5.4 Cough condition of children**

According to the results presented a notable percentage of parents (70.80%) indicated that their children had coughing, although a lower proportion (29.20%) reported having healthy children without coughing symptoms. To compare similar data by (Bergmann.et.al, 2021) Acute coughs are primarily caused by bronchitis (33.3%) and upper respiratory tract diseases (62.4%), which are the most prevalent factors. Most persons with subacute or chronic coughs are commonly diagnosed with either pertussis (37.2%), bronchial asthma (up to 50.4% if the cough persists for more than three weeks), or recurrent infections of the respiratory tract (27.7%). Highly rare are severe illnesses such as tuberculosis, pneumonia, or croup. (Bergmann.et.al, 2021).

### **5.5 CAM usage for the past two weeks**

Based on the data shown in the majority of parents reported that 250 (60.20%) had received complementary and alternative medicine (CAM) in the last two weeks, whereas only 165 children (39.80%) did not use CAM. According to similar research in Ethiopia last year, 71% of parents utilized traditional medicine to treat their children. (Asrat.et.al, 2020).

### **5.6 Main CAM utilized for the coughing children**

Based on the data in it is clear that a significant number of parents, specifically 147(35.4%,) reported utilizing Camel milk infused with black pepper as a remedy for their children. In contrast, 104 (25.1%) stated that they had never used any of the mentioned therapies. Furthermore, a total of 18% of parents, equivalent to 75 individuals, acknowledged using Black seed oil, while 47 (11%) opted for alternative herbal medicines. Interestingly, only 7(1.7%) reported using all of them. Related research was obtained (Mohammadabadi, 2020) by the health advantages of camel milk are the nutritional value of camel milk is strongly influenced by its protein level, making it unique. The absence of  $\beta$ -lacto globulin in camel milk may make it inadequate. A substitute for authentic breast milk and Camel milk contains significant amounts of vitamins C, calcium, and iron. (Mohammadabadi, 2020). Related research was compared (Sewara.et.al., 2019). Data of black seed oil the seed has a wide array of applications in both nutrition and medicine. It can be paired with honey and consumed with toast, tea, or coffee. Furthermore, it can also function as a decorative topping for salads. The oil is tightly packed to ensure its suitability for consumptions.

### **5.7 Purposes for usage of traditional treatments**

Referring to data the majority of parents said that 205 (49.40%) used complementary and alternative medicine (CAM) for treating sickness, 100 (24.1%) had never used CAM, 74 children (17.80%) used CAM for preventing illness, and 24 children (5.8%) used CAM for other purposes. Out of all the cures, only 12 (2.90%) utilized complementary and alternative medicine (CAM) to promote health. Similar research obtained by (Jarvis, 2022). Many individuals choose complementary and alternative medicine because they

perceive it to be more inherent. Many people believe that the holistic approach is more effective for their needs.

### **5.8 Reasons for using CAM in coughing children**

Based on the data the majority of parents, specifically 233 (56.10%), Cultural/traditional beliefs, 100 (24.1%) have never utilized complementary and alternative medicine (CAM) for their children due to cultural or traditional beliefs. 28 (6.7%) have used CAM because they lacked access to conventional medicine. 19 (4.70%) have turned to CAM because they were dissatisfied with conventional treatments. 11 (2.70%) believed that CAM is a safer option. 16 (3.9%) have used CAM for a combination of reasons. Only 8 (1.90%) have chosen CAM because it is less expensive. To compare research obtained by Ethiopia, (Hailu.et.al, 2020 ). The results, 85.9% of parents used traditional medicine (TM) usage with their children.

### **5.9 Knowledge acquisition of CAM used in coughing children**

Data it can be observed that the largest proportion of parent respondents (41.70%) received information about CAM from their family or friends. A smaller percentage (20.20%) heard about it from a local healer, while 23.9% admitted to not having any knowledge about CAM. Also (7.20%) obtained information from the Internet, and an even smaller percentage (4.1%) heard about it from a medical professional. Interestingly, only 2.90% of respondents reported receiving information from all of these sources.

Similar research obtained in Saudi Arabia, (Alazmi and Alhamad, 2020) Over 50% of the research participants acquired knowledge about the CAM through their social and familial connections.

