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Social and economic factors influencing the patronage and use of complementary and alternative medicine in Enugu

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Abstract
Traditional Medicine (TM) or Complementary and Alternative Medicine (CAM) covers approaches to medical treatment that are outside of mainstream medical training. Different herbal products abound and they are flagrantly advertised with claims of their ability to cure all diseases. The objective was to survey how safety, reliability, effectiveness, availability, cost, and other socioeconomic factors influence use and patronage of TM as well as check which common diseases are being treated and how the patient felt after the use of TM. A cross sectional community-based survey using 21-item questionnaire consisting of socio-demographic and stem questions that have been standardized and validated for reliability of response. Four hundred questionnaires were randomly distributed and 300 (75%) were returned and analyzed. 203(68%) of respondents claimed they use TM while 93(31%) claimed they do not. Majority of respondents [108(57.9%)] were 21-40 years old, 26(12.7%) were within 41-50 and 40(19.7%) above 50years. There were 117 females and 86 males. 26(12.7%) of the respondents had at least primary education, while 16% used traditional medicine because it is cheaper and 31.3% because it is believed to cure many diseases. Malaria treatment 128(33%) was highest followed by typhoid 79(20.5%), sexually transmitted disease 31(8.1%), diabetes 25 (6.0%) and infertility 25(6.2%). Malaria and typhoid were the highest co-morbid infection treated with TM. Socio-economic factors such as cost, effectiveness, availability, safety of the product, educational level, average monthly income, age and sex affect the patronage and use of traditional medicine.

Keywords: Complementary and alternative medicine, traditional medicine, herbs, socio-economics,

INTRODUCTION

Traditional Medicine (TM) or Complementary and Alternative Medicine (CAM) covers approaches to medical treatment that are outside of mainstream medical training and are popularly used to help meet some primary health care needs. The world Health Organization (WHO) defined Traditional Medicine as "health practices, approaches, knowledge and belief incorporating animal and mineral-based medicine, spiritual therapies, manual technique and exercise applied singly or in combination to diagnose, treat and prevent illness or maintain well being" (World Health Organization, 1976). The term CAM however is an umbrella term covering complementary therapies, which are defined as treatments (Lewington, 1993) while alternative medicine is described as a practice used instead of standard medical treatment. It should be noted that what is considered complementary in one country may be conventional in another, for instance herbal medicine and acupuncture are

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practiced as complementary in the UK and USA whereas they are considered a part of conventional medicine in China.

TM covers therapeutic practices that have been in existence for hundreds of years before the development and spread of modern allopathic medicine and are still in use today. These practices vary widely in keeping with the social and cultural heritage of different countries (World Health Organization, 1976). TM majorly includes the use of herbs, homeopathy, religious and magical powers that involve the use of incantations, charms, amulets religious verses, invocation of the spirits etc. (Harun-Or-Rashid *et al.*, 2011).

Medicinal plants are those that are commonly used in treating and preventing specific ailments and diseases, and are generally considered to play a beneficial role in health care, Medicinal plants are already important to the global economy. Demand is steadily increasing not only in developing countries but also in the industrialized nations.

Today's healthcare consumers now have more option available in both natural and orthodox healthcare than before. It is not unusual for cancer patients who have elected to undergo chemotherapy to also fortify their immune system with herbs and other supplement before and/or after treatment. Traditional medicine incorporates the use of herbs which are finished, labelled medicinal products that contain active aerial or underground part of plants. Medicines containing plant material combined with chemically defined isolated constituents of plant are not considered to be herbal medicines. However, WHO classifies herbal medicines into three categories: Phyto-medicine or phyto-pharmaceuticals; Dietary supplements or nutriceuticals; Herbal medicine containing crude, semi processed or processed medicinal plant (World Health Organization, 1991).

A herbal remedy is thus one in which the main therapeutic activity depends on plant or fungi. The pharmacopeia contains at least 25% of drugs derived from herbs and many others which are synthetic analogies built on prototype compounds isolated form plants (Arvigo and Balik, 1994). Plant product use covers some important therapeutic categories namely antimalarial, anticancer, antimicrobials, contraceptives, muscle relaxants, purgatives, hematinics, steroids and anesthesia. Advertisement in the mass media in Nigeria is a channel that TM providers often use to propagate spurious claims of "one product cures all".

