



Provider Knowledge on Nutrition Information and Client Acceptance Towards Services Offered at Alternative Health Care in Dar es Salaam Tanzania

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Abstract

The integration of complementary health care services and alternative health care providers is essential in making sure that clients obtain quality and accessible health care services in Tanzania. In order for alternative health care to play part efficiently, there must be practitioners who are knowledgeable and capable in offering quality health care services to their clients. This study assessed alternative health care services in Dar es Salaam Tanzania specifically with regard to provider knowledge on nutrition information and client acceptance from services offered. A cross-sectional survey was adopted to obtain primary data from respondents. A sample size of 450 respondents was selected by using purposive sampling (snowball was used to select 75 alternative health care providers while convenient sampling was used to select 375 clients) because the study population was unknown. Structured questionnaire was used as an instrument of data collection. Data was analysed by using SPSS version 20 to generate descriptive statistics including frequencies and percentages which have presented in tables and figures. Results show that alternative health care practitioners build their knowledge on nutrition from multiple sources of information including reading books and friends (22.7%), friends only (22.7%), reading books, internet and friends (20%), internet and friends (18.7%) and books and internet (16%). Other results show that majority of alternative health care practitioners were not sure about the use of nutrition information such use of carbohydrate during physical exercise, processed food, sedentary lifestyle, drug-nutrient interaction, vitamin B1 and K, time of eating fruits and amount of drinking water in relation to prevention and treatment of diet related diseases such as hypertension, cardiac diseases and diabetes. Also, the study revealed that clients using alternative health care services have accepted the use of alternative medicines because they perceived that traditional medicines have less side effects (86.4%), more improve of their health conditions than conventional medicines (85.6%) and accessible with lower costs (52%). This study recommends that since clients have accepted the use of traditional medicines, all alternative health care providers should be identified through mandatory registration and thereafter provided regular capacity building training from Tanzania Food and Nutrition Centre and/or other authorized institutions on how they can apply nutrition information for prevention and treatment of diet related diseases in Tanzania.

Keywords: *alternative health care providers, traditional medicines, conventional medicines, clients, nutrition information*

1. Introduction

Worldwide, information regarding to nutrition is an essential public health instrument in promoting the wellbeing of people, promoting public health, informing consumers to decide on nutritional value of food as well as make choices on nutrition need which is relevant to the health (Mike, 2014). In Tanzania, there are several media of information which are used in communicating nutritional information. Such media of information include radio, television, newspapers, magazines, cell phones, family or parents, personal experience, neighbors and oral communication (Ronald et al., 2014). There has been a growing concern of non-communicable diseases associated with dietary habits which brings a demand of relevant and accessible nutritional information. Therefore, there are increasing demands from consumers to seek information regarding nutrition which can help escape from non-communicable diseases contributed by improper consumption of diets (Hasings, 2011).

Dietary related problems referred as conditions which occur following improper eating habits including consumption of traditional foods constituting high energy but low nutrient. Also, diseases associated with improper eating are contributed by frequent consumption of unhealthy snacking while spending most of the time in sedentary lifestyle (Njelekela et al., 2015). Existence of alternative health care services in Tanzania is driven by prevalence of chronic diseases as diabetes, hypertension, cancer, cardiovascular disease and osteoporosis which are related to improper diets (Stanifer et al., 2015). According to World Health Organization, traditional or alternative medicine is the totality of knowledge, skills and practices based on the theories, beliefs and experiences which is indigenous to different culture, whether explicable or not, used in health maintenance, prevention of diseases, diagnosis, health improvement or treatment of physical and mental illness (WHO, 2008). In this regard, alternative medicine practitioners (AMP) or alternative health care providers (AHCP) referred as a person who is assured by the community as capable in using medicinal plants, animals, mineral substances and other techniques to provide health care by incorporating social, cultural and/or religious practices (Abdullah, 2011).