### **5.10 Satisfaction with CAM used in coughing children**

Looking at the data, it can be observed that a significant proportion of parents expressed their opinions regarding their children's use of CAM. Specifically, 246 (59.3%) reported being satisfied with CAM usage, 67(16.1%) very satisfied, 81(19.5%) dissatisfied, and 21 (5.1%) reported being very dissatisfied with CAM usage. In a similar study, The CAM received high praise from patients and their families, as indicated by the average treatment satisfaction ratings of 92%. (Phillips.et.al, 2014). Other similar research satisfaction of CAM was 84%. (Tangkiatkumjai.et.al, 2020).



### **5.11 CAM Benefits and Problems**

Based on the findings in a significant proportion of parents, specifically 364 (88%), reported that their children were benefiting from the utilization of complementary and alternative medicine (CAM). In contrast, just 51 parents (12.3% of the total) indicated that their children were experiencing problems related to the usage of CAM. Similar research was found by (Jarvis, 2022). Compared to conventional treatments, complementary and alternative medicine may appear more natural and encompassing. Nevertheless, Complementary and Alternative Medicines frequently exhibit adverse side effects, frequently exhibit limited efficacy in alleviating symptoms, and occasionally fail to address the underlying cause. (Jarvis, 2022).

### **5.12 factors Associated with CAM for coughing children in Somalia**

The correlation between the prevalence rate of complementary and alternative medicine and the occupation of the individuals surveyed. The results suggest that the majority of participants, specifically 138 (33.3%), are engaged in the occupation of being a housewife. Furthermore, there is a significant correlation between the occurrence rate of complementary and alternative medicine and occupation, as indicated by a p-value is 0.039, while the research related to date abated by. (Oren-Amit.et.al, 2017). The socio-demographic indicators for our population revealed no disparities between individuals who utilize complementary and alternative medicine and those who abstain from it. However, there were variations in the level of belief in complementary and alternative medicine among individuals ( $p = 0.018$ ). (Oren-Amit.et.al, 2017). Displays the association between the prevalence rate of complementary and alternative medicine usage and the occurrence of coughing in children among the respondents, the results indicate that a substantial majority of the participants, specifically 237 individuals (57.1%), reported the occurrence of children with coughing symptoms. Furthermore, a notable association was discovered between the prevalence rate of complementary and alternative medicine (CAM) and children who suffer from coughing. The link was established by a P-value of 0.000001. To comparison-related research obtained by (Jurca.et.al., 2017) 76.4% of the research participants indicated that they had utilized complementary and alternative medicine at some point in the past. The recent worsening of the child's asthma revealed a connection between the child's utilization of complementary and alternative medicine, the

child's younger age, and the seriousness of the illness, as well as the usage of such medicine by other family members. (Jurca.et.al., 2017).

The data indicates the relationship between the frequency at which complementary and alternative medicine is used and the acceptance of traditional therapy among the participants. According to the findings, a substantial majority of the participants, particularly 169 (40.7%), expressed a sense of satisfaction. Furthermore, a strong correlation was observed (with statistical significance) between the frequency of using complementary and alternative medicine and the use of conventional treatment. This correlation was proved by a chi-square test, yielding a  $\chi^2$  value of 322.80 and a P-value of 0.009. In similar research, obtained by (Bahall, 2017). the majority of patients (93.6%) expressed satisfaction with CAM, Nevertheless, a significant majority of 78.8% of those patients refrained from disclosing their utilization of complementary and alternative medicine (CAM) to their healthcare provider. (Bahall, 2017). Demonstrates the relationship between the frequency of complementary and alternative medicine usage and the attainment of positive outcomes among the participants, the data reveals that 262 persons, accounting for 63.1% of the total, were getting benefits, Furthermore, a significant correlation was observed between the frequency of utilizing complementary and alternative medicine (CAM) and the acquisition of advantages, as indicated by a chi-square test ( $\chi^2$ -4.720961) with a P-value of 0.019. to Compared reach obtained by (Jarvis, 2022). Complementary and alternative medicine (CAM) may seem more natural and all-encompassing than traditional therapy, yet it can lead to negative reactions, often falls short of relieving symptoms, and occasionally fails to address the underlying problem. (Jarvis, 2022).