It is believed that many modern medical practices like physiotherapy have their origin in traditional medical practices. The psychosomatic method of healing mental disorders used primarily by psychiatrics today is based loosely on ancient traditional medical practice (Sunshine, 1996). To date, TM continues to give birth to modern medicines and medical practices. For instance a tincture of beach morning glory, *Ipomoea pescaprace* (convolvulcene) is now certified as an anti inflammatory treatment in Thailand (Lewington, 1993).

Consequently, increasing number of nations like China, Mexico, and Thailand have decided to integrate traditional medicine into their primary health care-systems. In these countries, ethnobotanical research into traditional medicine practices plays a critical role in documenting traditional healthcare practices. Through research into tradition medicine, China and Japan have successfully standardized ancient techniques like acupuncture and transformed the negative perception of the technique by the western world. Today, acupuncture is positively perceived and used by countries outside Asia. Finished herbal medicines include dry extracts, powders, liquid preparations, granules, tablets, capsules and external or topical preparations. Some studies in some

parts of Nigeria have documented the use of CAM/TM by pregnant women and cancer patients in the hospital. (Tamuno *et al*., 2011, Achema *et al*., 2012, Fakeye *et al*., 2009, Aydin *et al*., 2008)

The aim of this study was to survey how safety, reliability, effectiveness, availability, cost, and other socioeconomic factors influence use and patronage of TM, to check the common ailments or diseases being treated and how the patient felt after the use of TM. This hopefully will enable us to know the health seeking behavior of people.

METHOD

The study was conducted in Enugu town in South Eastern geo-political zone of Nigeria. The indigenous people of Enugu are Igbo in ethnicity and language.

Study design: A cross sectional survey of 400 participants using cluster and random sampling technique of the people residing in Enugu was investigated after getting their informed consent. Data were collected with a two-part, 21-item questionnaire consisting of demographic data and stem questions that have been standardized and validated for reliability of response. The questionnaires were self administered by literate respondents while those with little or no formal education were interviewed in vernacular by a trained interviewer. Data were collected, coded and entered in Microsoft Excel for sorting and thereafter reloaded and analyzed for inferential analysis with Statistical Package for Social Sciences (SPSS) version 17.0.

RESULTS

Four hundred questionnaires were distributed to the respondents, out of which 300 (75%) were returned and used for the analysis.

Majority of the respondents 203(67.7%) claimed to use traditional medicine out of which 165(80.9%) used the locally made and 27 (13.2%) imported. From those who used imported traditional medicine, 8 (30%) use GNLD, 11(40.7%) Tianshi, 3(11%) Forever Living, 5 (18.5%) Tarsley and 1(3.7%) for other products.

DISCUSSION

In this study, females and the reproductive age (21-40 years) used traditional medicines more and this is in concordance with other studies where the percentage of people who use herbal medicine is higher in female than male (Aydin *et al*., 2008). Therefore males can be considered as being less sensitive to illness than the females or choose not to take action (use traditional medicines) against their diseases. In our study, married people had more chronic illnesses such as hypertension and diabetes while singles had more of malaria. There is a relationship between traditional medicine use and educational status (World Health Organization, 1991). This we found in our study where 19.1% of the respondents are without formal education and 79.9% with at least primary level of education use TM. We also found that there is a significant relationship between TM use with age, occupation, educational level, family setting and religion. However economic level has no statistical significance. This is in contrast with previous study by Ezeome and Anarado (2007) where they found that age, marital status, educational level, religion and socioeconomic status had no effect on the use of CAM by cancer patients' (Ezeome and Anarado, 2007).

Worldwide results show high percentage (70-80%) use of traditional (WHO, 2002), our study also yields a high prevalence (67.7%). We also observed 41.9% of the respondents can prepare traditional medicine.

Table1: Demographic of the Respondents Based On Utilization of Traditional Medicine

