

Short Research Article**FACTORS INFLUENCING CHOICE OF MEDICAL TREATMENT OPTIONS AMONG RURAL PEOPLE IN SELECTED COMMUNITIES IN IMO STATE, NIGERIA****ABSTRACT**

Aim: To determine the exact factors that influence the choice by rural dwellers of medical treatment in the event of illness.

Study Design: Sixty-four (64) randomly selected rural communities out of six hundred and thirty-seven (637) autonomous communities in Imo State, Nigeria were used in the study. A total of five hundred and forty (540) questionnaires were distributed across the three senatorial zones of the State, out of which five hundred (500) or 92.6% were returned.

Place and Duration of Study: Department of Social Sciences, Federal Polytechnic, Nekede, Imo State, Nigeria from December 2013 to July 2014.

Methodology: Considering that the data were frequency (categorical) data and the categories of the dependent variable (choice of medical treatment options) were more than two (2) and did not have a natural ordering, multinomial logistic regression model was adopted.

Results: Multinomial logistic regression analysis used showed that educational qualification and affinity for tradition were the major factors that affected choice of medical treatment options. Other factors were income and gender. The study also showed, among other things, that of the three treatment options, modern treatment was the most preferred in all forms of illness, except fracture in which native treatment was most preferred; and that the treatment options were chosen mostly on basis of their relative efficacy.

Conclusion: The three treatment options should be given adequate consideration in our medical system, since each has its area of relative strength. In particular, collaboration by the various categories of health practitioners should be adopted to enhance the efficacy of the health care system.

Keywords: Choice of Medical Treatment, Factor, Multinomial Logistic Regression, Predictor Variable and Dependent Variable.

1.0 INTRODUCTION**1.1 Background of Study**

Every society, ancient or modern, has a health culture which, among other things, determines the members' perception and approach to their health problems. This is so, because, health is generally

acknowledged as wealth. This implies that only the healthy can work to generate various forms of wealth in society.

Like the larger culture, health culture varies from one society to another according to the differences in the social, economic, geographical, political and psychological profiles of societies. Health culture is defined as "...a systematic attempt to explain and treat sickness and to maintain health. Health cultures are a component of the larger culture or tradition of people and may be a popular or folk system or a technical or scientific one" [1]. Generally, however, the health culture of any society embodies all health-related aspects of the peoples life: their *modus vivendi*, their food items and how these are produced and consumed, their environmental conditions or ecosystem, their state of well-being, their belief system, their definitions and perception of ill-health and the related preventive and therapeutic measures, their moral ethics, business life, philosophy of life, etc. The health culture of the developed nations borders largely or essentially on science and modern technology, while that of the developing nations, such as Nigeria, is an admixture of tradition and science.

In all societies, past and present, an increasing number of researches has documented associations between social and cultural factors and health [2] and [3]. This implies that socio-cultural factors directly or indirectly influence health traditions and practices. By logical extension, the same factors influence the choice of treatment or place of treatment in the event of ill-health.

As already noted, literature in medical research and medical sociology are replete with facts establishing the relationship between a society's culture and health or illness.[4] represented this view when he stated that the way people make sense of illness is in part culturally determined and that existing beliefs and presuppositions shared by a cultural knowledge regarding illness play a significant role in shaping an understanding of newly emerging illness in any given culture. With regard to some African Americans, [5] averred that "spiritual beliefs are important in understanding and coping with illness and may provide a framework within which treatment decisions are made". Similarly, [6] in their own empirical study using Asian and European students reported a significant association between cultural background and beliefs about the benefits and dangers of medicines.

It has also been indicated through research that an individual's or a group's beliefs, perception and interpretation of an illness tend to influence the individual's or group's treatment approaches [4].

1.2 Problem Statement

In contemporary Nigerian communities, there are three known and dominant options of treatment sources available to the people when they take ill. These include the orthodox or Western medical option, the folk or traditional medical option and the prayer or spiritual option. The exact factors which influence the choice of any of these at the expense of the others, especially among rural dwellers in Imo State have not been scientifically determined.

It is common knowledge that health problems, especially among rural dwellers, are sometimes compounded by uninformed/inappropriate choices of place of treatment. In some extreme cases, this has engendered fatal consequences. Thus, the choice of treatment, or of place of treatment, can make a difference between the life and death of a patient. It is in the light of these problems that this paper formulates its general and specific objective as:

1.3 Aims and Objectives

Aim: To determine the exact factors that influence the choice of medical treatment options among rural dwellers of selected communities in Imo State of Nigeria.