## CHAPTER VI

### 6.0 Conclusion and Recommendations

#### 6.1 Conclusions

A significant proportion of the population in Africa heavily relies on Complementary and Alternative Medicine. Individuals afflicted with chronic diseases, such as cough, are more inclined to employ complementary and alternative medicine, the primary factor contributing to mortality in individuals worldwide with pediatric cough is the lack of compliance with treatment protocols. study investigates parental perspectives regarding the utilization of complementary and alternative medicine in children 0-12 years of age in Somalia. This study investigates the prevalence and determinants of Complementary and Alternative Medicine (CAM) utilization among coughing children in Abdudwak, Somalia, focusing on local health practices and contributing to integrative healthcare strategies, highlighting the growing popularity of Complementary and Alternative Medicine in culturally diverse communities. The Prevalence of Complementary and Alternative Medicine for coughing children in Abdudwak, Somalia was (74%). the parents had administered traditional therapies to their children on several occasions, primarily as a temporary solution until they could access medical assistance. The main complementary and alternative medicine utilized for the coughing children included. 147(35.4%) utilized Camel milk boiled with black pepper, 75 (18%) used Black seed oil, 47(11%) used Honey, 35(8.4%) used other herbal remedies, the main application of complementary and alternative medicine was for the treatment of wheezing in children suffering from upper respiratory tract infections. The study identified diversity, accessibility, and availability as the primary factors influencing the utilization of complementary and alternative medicine. To avoid the effects of cough conditions in context of child health parents utilize traditional therapies.

#### 6.2 Recommendations

Additional research is necessary to examine the management of cough to fill the exist gaps, such as the consistence and the suitable dosage to be taken, particularly concerning complementary and alternative medicine (CAM), One can acquire further information regarding the efficacy of these often-used complementary and alternative medicine approaches in treating coughing children, along with their potential negative

consequences. The majority of individuals affected have utilized complementary and alternative medicine. Regardless, a comprehensive healthcare system should prioritize the proper utilization of traditional medications.

### **6.3 Recommendations According to Findings**

A majority of the study participants 306(74%) reported that the utilization of CAM is facilitated a complete recovery but there was also 12% of the respondents indicated that Complementary and alternative medicine has some problems and that need for further studies. The investigator suggested offering parents and other caretaker's detailed insights about the advantages and disadvantages of complementary and alternative medicine for treating cough conditions in context of kids. Before pursuing any alternative or complementary medicine, it is crucial to underscore the significance of seeking advice from a healthcare expert or Doctor; Identify and record the traditional herbal medicines used by the community to alleviate congestion; Engage in cooperation with medical professionals to incorporate efficacious and secure herbal treatments into the healthcare systems; Encourage the implementation of basic sanitation practices, such as regular hand washing and following a healthy diet; to prevent respiratory infections that can cause wheezing; Inform the local community about the need of immunization in preventing common infectious causes of children's cough; educate medical professionals on incorporating specific complementary and alternative medicine (CAM) treatments into routine care, It is recommended to carefully evaluate evidence-based complementary and alternative medicine treatments, such as herbal therapies that have shown effectiveness and safety; Facilitating relationships between CAM specialists and local medical practitioners will guarantee the provision of suitable recommendations, Encourage research efforts to assess the effectiveness and safety of traditional therapies for wheezing in adolescents; to create a library that showcases cultural diversity, it is necessary to document traditional knowledge and regional practices.

## **6.4 Recommendations for Further Research**

This thesis explores different viewpoints on exceptional occurrences related to the utilization of alternative and complementary medicine in the treatment of coughing children. The results of this study suggest that future research should:

- When evaluating the effectiveness of best-case scenario therapy, it is crucial to consider both the well-being of the patient and their continued survival in the future.
- Conduct a study on an alternative categorization framework for complementary and alternative medicine practices to better align with the perspectives of their experts.
- The objective of this study is to examine the connections between the use of various types of supplementary and alternative treatments.
- Examine the associations between the intensity of the respiratory issue and the appropriateness of additional and alternative medications.
- Examine the potential dangers linked to the utilization of alternative and complementary medicine, together with the methods employed to recognize and record these dangers.
- Incorporating long-term research on the utilization of complementary and alternative medicine is necessary, particularly an investigation into the relationship between initial motives for embracing CAM and subsequent ongoing use. The user did not provide any text. Propose actionable measures, such as improving healthcare services.
- Examine the dependent variables used in studies evaluating complementary and alternative medicine to encompass the diverse range of advantages stated by practitioners of these therapies.
- To fully use the advantages of complementary and alternative medicine, it is essential to construct a comprehensive framework for its advancements.

## References

Galway and Shields.(2019). The child with an incessant dry cough.

*<https://doi.org/10.1016/j.prrv.2018.08.002>*, p. 2.

Abdullahi. (1988). Somali Traditional Healers: Role and Status.

*<https://www.somalimedicalarchives.org/media/attachments/2021/07/26/19.-ahmed.pdf>*, p. 1.

Abdullahi. (2011,). TRENDS AND CHALLENGES OF TRADITIONAL MEDICINE IN AFRICA. *DOI:10.4314/ajtcam.v8i5S.5*, p. 1.