DEMOGRAPHY VARIABLES		YES **(%)**	NO **(%)**
Do you use traditional medicine?		203 (67.7)	93 (31)
Age P = 0.0334, χ^2 =10.457	10-20	19 (9.3)	17 (18.3)
	21-30	76 (37.3)	33 (35.5)
	31-40	42 (20.6)	18 (19.4)
	41-50	26 (12.7)	17 (18.3)
	>51	40 (19.7)	8 (8,6)
Sex P = 0.801, χ^2 = 0.0229	Male	86 (42.4)	41(44.1)
	Female	117 (57.6)	52 (55.9)
Occupation P = <0.0001, χ^2 = 25.63	Civil servant	45 (22.1)	38 (40.9)
	Business men	42 (20.6)	13 (14.0)
	Farmer	43 (21.1)	3 (3.2)
	Student	55 (27.0)	34(36.6)
	Others	18 (9.3)	5 (5.4)
Educational level P = <0.0001, χ^2 =29.372	No formal education	39 (19.1)	1(1.1)
	Primary	26 (12.7)	6 (6.5)
	Secondary	56 (27.5)	23 (24.7)
	Tertiary	78 (39.7)	62 (66.7)
Family size P = 0.0884, χ^2 = 2.903	Large above 7	64 (35.9)	21(22.6)
	Below 6	121(59.3)	68(73.2)
Family setting P = 0.0392, χ^2 = 4.252	Monogamy	138 (67.6)	75 (80.6)
	Polygamy	45(22.1)	11 (11.8)
Marital status χ^2 = 1.513, P = 0.469	Single	86 (42.2)	46(49.5)
	Married	114(55.9)	45 (48.4)
	Divorced	3 (1.5)	1(1.1)
Religion χ^2 = 262.09, P = <0.0001	Christian	162 (79.4)	90(96.8)
	Muslim	6 (2.9)	0 (0)
	African traditional religion	30(14.7)	0 (0)
	Others	4 (2.0)	3 (3.2)
Monthly Income χ^2 =4.037, P = 0.4010	500- 5000 Naira	73 (38.8)	27(29.0)
	5500-15000 Naira	41(20.1)	18(19.4)
	15500-25000 Naira	28 (13.7)	9 (9.7)
	25500-50000 Naira	31 (15.2)	16 (17.2)
	Above 50000 Naira	20 (9.8)	15 (16.2)

P-value <0.05 is significantly associated

Table 2: Usage and asses of Traditional medicine N=203

QUESTION	YES	(%)	NO	(%)
1. Do you use traditional medicine?	203	67.7	93	31
2. Can you prepare traditional medicine?	115	56.7	86	41.9
3. Is it readily available?	132	65.2	65	31.9
4. Would you go extra miles to buy traditional medicine even when not available in your location?	119	58.6	71	34.8
5. Does the quality of traditional medicine affect your choice?	103	50.7	95	46.8

Table 3: Diseases or Conditions treated with Traditional Medicine

Disease/ Condition		Frequency	%
1.	Diabetes	25	6
2.	Goiter	2	0.5
3.	Pregnancy	13	3.4
4.	Fibroids	13	3.4
5.	Arthritis	17	4.4
6.	Infertility	24	6.2
7.	Hypertension	20	5.2
8.	Malaria	128	33
9.	Typhoid	79	20.5
10.	Bone fracture	22	5.7
11.	Cataract	3	0.8
12.	Sexually transmitted diseases	31	8.1
13.	Wound	17	4.4
Co- morbidity			
Malaria and typhoid		39	10.1
Infertility, malaria & typhoid		10	2.6
Infertility, malaria, typhoid & sexual transmitted diseases		8	2.1
Bone fracture & wound		5	1.3
Pregnancy and infertility		5	1.3
Diabetics and hypertension		14	3.6
Pregnancy & hypertension		13	3.4
Malaria and sexually transmitted diseases		6	1.6