Approximately 80% of some African countries rely on alternative medicines as primary health care. Moreover, estimated 70% to 80% of the population in many developed countries has used some kind of alternative medicines (Lwoga and Sife, 2013). For Tanzania, it is estimated that more than 60% of the population use alternative medication (Mhame et al., 2004). Increase in eruption of communicable diseases such as malaria and tuberculosis, and life style related diseases like cancer, hypertension, cardiovascular and diabetes increased the extent of use of traditional medicine and alternative medicine. Prevalence of these diseases is associated to many nutritional problems which trigger alternative health care providers take advantage in providing nutritional information that may be missing scientific facts (Mbwambo et al., 2007). Following the increase in health problems, people are interested in health eating in order to escape such problems (Grunert and Wills, 2007). Many people have much concern about what and how they eat without causing adverse effect to their health (Petrovici et al., 2012). Therefore, increasing demand of proper eating habits and nutritional needs in escaping and healing diseases among consumers have created opportunities for alternative health care practitioners by exploiting the market potential through provision of nutritional information and health care services. While providing alternative health care services, the information and service provided may be contradictory, incomplete and biased (Mike, 2014).

Alternative health care services through traditional healers have been rapidly increasing in Tanzania while offering health care services which are very accessible, less expensive and locally available in comparison to conventional medicines. Recently, there is ever increasing

number of Alternative Health Care Providers (AHCPs) in Tanzania. Some of the famous AHCPs in Tanzania include Chinese Traditional Medicine, Homeopath and Radionics medicine (Kayombo et al., 2013). Both conventional and alternative health care services are obliged to apply their knowledge and skills to help people in healing their health problems including diet and non-diet related disorders. Since the number of alternative health care providers is keeping on increasing in Tanzania, their knowledge with regard to nutrition which they apply in healing patients is still doubtful. Furthermore, preference of alternative health care services among the clients is as well not clearly understood to policy makers and stakeholders of health sector development in Tanzania. Therefore, there is scanty of knowledge regarding knowhow of nutrition information among practitioners of alternative health care as well as lack of adequate knowledge regarding the preference of clients about usefulness of alternative health care services in Tanzania. It was the sake of this study to assess provider knowledge on nutrition information and client acceptance towards services offered at alternative health care in Dar es Salaam Tanzania. In particular, the study outputs may assist the Tanzania Food and Nutrition Center (TFNC) which is a national institution that oversee nutrition interventions in Tanzania to make appropriate strategies that can enhance the reform of alternative health care services in Tanzania.

2. Literature review

2.1 Theory of Reasoned Action

Theory of Reasoned Action (TRA) which was originated from social psychology helps researches in identifying reasons of consciously intentional behavior (Fishbein and Ajzen, 1979). The theory put forward the relationships between beliefs, attitudes, norms, intentions and behavior leading to action taking decision making. For instance, use or not using a technology (such as alternative medicine) is an outcome of making the behaviour. Such a behaviour taken often is influenced by individual attitudes. These attitudes are determined by personal beliefs and subjective norms related to an intended behaviour (Silva and Dias, 2006). According to Fishbein and Ajzen (1979) beliefs are attributes constituting the attitudes which are explained as information possessed regarding to the object and the subjective norms. Simply, it is the perception of the use about following or not following certain behaviour. Basing on this theory, the intention to use or not use the behavior is referred as observable acts (Fishbein and Ajzen, 1979). By using TRA in this study, the information about alternative medicines may determine the attitudes and perception of clients which eventually can result to either use or not use alternative health care services for healing their health related problems.

In general, TRA explains that conscious intention to use information is a result of use of attitude (positive or negative) and subjective norm referred as user perception which is originated from other people's opinion (Figure 1). According to Silva and Dias (2007) people choose to perform behaviour even though they are not agreeing with it and its outcomes so as to please some other people. People can be convinced to use alternative health care by providers through information regarding the alternative medicines. People can use alternative health care services if they perceive that alternative healing is accessible, affordable and heal their health problems. It is assumed that lack of information may create attitudes to people of not using alternative medicines since they will not be motivated by the behaviour of using such medicines.