Ai-Ping.et.al. (2004,). Theory of traditional Chinese medicine and therapeutic method of diseases. *doi: 10.3748/wjg.v10.i13.1854*, p. 1.

Alazmi and Alhamad. (2020). Attitudes and practices of complementary and alternative medicine among patients attending primary care center in Saudi Arabia: A prospective cross-sectional study. *doi: 10.4103/jfmprc.jfmprc\_871\_20*, p.2.

Asrat.et.al. (2020). Factors associated with parental traditional medicine use for children in Fagita Lekoma Woreda Northwest Ethiopia: A cross-sectional study. *doi:10.1177/2050312120978008*, p. p.2.

Ayima.et.al. (2021). Prevalence and Predictors of Traditional, Complementary/Alternative Medicine Use, and Types of Herbal Remedies used for COVID-19 in the South West Region of Cameroon. *DOI: 10.21203/rs.3.rs-847310/v1*, p. p.14.

Ayima.et.al. (2021,). Prevalence and Predictors of Traditional, Complementary/Alternative Medicine Use, and Types of Herbal Remedies used

- for COVID-19 in the South West Region of Cameroon. *DOI: 10.21203/rs.3.rs-847310/v1*, p. 1.
- Ayima.et.al. (2021). Prevalence and Predictors of Traditional, Complementary/Alternative Medicine Use, and Types of Herbal Remedies used for COVID-19 in the South West Region of Cameroon. *DOI: 10.21203/rs.3.rs-847310/v1*, p. p.14.
- Bahall. (2017). Prevalence, patterns, and perceived value of complementary and alternative medicine among cancer patients: a cross-sectional, descriptive study. *DOI 10.1186/s12906-017-1853-6*, p. p.1.
- Bakhotmah, &. (2010, ). Self-reported use of complementary and alternative medicine (CAM) products in topical treatment of diabetic foot disorders by diabetic patients in Jeddah, Western Saudi Arabia. *doi: 10.1186/1756-0500-3-254*, p. 2.
- Bergmann.et.al. (2021). Coughing children in family practice and primary care: a systematic review of prevalence, aetiology and prognosis. <https://doi.org/10.1186/s12887-021-02739-4>, p. p.2.
- Bjerså.et.al, K. E.-V. (2012). Knowledge about complementary, alternative and integrative medicine (CAM) among registered health care providers in Swedish surgical care: A national survey among university hospitals. *DOI: 10.1186/1472-6882-12-42*, p. p.3.
- Calcagni. (2019,). A systematic review of complementary and alternative medicine in oncology: Psychological and physical effects of manipulative and body-based practices. *DOI: 10.1371/journal.pone.0223564*, p. 1.
- Christopher. ( 2008,). Classification of complementary and alternative medical practices. <https://www.cfp.ca/content/cfp/54/11/1570.full.pdf>, p. 1.

- Conrady and Bonney. (2017). Patterns of complementary and alternative medicine use and health literacy in general practice patients in urban and regional Australia. <https://www.racgp.org.au/getattachment/cd61b113-7f0d-4196-ac8c-41553f4729b0/Patterns-of-complementary-and-alternative-medi-2.aspx>, p. p4.
- Diorio.et.al. (2017). Global Use of Traditional and Complementary Medicine in Childhood Cancer: A Systematic Review. *doi: 10.1200/JGO.2016.005587*, p. P.1.
- Duru.et.al. (2016). Combined Orthodox and Traditional Medicine Use among Households in Orlu, Imo State, Nigeria: Prevalence and Determinants. *DOI: 10.12691/jpm-4-1-2*, p. 2.
- Erchafo.et.al. (2022,). Knowledge, attitude and practice towards complementary and alternative medicine and associated factors among health care professionals in public health facilities of Hadiya Zone, South Ethiopia. <https://doi.org/10.1371/journal.pone.0274333>, p. P.2.
- Eteraf-Oskouei and Najafi, . (2012). Traditional and Modern Uses of Natural Honey in Human Diseases: A Review. *Iranian Journal of Basic Medical Sciences*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3758027/pdf/ijbms-16-731.pdf>, p.1.
- Fadime.et.al. (2021). Use of Complementary and Alternative Medicine in Pediatric Respiratory Diseases. (P. R. Fadime Ustuner Top, Ed.) *DOI: 10.1097/HNP.0000000000000434*, p. 1.
- Fasinu, &. (2012). An overview of the evidence and mechanisms of herb–drug interactions. <https://doi.org/10.3389/fphar.2012.00069>, p. 1.
- Ferdjallah and Hassan. (2021,). Traditional Somali Diaspora Medical Practices in the USA: A Scoping Review. [tps://doi.org/10.1007/s10943-021-01456-7](https://doi.org/10.1007/s10943-021-01456-7), p. 5.