N = 385 and is more than 204 because of double entry

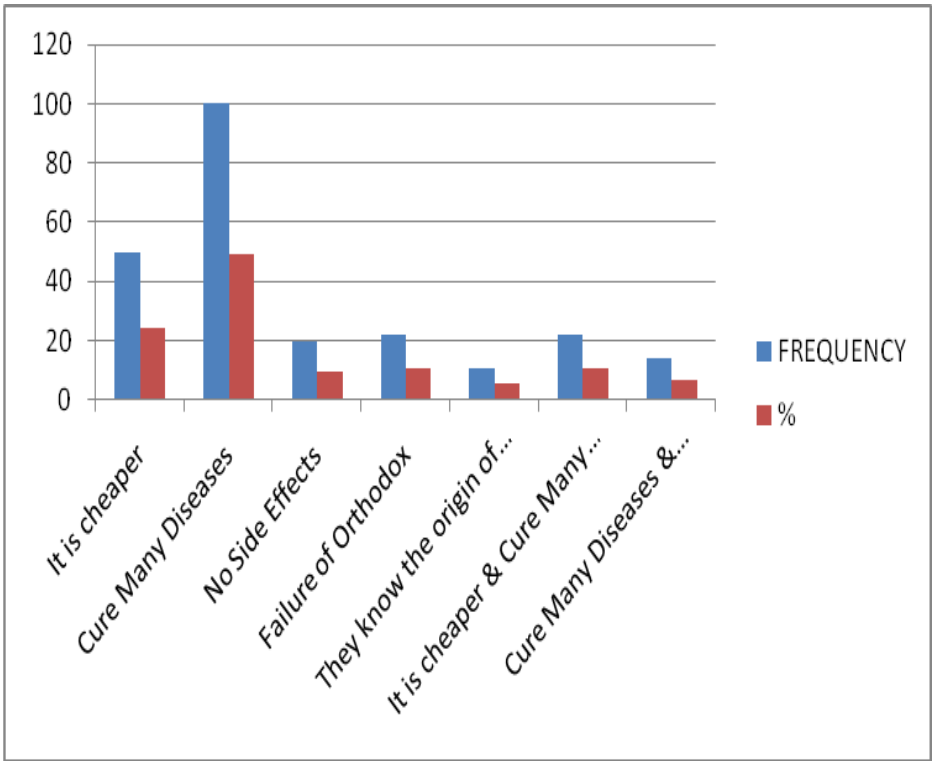

Fig. 1: Reasons for using traditional medicine (N = 203)

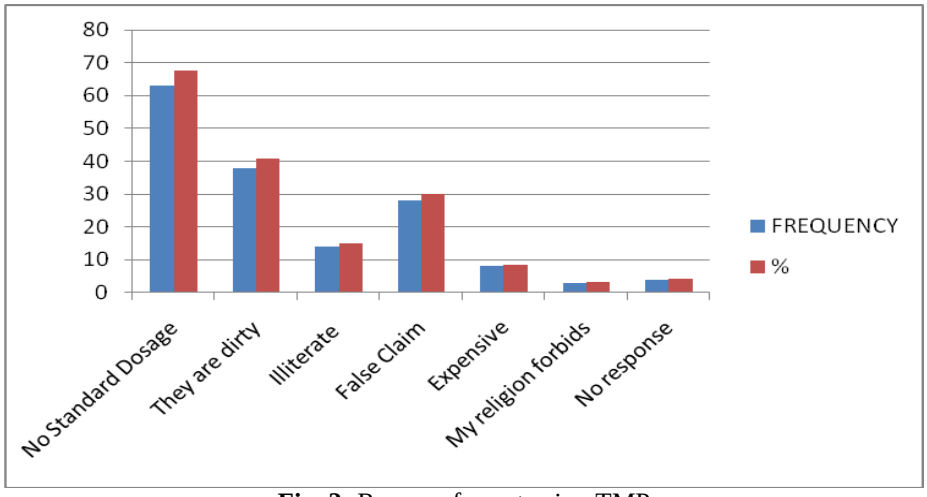

Fig. 2: Reasons for not using TMP

Table 4: Demographics of those that use local and foreign herbal products

VARIABES		LOCAL N=165 (%)	FOREIGN N=27 (%)
Sex	Female	93 (56.4)	15 (55.6)
P = 0.911, χ^2 =0.0125	Male	71 (43.0)	`12 (7.3)
Age	10-20	13 (7.9)	3 (11.1)
	21-30	60 (36.4)	10 (37.0)
P = 0.8124, χ^2 = 1.580	31-31	36 (21.8)	6 (22.2)
	41-50	21 (12.7)	4 (14.8)
	>50	35 (21.2)	3 (11.1)
Occupation	Civil servant	37 (22.4)	7 (25.9)
	Business men	32 (19.4)	7 (25.9)
P = 0.516,	Farmer	35(21.2)	4(14.8)
	Student	44 (26.7)	7 (25.9)
	Others	14 (8.5)	2 (7.4)
Monthly Income in Naira	500- 5000	61(37)	4 (14.8)
	5500-15000	31 18.8)	5 (18.5)
P = 0.105, χ^2 = 9.099	15500-25000	21(12.7)	5 (18.5)
	25500-50000	25 (15.2)	5 (18.5)
	Above 50000	13(7.9)	6 (22.2)
	No response	7 (4.3)	2 (7.4)