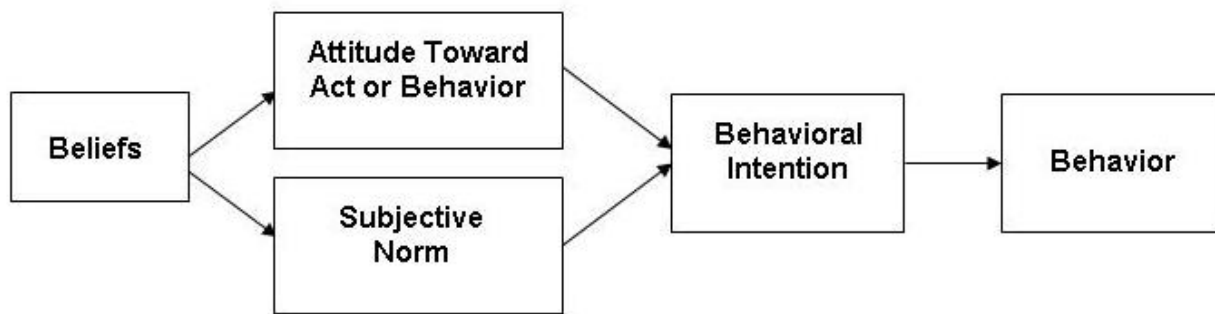


Figure 1: Theory of Reasoned Action (TRA).

Source: Fishbein and Ajzen (1975).

2.2 Use of alternative health care systems

Alternative medicine refers to any practice that is put forward as having the healing effects but it is not based on scientific evidence (Kayombo et al., 2012). It consists of a wide range of health care practices, products and therapies such as dietary supplements and herbal medicines. Alternative medicines usually lack the necessary scientific validation, and their effectiveness is either unproved or disproved (Nissen et al., 2012). Complementary and alternative medicine practices may incorporate or base themselves on traditional medicine, folk knowledge, spiritual beliefs, or other approaches to healing (Kayombo et al., 2013).

Despite an existence of conventional medicine, referred as scientific medicine, literature reviewed showed that alternative health care such as dietary supplements and herbal medicine is widely used and a rapidly growing health care system worldwide. In Africa, for example, up to 80% of the population is using alternative health care to help meet their health care needs (WHO, 2002). In Tanzania, current statistics show 60-70% of the population seeks healthcare from alternative health care practitioners (Kayombo et al., 2012). These statistics support the World Health Organization (WHO) argument which considers TRM as one of important means to achieve total health care coverage of the world's population (WHO, 2002). The challenge however, lies in the risks and ethics of using traditional medicines which are not systematically documented, authenticated and neither their activity verified or established (Kayombo et al., 2012).

2.3 Health conditions prompting the use of complementary and alternative Medicine

The use of alternative medicine is high in Tanzania (60% to 70%) is for symptomatic ailments, chronic diseases such as diabetes, hypertension, cardiovascular disease, osteoporosis and cancers were reported as the most common reason for alternative medicine use whereby these non-communicable diseases are rapidly growing (Stanifer et al., 2015). In South Africa, Traditional Herbal Medicines are used for the management of hypertension and cardiovascular diseases but the prevalence of its use is not sufficiently known (Hughes et al., 2013).

In Ghana for example, about 70% of the population depends primarily on traditional medicine to treat a variety of ailments to alleviate sufferings associated with disease and illness (Abdullah, 2011). Makundi et al. (2006) found that traditional health care has contributed very significantly to the treatment of *degedege* (convulsions) in Tanzania while Amira and Okubadejo (2007) reported a significant number of hypertensive patients receiving conventional treatment at the health facility in Nigeria also used alternative therapies to alleviate the condition.

In America, studies found that use of complementary and alternative medicines (CAM) helps mostly people with low income status who suffer from chronic, recurrent or serious illness (Vohra et al., 2005). For example, use of CAM has are prevalent among patients with allergies,

asthma, behavioral and developmental problems such as diabetes and hypertension, cystic fibrosis, HIV infection, rheumatoid arthritis, and musculoskeletal problems such as back, neck, or joint pain (NCCAM, 2008). Two-thirds of chronically ill patients have been using dietary supplements, frequently concomitantly with prescription and over-the-counter drugs (Boyer, 2005). These outcomes are alarming because clients who are already receiving complicated conventional treatment regimens are at a greater risk of adverse events due to the fact that many supplements have not been evaluated for safety, efficacy or drug interactions (Ventola, 2010).