- Ferdjallah&Hassan. (2021). Traditional Somali Diaspora Medical Practices in the USA: A Scoping Review. *ttps://doi.org/10.1007/s10943-021-01456-7*, p. 5.
- Galbraith.et.la, N. (2018 ). A systematic review of the traits and cognitions associated with use of and belief in complementary and alternative medicine (CAM). *DOI:10.1080/13548506.2018.1442010*, p. 1.
- Getnet.et.l. (2019). Determinants of Patient Delay in Diagnosis of Pulmonary Tuberculosis in Somali Pastoralist Setting of Ethiopia: A Matched Case-Control Study. *doi: 10.3390/ijerph16183391*, p. 1.
- Goldman. (2014,). Honey for treatment of cough in children. *PMID: 25642485; PMCID: PMC4264806.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4264806/pdf/0601107.pdf*, p. 1.
- Goldman. (2014). Honey for treatment of cough in children. *PMID: 25642485; PMCID: PMC4264806.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4264806/pdf/0601107.pdf*, 2.
- Graham EA, D. P. (2000). Dental injuries due to African traditional therapies for diarrhea. *doi: 10.1136/ewjm.173.2.135. PMID: 10924443; PMCID: PMC1071025.*, p. 1.
- Graziano&Rosa. ( 2016, March 8). Herbal Medications. *doi:10.1001/jama.2015.19388*, p. 1.
- Grossman. (2018). Complementary and Alternative Medicine for Diabetes. *DOI:https://doi.org/10.1016/j.jcjd.2017.10.023*, p. 3.
- Hailu.et.al. (2020). Determinants of traditional medicine utilization for children: a parental level study in Tole District, Oromia, Ethiopia. *doi: 10.1186/s12906-020-02928-1*, p. p.1.

- Hasan.et.al. (2022). Semantic Knowledge Representation of Plants Used in Traditional Medicine in Somalia. *doi: 10.1109/ICSGRC55096.2022.9845138.*, p. 1.
- Hassan.et.al. (2022). Semantic Knowledge Representation of Plants Used in Traditional Medicine in Somalia. *DOI: 10.1109/ICSGRC55096.2022.9845138*, p. 3.
- Heerasing. (2019). A systematic review on black pepper (*Piper nigrum* L.): from folk uses to pharmacological applications.  
*https://doi.org/10.1080/10408398.2019.1565489*, p. P.3.
- Hon.et.al.(2018).Determinants for asthma control, quality of life and use of complementary and alternative medicine in asthmatic pediatric patients in four cities. *World J Pediatr . DO:Ihttps://doi.org/10.1007/s12519-018-0167-1*, p.2.
- Iulia.et.al., I. M. (2014 , 2014 28). What is chronic cough in children.  
*https://doi.org/10.3389/fphys.2014.00322*, p. 1.
- James.et.al. (2018). Traditional, complementary and alternative medicine use in Sub-Saharan Africa: a systematic review. *doi:10.1136/bmjgh-2018-000895*, p. 1.
- James.et.al. (2019). Traditional, complementary and alternative medicine use in Sub-Saharan Africa: a systematic review.  
*https://doi.org/10.1016/j.aimed.2019.03.214*, p. 1.
- James.et.al. (2019). Traditional, complementary and alternative medicine use in Sub-Saharan Africa: a systematic review.  
*https://doi.org/10.1016/j.aimed.2019.03.214*, p. 1.
- James.et.al. (2018;). Traditional, complementary and alternative medicine use in Sub-Saharan Africa: a systematic review. *NIH doi: doi: 10.1136/bmjgh-2018-000895. PMID: 30483405; PMCID: PMC6231111.*, 2.