Specific Objectives: The specific objectives of the study are to:

determine the medical treatment options available to the people

determine the factors that influence their choices of specific treatment options

1.4 Justification of the Study

Abundant research work has established a relationship between socio-cultural factors and health. This implies that a people's social and cultural life influences their perception of illnesses and treatment approaches. This fact notwithstanding, there still exists an explanatory gap in available literature on why, even within a given cultural context, the people will prefer one treatment option to others. The study will provide this missing explanation especially with regard to the target communities in Imo State of Nigeria. In this way, the study will add a new dimension to the corpus of literature bordering on explanation of health-related behaviours.

The study will also enhance the comprehension of certain health-related behaviours among public and other rural health workers, as well as provide a scientific basis for making policy decisions in the subject area. Furthermore, the study will enable the rural people under study to make better-informed choice of medical treatment in the event of illness.

From the academic point of view, this work will serve as a reliable reference materials to students, scholars and researchers involved in similar or related research work, while any perceived gaps in it may stimulate further research by other interested researchers in the subject area.

2.0 METHODOLOGY

2.1 Data

Data for the study were generated from Researchers'-Made Questionnaire (RMQ) distributed to sixty-four randomly selected rural communities, out of six hundred and thirty-seven autonomous communities in Imo State, Nigeria. A total of five hundred and forty (540) copies of the questionnaire were distributed across the three senatorial zones of the State; out of which five hundred (500) or 92.6% were filled and returned. The questionnaire were designed to elicit information from the respondents on some demographic, social-cultural, and economic factors such as gender, educational qualification, religion, occupation, tradition (Belief in reincarnation, and in 'Ogbanje', Consideration of masquerade as necessary part of Igbo culture) and income that are said to influence their choices of medical treatment options (Modern Treatment, Native Treatment and Spiritual Treatment).

Considering that the data were frequency (categorical) data and the categories of the dependent variable (choice of medical treatment options) were more than two (2) and did not have a natural ordering, multinomial logistic regression model was adopted. SPSS version 20 was used in the analysis. The advantages of fitting one multinomial model over fitting several binary models are that there is one likelihood ratio chi-square, χ^2 , for fit of the entire model and there is an opportunity to test hypothesis about equality of slopes.

2.2 Operationalization of Concepts

Social – Cultural Factors: These are factors which desire their existence or border on social life. In their comprehensive sense, they include social life, cultural, psychological and economic attributes of individuals or of people that tends to predispose them to certain forms of behavior or identify them as social categories. Examples employed in this study are age, gender, marital status, educational qualification, religion affiliation, religious affinity, traditional affinity, family size. In this study, social-cultural and social-demographic factors are used interchangeably.

Health Cultural: The aspect of a society's culture that has implication for the life and health of the people. The indices include state of well-being, mode of living, food items and how they are produced and consumed, belief system, definitions and perceptions of ill-health and the concomitant preventive and therapeutic measures, etc. In this study, the focus was on illnesses and treatment options. Fifteen types of illness ranging from headache to HIV/AIDS and three major treatment options (native, modern/orthodox and spiritual healing/prayer house) were involved in the study.

Ogbanje: An Igbo word which describes a form of abnormal or strange behavior believed to have a spiritual origin.

Variables: Two categories of variables were employed in the study, namely: dependent and independent variables. The dependent variables were the three treatment options: native, orthodox/modern and supernatural/prayer options. The independent variables were gender, educational qualification, religion, occupation, traditional affinity (belief in re-incarnation and in 'Ogbanje', disposition towards masquerade) and income

3.0 DATA ANALYSIS

Table 1 gives the estimates of β for Daily Income (DI), Educational Qualification (EDQ), Traditional Belief in Reincarnation (TBR), Gender (G) and Traditional Masquerade Consideration (TMC) out of eight independent variables, that are significant either in whole or as interaction ($\alpha = .05$) using Wald's chi-square statistic. Others were dropped from the model because they were not significant. The implication of their exclusion is that they have minimal or no influence on the choices of medical treatment options. The intercept is also significant in the choice of native drug.