Additionally, Gyasi et al. (2011) reported that traditional medicine is effective since it is used in treating several health disorders such as malaria, typhoid fever, arthritis, jaundice, impotency, infertility, hypertension, stroke, broken bones, boils, piles, HIV/AIDS, mental illness, etc. However, safety of use of the traditional medicine is not standardized. Although treatments exist, few people comply or adhere to recommended treatment due to side effects or costs of the drugs of conventional medicines and hence clients rely on alternative medicines (Abdullah, 2011). The use of CAM and dietary supplements was found to be fairly common in most people especially those demanding frequent medical care and hospitalizations for chronic conditions (Gardner et al., 2008). This study used the concept of alternative health care to assess acceptance of alternative medicines among the clients.

2.4 Increased preference towards usage of alternative medicine

In Tanzania although modern medicine is well developed, people still rely on traditional medicine (TRM) for Primary Health Care (PHC) (Kayombo et al., 2013). The major reasons for using the TRM and its practitioners for healthcare needs are inadequacy of health facilities, medical personnel, drugs and other medical supplies (Chudi, 2010). Furthermore, the use of herbal medicines has been on the increase in many developing and industrialized countries. This ever increased use of alternative medicines may be due to accessibility, affordability, availability and acceptability by majority of the population (Chukwuma et al., 2016). Although social and cultural issues as well as the nature and severity of diseases constitute some reasons for the use of alternative medicine (Onyapat et al., 2011), alternative medicine has often been seen as popular because of the seeming harmlessness since is considered to be natural and it is believed to be obtained at low costs cheaper and more affordable in most of developing countries (Udo et al., 2014).

Additionally, many people are more interested and informed about alternative medicines because of: increased contact with other cultures that traditionally use alternative medicine, the perception that alternative medicine is easier to catch up the prescriptions, safer, and less expensive than conventional medications (Ventola, 2010). Gyasi et al. (2011) also found that traditional medicine is readily available to the people and also less expensive, hence easily accessible. Patients may see conventional doctors as being overly reliant on prescribing drugs and as not bothering to explain the methodology, risks, and benefits of the treatments (Kantor, 2009). Also Patterson and Arthur (2009), found friends are influential in the decision to use alternative medicine. This study used the review of literature regarding alternative medicine to assess the acceptance of alternative health care services among the clients.

3. Materials and methods

The study was conducted in Dar es Salaam Region Tanzania where there are many alternative health care providers (AHCPs) registered and unregistered. A cross-sectional survey was used to obtain primary data from one respondent to another, each one at a time. A sample of 450 respondents was selected by using non-probability sampling methods. Purposive sampling using snowball techniques was used to select 75 AHCPs while convenient sampling was used to select

375 clients. Non-probability sampling was used because the study population was not known and many of AHCPs were not easily accessible to the researcher. Structured questionnaire was used as an instrument of data collection. Data was analysed by using SPSS version 20 to reveal descriptive statistics including frequencies and percentages which thereafter have presented in tables and figures.

4. Results and discussion

4.1 Demographic characteristics of respondents

The demographic characteristics of clients and practitioners of alternative health care which assessed include age, sex and education. Results of demographic survey are shown in Table 1.

Table 1: Distribution of respondents based on demographic characteristics

Variables	Clients (n=375)	Practitioners (n=75)
	Percent (%)	Percent (%)
Age:		
Below 25 yrs	30.1	12.0%
25 – 35 yrs	44.8	54.7%
Above 35 yrs	25.1	33.3%
Total	100.0	100.0%
Sex:		
Male	36.0	89.3%
Female	64.0	10.7%
Total	100.0	100.0%
Education level:		
Primary School	29.3	4.0%
Secondary School	27.7	45.3%
Certificate + diploma	32.0	45.3%
University degrees	10.9	5.4%
Total	100.0	100.0%