- Jarvis, S. (2022). Complementary and Alternative Medicine. *patient.info/treatment-medication/complementary-and-alternative-medicine-cam*, p. p.2.
- Jeon.et.al., a. J.-H. (2022). Complementary and alternative medicine (CAM) interventions for COVID-19: An overview of systematic reviews. <https://doi.org/10.1016/j.imr.2022.100842>, p. P.2.
- Jurca.et.al. ( 2017). Prevalence of cough throughout childhood: A cohort study. <https://doi.org/10.1371/journal.pone.0177485>, p. p.2.
- Jurca.et.al. (2017). Prevalence of cough throughout childhood: A cohort study. <https://doi.org/10.1371/journal.pone.0177485>, p. p.1.
- Kathryn. ( 2020 ). Biologically-Based Complementary and Alternative Medicine (CAM) Use in Cancer Patients: The Good, the Bad, the Misunderstood. <https://doi.org/10.3389/fnut.2019.00196>, p. 2.
- Kazeem.et.al. (2008). Use of complementary and alternative medicines for children with chronic health conditions in Lagos, Nigeria. <https://doi.org/10.1186/1472-6882-8-66>, p. 1.
- Kisling, L. A., & Stiegmann, R. A. (2022). Alternative Medicine. <https://www.ncbi.nlm.nih.gov/books/NBK538520/>, p. 1.
- Logiel.et.al. (2021). Prevalence and socio-economic factors affecting the use of traditional medicine. *African Health Sciences*, doi: 10.4314/ahs.v21i3.52, p.1.
- Lucas.et.al. (2018). : Complementary and alternative medicine utilisation for the management of acute respiratory tract infection in children: A systematic review. *Complementary Therapies in Medicine*, <https://doi.org/10.1016/j.ctim.2018.03.001>, p.2.

- Mohammadabadi. (2020). Camel Milk as an Amazing Remedy for Health Complications:  
*file:///C:/Users/hp/Desktop/Camal%20milk/20166aa008491554.pdf*, p. 1.
- Mohammadabadi. (2020). Camel Milk as an Amazing Remedy for Health Complications:  
*file:///C:/Users/hp/Desktop/Camal%20milk/20166aa008491554.pdf*, p. 1.
- Mohammadabadi. (2020). Camel Milk as an Amazing Remedy for Health Complications:  
A Review. DOI: 10.37077/25200860.2020.33.2.11, p. 1.
- Nigussie.et.al. (2022). Practice of Traditional Medicine and Associated Factors Among  
Residents in Eastern Ethiopia: A Community-Based Cross-Sectional Study.  
<https://doi.org/10.3389/fpubh.2022.915722>, p.1.
- Ong’udi.et.al. (2019). tudy of the use of complementary and alternative medicine by  
cancer patients at Kenyatta National Hospital, Nairobi, Kenya. Journal of  
Oncology Pharmacy Practice. Kenya. Journal of Oncology Pharmacy  
Practicedoi:10.1177/1078155218805543, p.1.
- Oren-Amit.et.al, A. (2017 ). Complementary and alternative medicine among hospitalized  
pediatric patients. <https://doi.org/10.1016/j.ctim.2017.02.002>, p. p.2.
- Phillips.et.al. (2014). Does use of the Cough Assist Machine reduce respiratory  
morbidity for children with neuromuscular disease.  
*file:///C:/Users/hp/Downloads/Phillips%20(2).pdf*.
- Qianlai, G. N. (2016). Complementary and Alternative Medicine Use at a Comprehensive  
Cancer Center. DOI: 10.1177/1534735416643384, p. 1.
- Rebecca. (2010). Patterns of Mind-Body Therapies in Adults with Common Neurological.  
DOI: 10.1159/000322949 , p. 1.
- Sandra Lucas, M. J. (2019). Complementary And Alternative Medicine Practitioner’s  
Management Of Acute Respiratory Tract Infections In Children – A Qualitative

- Descriptive Study. *Journal of Multidisciplinary Healthcare*, DOI: 10.2147/JMDH.S216687, p.1.
- Sandra.et.al. (2022). Complementary And Alternative Medicine Practitioner's Management Of Acute Respiratory Tract Infections In Children – A Qualitative Descriptive Study. <https://doi.org/10.2147/JMDH.S230845>, p. 1.
- Sewara.et.al., S. B. (2019). Structural Characterization, Antimicrobial Activity, and In Vitro Cytotoxicity Effect of Black Seed Oil. <https://doi.org/10.1155/2019/6515671>, p. 2.
- Shambel.et.al. (2022). Traditional medicine is highly valued around the world, but it seems to be having a big problem. The fact that there isn't a standard for judging whether a patient should be handled with traditional medicine is a big problem. There is not a lot of informa. <https://doi.org/10.3389/fpubh.2022.915722>, p. 1.
- Shields and Thavagnanam, (2013). The difficult coughing child: prolonged acute cough in children. doi: 10.1186/1745-9974-9-11, p. p.1.
- Shields and Thavagnanam. (2013,). The difficult coughing child: prolonged acute cough in children. <http://www.coughjournal.com/content/9/1/11>, p. P.2.
- Swelum.et.al. (2021,). *Nutritional, antimicrobial and medicinal properties of Camel's milk: A review*, doi: 10.1016/j.sjbs.2021.02.057
- Tangkiatkumjai.et.al. (2020). Potential factors that influence usage of complementary and alternative medicine worldwide: a systematic review. <https://doi.org/10.1186/s12906-020-03157-2>, p. 2.
- Thavagnanam and Shields. (2013). The difficult coughing child: prolonged acute cough in children. doi: 10.1186/1745-9974-9-11, p. p.1.

