



COMPLEMENTARY AND ALTERNATIVE MEDICINE USE BY STROKE PATIENTS

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ABSTRACT **Background:** Complementary and alternative medicine can be defined as any intervention not prescribed by physicians, which is not presently considered to be part of conventional medicine. The reasons that people choose such therapies include positive views of complementary therapies, limitation of conventional medicines, concern about the adverse effects of conventional medicine, communication with doctors, and the increased availability of complementary therapies.

In recent years, there has been growing interest and publications in CAM for various ranges of medical conditions. Few surveys that examine CAM use in patients with stroke are available. Recognizing the increasing interest in CAM among the public, the aim of this survey was to assess stroke patients' expectations, prevalence of use, and perceived effectiveness of CAM.

Objective: This study aimed at assessing and evaluating the CAM therapies used by stroke patients. The study was conducted at a hospital and at various Traditional healers' clinics.

Methodology:

- Study design: This was a cross sectional study
- Study population:

In patients and out patients who came to the stroke clinics and for physiotherapy at the hospital and traditional healer's clinics.

- Data collection methods and tools:

This study used both observation and questionnaires to meet the objectives and there after the conclusion were drawn from the findings and recommendations made.

Results: Of the 58 stroke patients who were interviewed in person, all the participants had used CAM at one time or the other in their recovery process. Eighteen patients (31.0%) reported using exercises, sixteen patients (27.6%) reported using massages, fifteen patients (25.9%) reported using Herbal Medicine, nine patients (15.5%) reported using spiritual healing (prayers) and none of the patients reported using homeopathy. Source of information about CAM was media/internet (6.9%), medical professional (27.6%), religious institutions (20.7%) and friends/relatives (44.8%).

Conclusion: This study showed a prevalence of CAM use among the population affected by stroke in Arusha Municipal, it also indicated that CAM therapies were affordable and accessible (manageable (63.8%), assisted by friend/relative (36.2%).

KEYWORDS : Stroke, Complementary Medicine, Alternative Medicine.

INTRODUCTION:

Background Information

The World Health Organization (WHO) has estimated that stroke caused 5.7 million deaths in 2004 which accounted for 9.7% of deaths in the world. Of these deaths, more than 85% occurred in low income and middle-income countries (1) (2).

Stroke is a heterogeneous disease with more than 150 known causes. Most registries have failed to identify a definite cause in 25–39% of patients, depending on the quality, completeness, and rapidity of the work-up. This group of strokes of unknown causes (the so-called 'cryptogenic strokes', a term popular among neurologists but perhaps unnecessarily cryptic to students, patients, and most nonstroke physicians) should be a major focus for future clinical research (3).

It has been estimated that (low middle income countries) LMIC account for over 87% disability adjusted life years (DALYs) from stroke, which is about seven times the DALYs lost in high-income countries (HIC). Africa is particularly worst hit, owing to population growth, unchecked industrialization and increased consumption of western diets, leading to a rise in many modifiable vascular disease risk factors including smoking, harmful use of alcohol, physical inactivity and unhealthy diets, and invariably resulting in increased prevalence of hypertension, diabetes and obesity (4).

Furthermore, between 2002 and 2004, estimates further revealed an increasing prevalence with 8% of new stroke cases and 5% of stroke survivors occurring in Africa (4).

Recent studies have reported that people globally are using CAM despite the predominance of conventional medicines in their national health system. In Malaysia, traditional and complementary medicine is regarded as a credible type of practice and the Malaysian Ministry of Health has adopted five classes of CAM as health maintenance

practices. Despite widespread use of CAM, clinical and experimental studies are lacking to provide adequate information to support the safety and efficacy of each CAM (5).

CAM is a complementary adjunct to medical care. The term *complementary* implies the possibility of cooperation with conventional medicine and recognizes the widespread research finding that users of CAM also consult physicians on a regular basis (6). The term *alternative* highlights the fact that CAM on the edges of established health care system and receives almost no support from the medical establishment or government (6).

There have been several attempts to classify and categorize the various CAM therapies such as; ethnic medical systems (acupuncture, Chinese medicine and Ayurveda), manual therapies (chiropractic, reflexology and massage therapy), therapies for mind/body (hypnotherapy, psychic healing and radionics), nature-cure therapies (naturopathy and hygienic methods), non-allopathic medicinal systems (homeopathy and herbalism) (6).