The survey revealed that majority of clients (44.8%) and practitioners (54.7%) participated in the study comprised of individual of age group of 25-35 years. The percentage of practitioners who were above 35 years was higher (33.3%) than that of their clients (25.1%). The results can be justified that most of traditional medicine practitioners are adult enough, and therefore respected by clients as have wide experience because of their old age. Due to their old age, alternative medical practitioners considered by many clients that they have adequate traditional knowledge about alternative medicines which heal sick people. More results revealed that majority of clients of alternative medical care comprised of females (64%) in contrast to the number of alternative health care practitioners who most of them were males (89%). Among the clients who were seeking alternative health care services during the survey, their distribution according to education levels was evenly ranging from primary school, secondary school and tertiary education (certificate and diploma levels). A few of clients had higher education in the level of university degree (Table 1). In contrast, majority of alternative health care practitioners (AHCPs) had secondary education (45.3%) and tertiary education by possessing either certificate or diploma level (45.3%). Therefore, having secondary and tertiary education, practitioners are expected to have adequate knowledge and information regarding the use of alternative health care particularly in applying nutritional information in healing different diseases including dietary related diseases such as cardiac diseases, hypertension, diabetes and obesity.

4.2 Providers nutrition knowledge

4.2.1 Providers sources of nutrition knowledge

The study wanted to identify the main sources of nutrition information used by alternative health care practitioners (AHCPs) to enhance their knowledge and assist them in healing clients from different health problems such including diet related diseases. The results from Figure 1 show that both books and friends are the main sources of nutrition information applied by AHCPs (22.7%) while others depends only knowledge from friends (22.7%). There were AHCPs (20%) who said that they obtain nutrition information from several sources including books, internet and friends. Some AHCPs (18.7%) learn nutrition from internet and friends and the remained (16%) obtain knowledge of nutrition information from books and internet. Therefore, AHCPs use different sources of nutrition information to learn and equip with knowledge regarding nutrition that helps them provide alternative health care services to their clients.

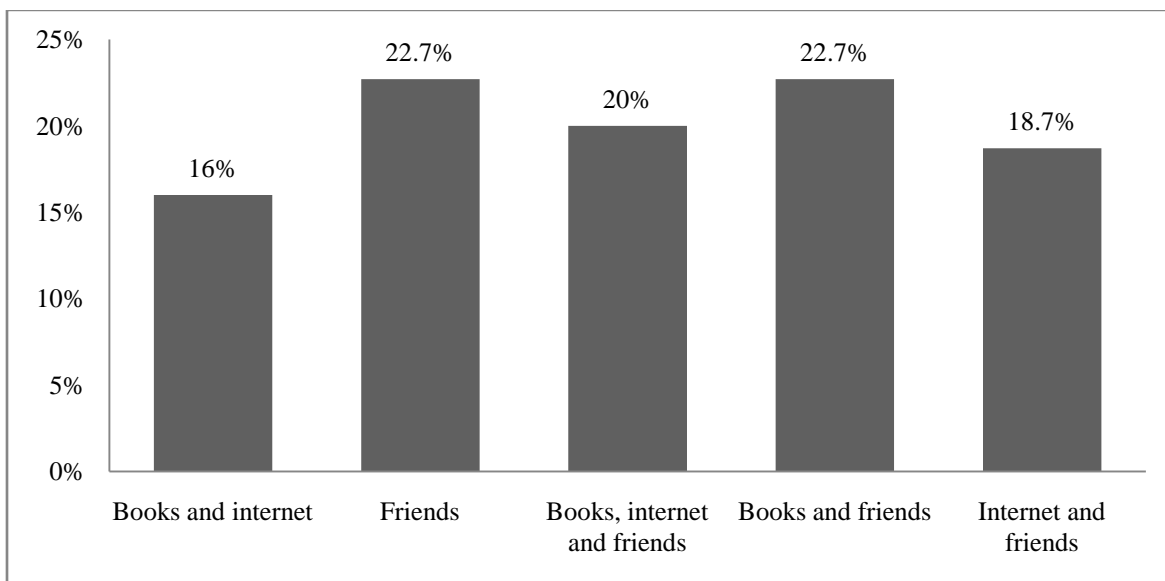


Figure 1: Main sources of nutrition knowledge used by AHCPs (n=75)