- WHO. (2005). *WHO global atlas of traditional, complementary and alternative medicine*.  
<https://www.who.int/publications/i/item/9241562862>.
- WHO. (2010). *african traditional medicine*. The African Health Monitor:  
<file:///C:/Users/hp/Desktop/CAM%20LETRETURE/ahm-special-issue-14.pdf>.
- WHO. (2010). *african traditional medicine*. The African Health Monitor:  
<file:///C:/Users/hp/Desktop/CAM%20LETRETURE/ahm-special-issue-14.pdf>.
- WHO. (2019). *WHO global report on traditional and complementary medicine*.  
<https://apo.who.int/publications/i/item/978924151536>: ISBN 978-92-4-151543-6.
- WHO. (2020). *WHO, Africa CDC push for COVID-19 traditional medicine research in Africa*. <https://www.who.int/news-room/feature-stories/detail/who-africa-cdc-push-for-covid-19-traditional-medicine-research-in-africa>.
- Wopker.et.al., S. S. (2020). Complementary and alternative medicine in the treatment of acute bronchitis in children: A systematic review.  
<https://doi.org/10.1016/j.ctim.2019.102217>, p. 3.
- Yildiz and Yavuz. (2021). Complementary and alternative medicine use in children with asthma. *scienceDirect*, <https://doi.org/10.1016/j.ctcp.2021.101353>, p.1.
- Yildiz, and Yavuz. (2021). Complementary and alternative medicine use in children with asthma. <https://doi.org/10.1016/j.ctcp.2021.101353>, p. P.2.
- Yussuf, M. (2023). Somalis' love for black seed oil. <https://olongoafrica.com/somalis-love-for-black-seed-oil/?print=pdf>, p. 1.
- Zümrüt-Şahin and Mutl- Şahin. ( 2013 ). The View of Patients with Choronic Obstructive Pulmonary Disease (COPD) on Complementary and Alternative Medicine (CAM) in Eastern Turkey. *DOI:10.4314/ajtcam.v10i4.19*, p. P.2.

## **8. Appendices**

### **Appendix A: Research Questionnaire**

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#### **Prevalence and Determinants of Complementary and Alternative Medicine Usage for Coughing Children in Abudwak, Somalia**

##### **Dear Sir/Madam**

I invite you to participate in a research study entitled Prevalence and Determinants of Complementary and Alternative Medicine Usage for Coughing Children, in Abudwak City, Galmudug State of Somalia. I am currently a student of graduate study in the Department of Nursing at Near East University. I am doing research for my master's Thesis. Thank you for participating in this study. This questionnaire aims to assess the prevalence and determinants of Complementary and Alternative Medicine usage for children with cough in Abudwak, Somalia. Your responses will contribute valuable information to the understanding of Complementary and Alternative Medicine practices in this specific context. Please answer the following questions to the best of your knowledge and experience. Your answers will be kept confidential and will only be used for the study. The academic researchers are the only ones who will know what you put in this form if you give your permission to take part, and if you can quit this study at any time. It should take approximately 10 minutes to complete. If you agree to participate in this Research, please give your consent and cooperate with the interviewer.

Thank you for your assistance in this important endeavor.