N=203, P-value <0.05 is significant

Table 5: Perception on use and efficacy of treatment with traditional medicine

Classification	Diseases	Excellent	V. good	Good	Poor	V. poor
Infectious diseases	Malaria	46 (22.7%)	52(25.6%)	32(15.8%)	1(0.5%)	4(2.0%)
	Typhoid	26 (12.8%)	44(21.7%)	22(10.8%)	2(1.0%)	4 (2.0%)
	STIs	14(6.9%)	25(12.3%)	12(5.9%)	3(1.5%)	5(2.5%)
Acute/traumatic Cases	Wounds	5 (5.2%)	8(3.9%)	10(4.9%)	8(3.9%)	13(7.4%)
	Bone fracture	15(7.4%)	16(7.9%)	14(6.9%)	5(2.5%)	2(1.0%)
Chronic diseases	Diabetes	10(3.3%)	20(6.7%)	10(3.3%)	9(3.0%)	11(3.7%)
	Hypertension	8(3.9%)	16 (7.9%)	8(3.9%)	8(3.9%)	14(6.9%)
	Arthritis	6(3.0%)	11(5.4%)	7(3.5%)	10(4.9%)	12(5.9%)
	Goiter	1(0.3%)	8(2.7%)	13(4.3%)	4(1.3%)	8(2.7%)
	Cataract	8(3.9%)	6(3.0%)	5(2.5%)	5(2.5%)	10(4.9%)
Gynaecological cases	Pregnancy	11(3.7%)	7(2.3%)	15(5.0%)	8(2.7%)	2(0.7%)
	Fibroids	13(4.3%)	21(7.0%)	9(3.0%)	0(0%)	2(0.7%)
	Infertility	12(5.9%)	9(4.4%)	23(11.3%)	1(0.5%)	4(2.0%)
Regulation of TM practice		34(16, 8%)	48(23.6%)	76(37.4%)	18(8.9%)	9(4.4%)

In many developing communities, TM remains the only available and affordable health service for the majority of the population living in these communities (Elujoba, 1999) and this is in line with our study where the availability of traditional medicine is high (65%) and is cheap.

The respondents that use the TM for diabetes and hypertension were mainly the elderly. Thus it can be inferred that as the population ages, the prevalence of hypertension and related co-morbid diseases also increase (Oparah, 2010). It was not surprising from our study that malaria treatment (33%) accounts for highest proportion in the patronage and use of traditional medicine because malaria is endemic in the area; indeed malaria is a known major public health problem in sub-Saharan Africa (Enato, 2010). This was closely followed by typhoid 79(20.5%), sexually transmitted disease 31(8.1%), then diabetes 25 (6.0%) and infertility 24(6.2%). That malaria and typhoid were the highest infection treated with TM could be due to the endemic nature of malaria and sometimes the misdiagnosis or over diagnosis of typhoid in our setting (Onyekwere, 2007). Malaria and typhoid also were the highest co-morbid infections that are treated concurrently. This is in line with previous study and it has always been a public health issue. (Uneke, 2008).

In concordance with our study, respondents that have used traditional medicine for bone fracture were more common to the extreme ages (10-20 years) and 51 years and above.

Accumulating evidence suggests that traditional medicine practice is valuable for treatment of diseases (Algier *et al*., 2005; Wetzel *et al.*, 1998). Importantly traditional medicines are often less expensive than conventional medication. For example, study reports that Hyperium (St. John's Wort) is not only as effective as conventional antidepressants in treating depression but can be obtained at one-third the cost. This was in line with our study as 24.5% of our respondents used traditional medicine because it is cheap. 49% of the respondents used traditional medicines because it cures many diseases. This could be because the practice involves polypharmacy. Although the side effects of traditional medicines are known scientifically (Algier *et al*., 2005), our study showed that only few respondents (9.8%) use traditional medicines because they claim there are no side effects. This could be due to lack of awareness or because they cannot relate the side effects to the herbal medicine. High percentage of respondents who do not use traditional medicine because there is no standard dose could be due to high educational status of the area. However, the perception of the respondents on the use and efficacy of treatment of TM for various ailments were very good except for some conditions like treatment of wound infection, arthritis and cataract. The regulation of TM is necessary to ensure high standard, safety, quality and rational use as they are primarily the first port of call for most patients in the rural setting.

Conclusion

Traditional medicines are commonly used in Enugu State. Traditional medicine could become a critical tool in the fight against diseases especially malaria and increase general access to health in the area. Most people perceive traditional medicines as efficacious, cost effective and a viable alternative to orthodox medicine. For traditional medicines, there is a trade-off between the benefits and potential for harm. To minimize harm, it is necessary to fully integrate and regulate traditional medicine to ensure high standard, safety quality and rational use. Socio-economic factors such as cost, effectiveness, availability, safety of the product, educational level, average monthly

income, age and sex affect the patronage and use of traditional medicine.

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