4.2.2 Providers' level of nutrition knowledge

The study identified providers' understanding on the relationship between food related diseases and eating processed food. Also, this study assessed the providers' knowledge regarding the relationship between alternative health care providers and sedentary lifestyle (Table 2). The study revealed that 40% of alternative health care practitioners are aware that regular eating of processed food and relying on sedentary lifestyle contribute to dietary related diseases such as diabetes and hypertension. However, majority of the respondents didn't recognize if diet related diseases have association with eating processed foods and living in sedentary lifestyle. Furthermore, 44% of alternative health care practitioners were aware of eating processed food and little natural foods as among the main causes of dietary related diseases. Lack of knowledge among the majority of alternative health care practitioners regarding the relationship between dietary related diseases and sedentary lifestyle, eating processed food and little consumption of natural foods creates doubts about the quality of health care services offered by alternative health care providers in Tanzania particularly the Dar es Salaam region.

Some number of alternative health care practitioners (38%) as shown in Table 2 said that there usually a need to replace carbohydrate after exercise of long duration with low intensity. The remained practitioners were either disagreed with the statement or were not sure about if

carbohydrate should be replaced after the exercise of long duration with low intensity. In fact, there always a requirement of greater total fat oxidation for a person performed low-intensity and long-duration exercise compared to the other person who performed moderate intensity exercise using similar calorific expenditure. In exercise, the energy expenditure is determined by intensity and time taken for a person. For a similar number of calories, the lower the intensity, the longer the duration taken to accomplish an exercise. When there is higher intensity during exercise, a person takes shorter duration to expended similar number of calories. Therefore, most of alternative health care practitioners were not aware about usefulness of carbohydrate in performing exercises in regard to time expended.

In understanding nutrition knowledge with regard to nutrition, the study revealed that small number of alternative health care practitioners (6.7%) participated was having knowledge of drug-nutrient interactions by referring to conventional medicines while many of participants were not aware about drug-nutrient interaction. This raised misconceptions due to the fact that even alternative medicines can interact with nutrients either positively or negatively. Hence, most of alternative health care practitioners lack knowledge on drug-nutrient interactions and missing the scientific evidence to support their beliefs.

Moreover, during the survey, majority of alternative practitioners participated mentioned that the vitamins which increase the amount of iron absorbed from foods are vitamin B1 and K (Table 2). Unfortunately, none of the practitioners identified the correct vitamin which is vitamin C (ascorbic acid). This justifies that there is always misleading information given by majority alternative health care practitioners to their clients regarding to the function of vitamin in treatment of iron deficient disorders such as anemia.

Also, most of alternative health care practitioners (72%) reported that fruits should be eaten 30 to 60 minutes before or after a meal so as to avoid fermentation, toxicity, flatulent, indigestion, heartburn and other digestive discomforts that may occur during digestion once mixed with other foods (Table 2). They added that fruits should be eaten alone or with other fruits on an empty stomach. This was a misconception with regard to the use of nutrition information in healing dietary related diseases. The fact is that at any time, people can eat fruits and the fruits can be eaten together with other foods. The body can digest a composition of foods eaten such as protein, fat and carbohydrates in a mixture because the stomach have enzymes which can digest specific foods and having high concentration hydrochloric acid where the acid kills harmful bacteria which can lead to fermentation in the stomach.

Furthermore, more than half of CAM practitioners (58.7%) participated in the survey recommended a person to drink 3-5 liters per day without consideration of other factors such as health conditions, environment, age, gender and physical activities (Table 2). They claimed that when a person drink a lot of water can eliminate toxins and other harmful chemicals consumes. Also they claimed that drinking little water may result to dehydration and tiredness. The fact is that when people drink too much water, it can dilute the body's electrolytes and sodium levels which may lead to hyponatremia. Aggarwal (2012) recommended an average of eight cups or glasses per day. However, the required amount of water for a person to drink per day depends on several factors such as age, gender, level of activity and weather conditions. For instance, when a person grows older, the amount of water intake slightly decreases. In general, people are required to drink adequate water because it is essential to the functioning of body's metabolism.