Different forms of classification that arranges CAM therapies according to the context in which they are delivered are such as:

- Clinical forms (chiropractic, homeopathy, acupuncture and naturopathy)
- Psychological/behavioral forms (yoga, dance therapy, and biofeedback)
- Social/community forms (faith healing and folk medicine)

Literature Review:

There are many studies that have been conducted in regard to the use of CAM therapies treatment among stroke patients.

CAM for stroke patients:

TCM, based on herbal medicine, is ancient but still vital. It is an

important element in the treatment of brain ischemia in clinic in China, Korea, and Japan. Many people including doctors have turned to TCM to help stroke victims because cerebral ischemia is not responsive to the current Western medicine (WM). In Korea, 25% of stroke patients visit traditional medicine doctors. In China, about one third of brain ischemia patients are treated with TCM (7).

CAM use is estimated at between 9% and 65% globally. In Australia, one in two people regularly use CAM, and consumers spend more money on CAM than prescription drugs (8).

Despite the rapid advances that have taken place in the immediate treatment of stroke during the last 2 decades, no medical treatments have been demonstrated to be effective during the later stroke recovery phase. As a result, stroke patients and their families are often interested in exploring complementary and alternative medicine (CAM) approaches for post stroke recovery. The common CAM treatments available in India are ayurvedic massage, herbal medicine, reiki therapy, homeopathy, intravenous fluids, and opium (9).

The use of CAM:

Reports on the prevalence of CAM use vary greatly in both developed and developing countries. In Nigeria studies carried out on the prevalence of CAM use among stroke patients showed a prevalence rate of 65.0% recorded at the University of Nigeria Teaching Hospital (10).

A study among Korean stroke patients measured the prevalence and utilization of CAM, of 304 stroke-patients respondents, 164 (54%) had used CAM, of which 66% had started taking CAM products following suggestions from relatives. Of the 57% of users who felt that CAM was effective, 84% considered that it improved the symptoms of stroke and 16% felt it was effective achieving psychological relaxation. Of eight CAM categories used by respondents, 92% use traditional oriented medical treatments, 36% used plants-animal derived over the counter health care products, 24% used minerals and vitamins, and 11% used manual therapies (1).

A study carried out in stroke units of Christian Medical College, Ludhiana, and SreeChitraTriunal Institute of Medical Science and Technology, Thiruvanthapuram, India . 314 stroke patients were interviewed of which 114 (36.3%) had used the following CAM treatments: ayurvedic massage, 67 (59.3%) intravenous fluids, 22 (19.5%) herbal medicine, 17 (15%) Homeopathy, 15 (13.3%) witch craft, 3 (2.7%) acupuncture, 3 (2.7%) opium intake, 10 (8.8%) and other non-conventional treatments, 10 (8.8%) (9).

Factors influencing the use of CAM:

Gaps between Traditional and Biomedical health practitioners.

Use in countries where TM is one of the primary sources of health care. It is typical of these countries that the availability and/or accessibility of conventional medicine-based health services is, on the whole, limited. The widespread use of TM in Africa and some developing countries can be attributed to its being present on the ground and readily affordable. For instance, the ratio of traditional healers to population in Africa is 1:500 whereas the ratio of medical doctors to population is 1:40 000. For millions of people in rural areas, native healers therefore remain their health providers (11).

Presently it is estimated that at least 60% of Tanzanians of the urban population and 80% of the rural population rely on TRM for their primary health care needs. The government has demonstrated its political commitment to promoting TRM and at present the Tanzanian Health Policy recognizes TRM along with other CAM systems of health care (12).

Socioeconomic status:

In a study conducted to determine the SES effects on health care, it was founded that with community structures and local economies the cost of CAM varies by geographic locale, corresponding with neighborhood income levels. CAM resources available in some low income neighborhoods may be more financially accessible relative to CAM in high income neighborhoods.

Among four racial/ethnic groups, three distinct patterns of SES effects on CAM use. In both a low income group (Mexican American) and high income group (non-Hispanic Whites) gradient effects on CAM use were found for income and education. In both a low income group

(African-American) and a high income group (Chinese American) no income effects were found (13).

Studies based primarily on White populations indicate that CAM users tend to be well educated and more affluent, presumably because socioeconomic resources facilitate people's access to information, exposure, and ability to pay for CAM. The highly educated may be more critical of conventional medicine, question the authority of conventional practitioners, and actively seek information about the array of treatments available for illness or to stay healthy thus leading to greater CAM use (13).