Yours Sincerely,

Hassan Ahmed Dirie





7	Your family's Monthly Income?	A) Income is equal to expenditures B) Income is much more than expenditures C) Income is less than expenditures	
<b>Section B: Demographic Variable of the Child</b>			
8	What Is the age of your child?	A) 0-6 Months B) 7-12 Months C) 1-3 Years D) 4-6 Years E) 7-12 Years	
9	what is the sex of your child?	A) Male	B) Female
10	Breastfeeding of the child	A) Exclusive B) Non-Exclusive	
11	Educational Enrollment	A) Enrolled B) Unenrolled	
<b>Section 2: Coughing and Health History</b>			
12	What is the frequency of cough recurrence in your child?	A) Rarely (once a month or less) B) Occasionally (2-3 times a month) C) Frequently (once a week) D) Very frequently (several times a week)	
13	What is the duration of your child's coughing?	A) One week B) Several weeks C) One month C) More than one month	

14	Has the child had a similar cough condition?	A) Yes B) No
15	Has the child received any complementary and alternative medicine therapies?	A) Yes B) No
16	Have you given the child any complementary and alternative medicine for coughing in the past two weeks?	A) Yes B) No
17	What are the main Complementary and Alternative Medicine therapies you have utilized for the coughing child?	A) Herbal remedies B) Honey C) Black seed oil D) Camel milk boiled with black pepper E) A and B F) B and C G) C and D H) All of them I) I have never used J) Others (please specify) _____
18	Have you utilized complementary and alternative medicine (CAM) for any of the following purposes:	A) preventing illness B) treating illness C) promoting health D) A and B E) All of them F) I have never used CAM G) Other _____

19	What are the reasons for using complementary and alternative medicine therapies in coughing children?	A) Cultural/traditional beliefs. B) Lack of access to conventional medical facilities. C) Dissatisfaction with conventional treatment outcomes. D) Complementary and Alternative Medicine is perceived to be safer. E) Less expensive F) A and B G) C and D H) A and E I) All of them J) I have never used CAM K) Others (please specify). _____	
20	How did you acquire that complementary and alternative medicine therapies are useful for coughing children?	A) Family or friends. B) Local healer C) Medical person. D) Internet source E) A and B F) C and D A) all of them G) I don't know G) <i>Others (please specify).</i> _____	
21	How satisfied are you with the results of the Complementary and Alternative Medicine therapies used for the coughing child?	A) very satisfied. B) Satisfied C) Dissatisfied D) Very dissatisfied	
22	Have you had any problems with using complementary and alternative medicine on the coughing child?	A) Yes	B) No

## Appendix B: Ethical Approval Letter

JAMHUURIYADDA FEDERAL KASOOMAALIYA

Dowlad Goboleedka Galmudug

Wasaaradda Caafimaadka & Daryeelka Bulshada

Xafiiska Agaasimaha Guud



Somali Federal Republic

Galmudug State of Somalia

Ministry of Health & Human Service

Office of Director General (DG)

جمهورية الصومال الفيدرالية

حكومة إقليم جلمدج

وزارة الصحة ورعاية

المجتمع

Ref: MoH/GMS/DGO-0267-2023

Date: 7<sup>th</sup> September 2023

### RESEARCH & ETHICS REVIEW COMMITTEE

#### ETHICAL APPROVAL

This is to certify that the proposal submitted by:

Principal investigator: Hassan Ahmed Dirie

#### Full thesis title

Mr. Hassan intends to conduct research for his M.Sc. thesis proposal entitled, Prevalence and determinants of CAM usage in coughing children at Abdudwak City for Midnimo and Jazeera Hospitals in Galmudug State of Somalia.

To be undertaken in Somalia

Starting Date: September 01<sup>th</sup> 2023

Finishing Date: November 30<sup>th</sup> 2023

For the proposed period of research

Has been approved by the Research & Ethics Committee at the Galmudug Ministry of Health & Human Services on September 01<sup>th</sup>, 2023.

Director of Policy & Planning

Director of Admin & Finance

Director General (DG)



MINISTRY OF HEALTH, GALMUDUG STATE

DUSAMAREB, SOMALIA

## Appendix C: Research Clearance Permit Letter



Ref: DGM/MOECHE/DG/0167/23

Date: September 10<sup>th</sup>, 2023

TO WHOM IT MAY CONCERN

Subject: Research Clearance Permit.

This Certifies that **Mr. Hassan Ahmed Dirie**, (Address) Near East University, Nicosia, has been permitted to conduct an M.S.c degree at Midnimo and Jazeera Hospitals in Galmudug. the topic: Prevalence and determinants of Complementary and Alternative Medicine (CAM) usage in coughing children at Abdudwak City in Galmudug State of Somalia. For the period of September 10th, 2023.

Sincerely

Albashir Elmi Hussein,  
Director General  
Ministry of Education, Culture and Higher Education.

Email: [Dg@moe.gm.so](mailto:Dg@moe.gm.so) Mobile: +252615690779/Address: Dhusamareb- Galmudug-somalia

**Appendix D: Related photoes**



Camel Milk

Black Pepper



Black Seed Oil

Honey