Table 2: Responses of alternative health care providers regarding their knowledge on nutrition

Providers statement related to the nutrition knowledge	Percent of response
Carbohydrate to be replaced after a long duration of low intensity exercise.	38%
Processed foods and little natural foods are main causes of diet related diseases.	44%
Processed foods and sedentary lifestyle contribute to diet related diseases.	40%
Drug-nutrient interactions are among the causes of diet related diseases.	6.7%
Vitamins B1 and K were mentioned by AHCPs as increase iron absorption.	68%
The correct time for eating fruits mentioned by AHCP is 30 minutes to 60 minutes before a meal.	72%
Recommended adequate amount of drinking water by AHCPs is 3 to 5 litres per day.	58.7%

4.3 Acceptance of alternative health care services among clients

The clients of alternative health care services participated in the survey (86.4%) had accepted to use traditional medicines due to the reason that such medicines usually have lower side effects (Table 3). They went further by comparing the risks of side effects by perceiving that conventional medicines have higher adverse effects than traditional medicines (78.1%). Therefore, this study justified that people accept the use of traditional medicines which are locally extracted from plants and animal materials by believing that alternative medicines do not harm the body and make the patient safe after being using such medicines.

Other findings revealed that majority of clients of alternative health care providers (85.6%) perceived that alternative medicines are healthier than conventional medicines (Table 3). This perception is associated by their culture of using different foods in healing various health disorders including diet related diseases such as diabetes, hypertension and cardiac diseases. This culture is passed from one generation to another through inheritance. Therefore, prescriptions from alternative health care providers regarding using natural food materials to treat diseases or escaping from dietary related diseases make clients believe that alternative medicines are better for healing than conventional medicines. Lifestyle diseases such as diabetes, obesity and blood pressure can be avoided or controlled by people to use alternative health care services to balance their diets parallel with performing regular physical exercises. The findings justified that more clients accepted the use of alternative health care services in comparison to conventional medicines.

Moreover, many clients perceived that they incur lower costs when finding alternative health care services (52%) and adding that traditional medicines are not harmful to their health (70.2%) (Table 3). Other clients (33.3%) disagreed with statement explained that alternative health care services are lower in cost and easily accessible. This demonstrated that although many of alternative health care services perceived to be not harmful and offered at low costs, there are some of them providing services at high costs. In overall, the study revealed that clients have accepted alternative health care services since they perceive such services as not harmful and provided at lower costs compared to conventional medicine.

Table 3: Responses of clients regarding perception on acceptance of alternative health care services offered by providers (n=375)

Clients perception on alternative health care services	Disagree	Don't know	Agree
There are less side effects when using alternative medicines	4.3	9.3	86.4
Alternative medicines are healthier than conventional medicines	3.5	10.9	85.6

Alternative health care using traditional medicine has lower costs and easily accessible	33.3	14.7	52.0
Conventional medicines have higher side effect than alternative medicines	4.3	17.6	78.1
Alternative medicine is not harmful to my health	5.8	24.0	70.2

5. Conclusion

In the development of health sector, alternative health care services in Tanzania is supposed to supplement the work which is already performed by conventional health care services in providing treatment and preventive measures to clients suffering from several health problems particularly the dietary related diseases. Alternative health care practitioners build their knowledge of nutrition from several sources information in order to provide quality preventive and treatment of health problems. The main sources of knowledge used by alternative health practitioners include books, friends and use of internet. Despite their learning efforts to improve their knowledge, still most of alternative health care practitioners are not sure about use of nutrition information such as the role of carbohydrate during physical exercise, health risks of processed food, association between sedentary lifestyle and diet related diseases, drug-nutrient interaction, use of vitamin B1 and K, time of eating fruits and amount of drinking water in relation to prevention and treatment of diet related diseases such as diabetes, obesity and hypertension. Although alternative health care practitioners have inadequate knowledge regarding nutrition information in prevention and healing dietary related diseases, their clients are highly accepting the services they have been providing. Most of clients perceive that traditional medicines have less side effects, more improve their health status than conventional medicines and accessible with lower costs. This study recommends that since clients have accepted the use of traditional medicines, all alternative health care providers should be identified through mandatory registration and thereafter provided regular training for capacity building from Tanzania Food and Nutrition Centre and/or other authorized institutions on how they can appropriately apply nutrition information to provide treatment and preventive measures to their clients especially people suffering from dietary related diseases in Dar es Salaam Region and Tanzania as a whole.

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