Statement of the problem:

Every year, 15 million people worldwide suffer a stroke. Nearly six million die and another five million are left permanently disabled. Stroke is the second leading cause of disability, after dementia. Disability may include loss of vision and / or speech, paralysis and confusion (14).

Stroke claims more than twice as many lives as AIDS. In fact, stroke contributes to be responsible for more deaths annually than those attributed to AIDS, Tuberculosis and Malaria combined. The burden of stroke now disproportionately affects individuals living in resource-poor countries (15).

Stroke deaths in Tanzania reached 21,973 or 4.98% of total deaths; the age adjusted death rate is 137.69 per 100,000 of population ranks Tanzania #43 in the world (16).

In a three-year study to determine cerebrovascular disease mortality rates in adults aged 15 years or more in one urban and two rural areas of Tanzania, there were a total of 11,975 deaths of which 64% were in adults: 63% of total deaths in Dar-es-Salaam, 66% in Hai district, and 62% in Morogoro rural district. In Dar-es-Salaam 104 (59 in men [57%]) deaths were thought to be due to cerebrovascular disease, in Hai 235 (118 in men [50%]), and in Morogoro 82 (48 in men [59%]) (17).

Justification:

In the African Region, TM knowledge and practices have been passed on orally among traditional health practitioners for many generations. In recent years, some countries have strengthened training programs to develop the knowledge of traditional health practitioners. Furthermore, in some countries TM is included in university curricula for health profession students. For instance, various universities in the Economic Community of West African States, Democratic Republic of Congo, South Africa and Tanzania include TM in the curricula for pharmacy and medical students (11).

Various reasons for using alternative therapies have been suggested, including patient dissatisfaction with mainstream medicine or because patients are worried about the side effects of "chemical substances". Because of the chronic nature of many conditions treated in physical medicine and rehabilitation, the percentage of usage of alternative therapies in rehabilitation settings appears to be high (18).

By establishing the various aspects of CAM therapies integrated by stroke patients, this study may help to bring awareness which will sensitize the use and importance of CAM therapies. It will also help the health program planners to come up with strategies to promote positive attitude towards CAM therapies.

OBJECTIVES:

Broad Objective:

To evaluate the CAM therapies used among stroke patients.

Specific Objectives:

1. To determine if stroke patients use CAM therapies.
2. To determine the type of CAM therapies used by stroke patients.
3. To determine the availability of CAM therapies for stroke patients.
4. To determine the source of information about CAM therapies for stroke patients.
5. To determine the cost and affordability of CAM therapies by stroke patients.

Research Questions:

What types of CAM therapies are commonly used in stroke patients?

How frequently are the CAM therapies used in stroke patients?
 Do the HCPs know the importance of CAM therapies?
 What are the barriers to the use of CAM therapies?

METHODOLOGY:

Study Type:

This was a cross sectional study involving questionnaires based on interviews lasting for 10-15minutes.

Study Area:

This study was conducted in Arusha, Tanzania at MMH and various traditional healers clinic. MMH is one of the representative hospitals of Arusha City.

Study Population:

In patients and out patients who visited the stroke clinic and physiotherapy department at MMH and at the traditional healer's clinics.

Inclusion and Exclusion criteria:

Inclusion criteria:

Both patients with either ischemic stroke or hemorrhagic stroke were studied
 HCP's working in the stroke clinic and physiotherapy department and consent to participate.

Exclusion criteria:

Stroke patients with complications like being affected with other diseases e.g. HIV/AIDS, Tuberculosis Stroke patients who were not mentally fit to understand all the questions of the questionnaire.

Sample Size and Sampling Technique

Sample Size:

The sample size was calculated using the WHO formula for sample size estimation for proportion.

$$N = \frac{(Z)^2 P(1-P)}{E^2}$$

Where:

N - Estimated sample size

Z - is taken as 1.96, equivalent to confidence level of 95%

P - The proportion/prevalence (7%)

E - Maximum error likely to occur, ± 5%

Calculation:

$$N = \frac{(1.96)^2 \times 0.07(1-0.07)}{0.05^2}$$

N= 100

Therefore, the sample size = 100patients.

Sample selection technique :

Convenient Sampling Technique, All stroke patients who visited the stroke clinic, physiotherapy department and the traditional healer clinics who meet the inclusion criteria during the study period were studied.