With Wald's estimates, we identify EDQ and TMC ($\alpha = .01$) as the major factors that influenced choice of medical treatment options followed by G(male), DI and TBR ($\alpha = .05$).

Again, Table 1 shows that there is significant interaction between those having at least a FSLC (EDQ=2) and those that took Traditional Masquerade Consideration (TMC) display as a necessary aspect of Igbo culture ($\alpha = .05$). Similarly, there is significant interaction between Traditional Belief in Reincarnation (TBR) and Daily Income (DI) of between ₦1001 and ₦1500.

Furthermore, Table 1 reveals that the logistic coefficient (β) for each predictor variable or interaction and for each alternative category of the outcome variable is greater than 1. The implication of this is that the expected amount of change in the Logit for each one unit change in the predictor or its

interaction is greater than 1. Equally, the expected β ($\text{Exp}(\beta)$), and the odds ratio associated with each predictor or its interaction have values greater than 1. This indicates that the risk of the outcome falling in the comparison (Modern Treatment or Native Treatment) group relative to the risk of the outcome falling in the referent group (Spiritual Healing) increases as the variable increases. In other words, the comparison outcome is more likely. For example, $\text{TMC} = 1$ ("Yes" to Traditional Masquerade Consideration as important factor influencing choice of medical treatment options in the case of Native Treatment) with $\text{Exp}(\beta) = 3.06$ implies that a unit increase in $\text{TMC} = 1$ increases the odds of an individual choosing native treatment from 1 to 3.06. Similarly, a unit increase in $\text{EDQ} = 3$ increases odds of an individual choosing modern treatment from 1 to 3.36×10^8 (a very high likely outcome).

Table 1: ESTIMATES OF THE MULTINOMIAL LOGISTIC REGRESSION MODEL

Value	β	S.E	Wald's χ^2	df	P-value	$\text{Exp}(\beta)$
Modern Treatment						
EDQ = 1	20.987	1.400	224.838	1	0.000	1.30×10^9
EDQ = 2	20.856	0.939	493.450	1	0.000	1.14×10^9
EDQ = 3	19.632	0.749	686.606	1	0.000	3.36×10^8
EDQ = 4	19.782	0.763	672.847	1	0.000	3.90×10^8
EDQ = 5	19865	0.730	741.367	1	0.000	4.24×10^8
TBR*DI=3	1.464	0.707	4.284	1	0.038	4.32
Native Treatment						
Intercept	-21.571	1.495	208.072	1	0.000	
G = 1	1.022	0.439	5.407	1	0.020	2.78
TMC=1	1.119	0.461	5.887	1	0.015	3.06
EDQ = 2*TMC=1	22.836	1.539	220.295	1	0.000	8.27×10^9
EDQ = 2*TMC=2	21.888	1.675	170.764	1	0.000	3.20×10^9
EDQ = 3*TMC=1	21.405	1.368	244.754	1	0.000	1.98×10^9
EDQ = 3*TMC=2	21.326	1.474	209.376	1	0.000	1.83×10^9
EDQ = 4*TMC=1	20.301	1.571	166.963	1	0.000	6.56×10^8
EDQ = 4*TMC=2	20.636	1.492	191.214	1	0.000	9.16×10^8
EDQ = 5*TMC=1	22.573	1.466	236.947	1	0.000	6.36×10^9
EDQ = 5*TMC=2	20.229	1.402	208.053	1	0.000	6.10×10^8

EDQ = 6*TMC=1	21.526	1.913	126.651	1	0.000	2.23x10 ⁹
---------------	--------	-------	---------	---	-------	----------------------

Having identified the factors that influence choice of medical treatment options in Table 1, we used Nagelkerke R^2 and Cox & Snell R^2 in Table 2 to determine the effect size. Here, the values Nagelkerke R^2 (0.352) and Cox & Snell R^2 (0.286) indicate that the predictors have some contribution in predicting the outcome variable.

Table 2 also shows that the Pearson goodness-of-fit test $\chi^2(580) = 617.53$, ($\alpha = .05$) is not significant, indicating that the predicted values are not significantly different from the observed values. In other words, the model is a good-fit for our data.

Table 2: Goodness-of-Fit

	χ^2	Df	P-value
Pearson	617.53	580	0.136
Deviance	438.24	580	1.000
PSEUDO R- SQUARE			
Cox & Snell	Nagelkerke		
0.286	0.352		

Another support to the fit of the model is given in Table 3. From Table 3, we see that the model fit $\chi^2(58) = 148.058$, ($\alpha = .001$) is significant; which indicates that our full model predicts better or more accurately than the null model.