Variables:

Independent variables:

Knowledge of HCPs on CAM therapies

Age of stroke patients

Race/Ethnicity of the stroke patients

Number of years working in the Stroke clinic and Physiotherapy

Department of HCP's

Dependant variables:

Availability and use of CAM therapies by stroke patients

Data collection methods and Tools:

Data collection methods:

Two methods were used, namely:

Interview:

An interview was carried out with the head of the stroke clinic and physiotherapy department of MMH and the traditional healers to establish the challenges associated with CAM.

Questionnaire:

A questionnaire was given to the HCPs working in the stroke clinic and physiotherapy department, traditional healer clinics and the stroke patients visiting it to assess their knowledge on the usage of CAM.

Data collection Tools:

Questionnaires:

The questionnaires were self-filled by the principle investigator, and contained both open ended and closed ended questions

Interview guides:

Short interview was conducted while filling the questionnaire forms to obtain any relevant information regarding CAM therapies

Data processing and Analysis:

Data summarization and presentation:

Data collected, was coded and entered into MS Excel. Data was analyzed using the Statistical package for social sciences (SPSS) Version 17. Before analysis, cleaning was carried out. Proportions and percentages were used to summarize categorical variables. Data was presented in form of text, tables and charts.

Data presentation:

Types of CAM therapies used, Source of information on CAM therapies and affordability of CAM therapies was presented using pie charts, column charts and bar charts.

RESULTS:

Socio-demographic characteristics of Respondents:

Of the 58 stroke patients who were interviewed in person, 42 (72.4%) were males and 16 (27.6%) females. All the participants had used CAM at one time or the other in their recovery process. Nine patients (15.5%) had no formal education, 12 (20.7%) had primary level education, 23 (39.7%) had secondary level education, 13 (22.4%) had college level education and 1 (1.7%) had university level education. See Table 1 below

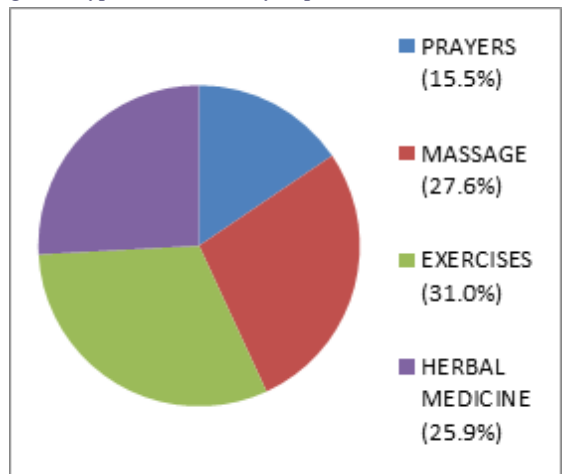
Table 1: Socio-demographic characteristics

VARIABLE	NUMBER	PERCENTAGE (%)
Gender		
Females	16	27.6
Males	42	72.4
Education Level		
No formal	9	15.5
Primary level	12	20.7
Secondary level	23	39.7
College level	13	22.4
University level	1	1.7

Types of CAM used by Respondents:

The most common type of CAM used were exercises, massages and herbal medicines. Eighteen patients (31.0%) reported using exercises, sixteen patients (27.6%) reported using massages, fifteen patients (25.9%) reported using Herbal Medicine, nine patients (15.5%) reported using spiritual healing (prayers) and none of the patients reported using homeopathy. See Figure 1 below.

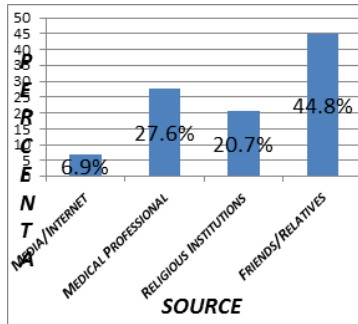
Figure 1: Types of CAM used by respondents



Source of information about CAM:

Of all the 58 patients interviewed, each of the patients had a source of information or suggestion given in concern to the use CAM therapies. Four patients (6.9%) used media/internet, 16 patients (27.6%) were advised by a medical professional, 12 patients (20.7%) were encouraged by religious institutions and 26 patients (44.8%) were suggested by friends/relatives to use CAM therapies. See Figure 2 below.