Table 3: Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	P-value
Intercept Only	648.306	148.058	58	0.000
Final	500.247			

4.0 DISCUSSION

The results of the study identified educational qualification and affinity for tradition (masquerade consideration) as major factors that influenced choice of medical treatment options in the population of study. Other factors were gender and income. The findings are in line with previous studies such as [2], [7], [8] and [9].

It was observed, too, from the study that even the highly educated still have affinity for tradition in their choice of medical treatment, though, the number is understandably minimal. Also revealed in the study is that majority of people (64.4%) take to their options because of perceived efficacy of their respective options. This finding cuts across gender and educational qualification.

Again, it was shown in the study that the male (61.46%) tended to be more inclined to native treatment than the female (38.54%). Conversely, the female (64.18%) were more inclined to spiritual healings than the male (35.82%), a result which seems to imply that women are more spiritually oriented than men. However, on the average, both the male and the female prefer modern treatment to native treatment and spiritual healing.

Another fascinating finding of the study was that modern source of treatment (hospital) had the highest number of respondents in its favour in fourteen (14) out of fifteen (15) types of illness studied. Native treatment had the highest number in fracture, indicating that with regard to the treatment of fracture, the people had more confidence in native treatment than in modern option. It is also revealing that for stroke, native treatment recorded marginally less number of respondents than modern treatment (200 against 209 or 40.73% against 42.6%) respectively and this was also the case for spiritual healing which in relation to mental disorder had one hundred and ninety-one (191) respondents or 38.7% as against two hundred and seventeen (217) or 44% for modern. The implication of this finding is that the three treatment options are available and practiced in the community.

Finally, the study showed that the risk of the outcome (predictors) falling in the comparison (Modern Treatment or Native Treatment) group relative to the risk of the outcome (predictors) falling in the referent group (spiritual healing) increases as the variable increases. In other words, the comparison outcome is more likely.

5.0 CONCLUSION

Though the data used in the study were collected from Imo State, Nigeria, the findings provide an insight into the trend and characteristics of rural people in sub-Saharan Africa and other developing countries. For instance, illnesses such as malaria, stroke and mental disorder are common in sub-Saharan Africa. According to the findings of this study, patients in seeking treatment for these illnesses patronize modern treatment, native treatment and spiritual healing, depending on their perceived efficacy. Hence, a synergy of the practitioners in these treatment options will go a long way in solving health problems in the sub-region.

REFERENCES

- [1] Mosby's Medical Dictionary, 8th Ed. (2009) Elsevier.
- [2] Berkman, L. and Kawachi, I. (2000) Social Epidemiology, New York: Oxford University Press.
- [3] Marmot, M.G; and Wilkinson, R.D. (Editors) Social Determinant of Health. Oxford: Oxford University Press.

- [4] Wasti, S.P., Randall, J., Simkhada, P. and Van, T. (2011) "In What Way do Nepalese Cultural Factors Affect Adherence to Antiretroviral Treatment in Nepal." *Health Science Journal*. Vol. 5. Issue 1. www.hsj.gr.
- [5] Kimberly, S.J., Katja, I.E., and James, A.T. (2005: April) "The Influence of Spiritual Beliefs and Practices on the Treatment Preferences of African Americans: A Review of the Literature". *Journal of the American Geriatrics Society*. Vol. 53, Issue 4, pp 711 – 719.
- [6] Horne, R., Graupner, L., Frost, S., Weinman, J., Wright, S.M. and Hankins, M. (2004) Medicine in a Multi-cultural Society: The Effect of Cultural Background on Beliefs about Medications. *Social Science & Medicine*. Vol. 59, Issue 6, pp.1307 – 1313.
- [7] Okafor S. (1984) Spatial Location and Utilization of Health Facilities. In Erinoso A (ed) Nigerian Perspective on Medical Sociology: Coll. of William and Mary.
- [8] Eugenia E. (1989) The Acceptance of Childhood Immunization to Mothers: A Socio-Behavioral Perspective. A Research funded by CDC and USPASA and ACSI-CCO. Draft Report.
- [9] Jegede A. (1998) African Culture and Health. Lagos: Stirling-Harden Publishers (Nig.) Ltd.