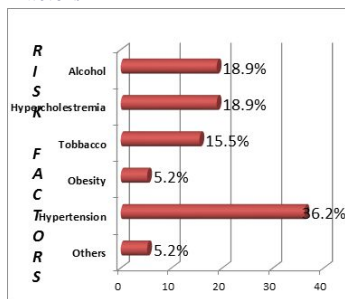
Figure 2: Source of information about CAM



Risk Factors the stroke patients were known to have

All the stroke patients interviewed in this study had various risk factors that were directly linked to their lifestyles and/or their economic status. Of the 58 patients, 11 patients (18.9%) had a history of alcohol use, 9 patients (15.5%) had a history of tobacco use, 11 patients (18.9%) had hypercholesteremia, 21 patients (36.2%) had hypertension, 3 patients (5.2%) were obese and the remaining 3 patients (5.2%) had other forms of risk factors. See Figure 3 below.

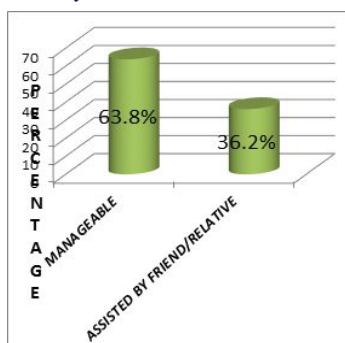
Figure 3: Risk Factors



Affordability of CAM by stroke patients

The total cost of each individual CAM therapy was not determined and the average monthly income of the stroke patient interviewed. However the patients were asked to enlighten if they were able to afford the CAM therapies that they used. Of the 58 patients, 37 patients (63.8%) reported that they could afford it while 21 patients (36.2%) reported that they were assisted by friends/relatives. See figure 4 below.

Figure 4: Affordability of CAM



DISCUSSION:

General Discussion:

This cross sectional study explored the use of CAM among stroke patients in Arusha Municipal attending MMH and Traditional Healers Clinics which demonstrates that stroke patients both use and frequently perceive a benefit from CAM therapies.

Demographic characteristics such as gender, age, education level were not significantly related with CAM use in this study. Males were more inclined to use CAM than females in this study. This finding is not consistent with studies in developed countries where women had a higher prevalence of use than males (10). This greater male gender use may be attributed to the African man's strong belief in traditional medicine and in addition CAM is seen as being accessible, affordable, and not time consuming this is supported by the data obtained in this study indicating 63.8% able to afford CAM therapies.

The main source of information about CAM to the patients came from friends and relatives. This finding is consistent with a study done in two university hospitals in Korea suggesting the most important sources of information and motivation to use CAM were obscure expectations about effectiveness of CAM such as complete recovery by several times of treatment, confidence in CAM and the recommendations of family members and other relatives (1). This also indicated that there was a history of CAM use in the patient's family.

CAM therapies used by respondents in this study were consistent with most frequently used CAM therapies in literature (10,11). Massages (27.6%), Herbal Medicines (25.9%) were most frequently used by respondents as part of their recovery process. Spiritual healing (prayers) (15.5%) was another form of CAM therapy used by respondents. This finding is supported by Singh et al. who recorded that herbs and spiritual healing were among the two most common forms of CAM used among Indians in South Africa (20).

Limitations and Strength of the study:

Limitations:

This study is subject to several potential limitations. It was confined to stroke patients in a Municipal therefore findings cannot be generalized to all stroke patients in the Region or the whole country. The questionnaire did not include the aspects of effectiveness of CAM or the symptoms alleviated by use of CAM or the adverse effects associated with CAM.

Strength:

There was a direct conversation conducted with the patients in regard to filling the questionnaire. For patients who could not talk, their care giver was consulted in order to assist to obtain the information about the patient in regard to CAM use. The traditional healers were consulted who were the major source of CAM therapies to the patients.

CONCLUSION:

This study showed a prevalence of CAM use among the population affected by stroke in Arusha Municipal. The Major forms of CAM therapies used were exercises (31.0%), massages (27.6%), herbal medicines (25.9%) and spiritual healing (15.5%). Family members/relatives and friends represented a significant sources of CAM information. Many stroke patients at some point of their recovery process used a type of CAM although later on some of the respondents discontinued using it. This study also indicated that CAM therapies were affordable and accessible (manageable (63.8%), assisted by friend/relative (36.2%).

RECOMMENDATIONS:

More studies are needed to discern the level of knowledge of CAM use among the population affected by stroke. This was generally, a small explorative study and in depth studies need to be carried out to determine the level of knowledge, the practices, and attitudes of CAM use by stroke patients and the HCP's.

HCP's should also recognize that complementary medicines are widely used by stroke patients and should also appreciate its benefits and its adverse reactions associated with its use.

Further studies should be carried out to determine if HCP's know what CAM their patient's use and provide education on the evidence based efficacy and side effects of CAM to both patients and their families.

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