ECONOMIC DETERMINANTS OF CHOICE OF HEALTH CARE SERVICES AND PROVIDERS IN NASARAWA STATE: A CASE STUDY OF NASARAWA STATE UNIVERSITY.

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Abstract

It is disheartening that in developing countries, people often fall sick and die of diseases that are preventable and treatable. Most of such individuals do not benefit from modern health knowledge and technology which could help restore their health. Some communities do not have access to good and efficient health services; while some other people in communities with health facilities do fail to make appropriate use of them. This study thus explicitly examined the economic determinants of choice of health care services and providers among students in Nigeria, using Nasarawa State University as a case study. Descriptive method of analysis was adopted, while independent sample t-test was utilized to test the stated hypothesis. Findings from the study revealed that the level of income has a significant effect on choice of healthcare service provider and the Individuals who have sufficient incomes preferred to use modern health care facility irrespective of where it is located and provided they can afford them. In addition, the finding revealed that price of medical care has a significant influence in the choice of healthcare service providers. The distance to health facility was revealed to have had a significant impact on choice of healthcare service provider. It demonstrated that distance to health facility is an important factor associated with decrease in seeking of health care services. The study thus recommends that there is the need for government to subsidize cost of health care services particularly for the students and indigent citizens. In citing health care service, federal and state medical boards should also put into consideration the students. This is to enable them access health care services in the face of the rising income constraint by this group of people.

Keywords: **Health care provider, Income, Distance to health facility, and Choice**
JEL Classifications: H51, H75, I11 and I14

Introduction

It is disheartening that in developing countries, people often fall sick and die of diseases that are preventable and treatable. Most of such individuals do not benefit from modern health knowledge and technology which could help restore their health. The reasons for such unnecessary deaths are varied. Some communities do not have access to good and efficient health services. People in communities with health facilities often fail to make appropriate use of them. People lack the essential knowledge on how to live healthy, recognize dangerous signs and situations and mobilize resources to solve health problems. The very high morbidity and mortality rates especially in the rural areas of these developing countries can also be due to poor hygiene and lack of funds and unmet drug needs (Lucas, 2016).

Interest has increased in the study of determinants of the use of health services in recent years. This interest appears to have originated from cultural, social, psychological and economic influences that affect variation in the use of health care services. The major factors include personal attributes which may predispose individuals to seek medical care, the need for the service evidence by the illness and enabling factors such as financial capability to pay for the service, accessibility to location of health services and the knowledge of service network. Ntembe (2009) stated that determinants of choice of health care service involves cost of health care service, quality of service, cost of consultation and proximity of health facility to patients significantly determine choice of health care service utilization. There is evidence that the consumers choose the facilities to which access is easier and where payment is flexible (Nguyen, Lofgren, Lindholm &Kim 2008). There is further evidence that socio-economic and demographic conditions play an important role in choosing health care providers (Bir and Eggleston 2012). The effects of users' fees on access to health care have been studied widely arriving at various conclusions. Some of these studies show little significant effect of user fees on utilization of medical care (Akin, Griffin, Guilky, & Popkin. 1986). However, many of the results are in consonance with economic findings, that utilization is sensitive to user fees (Lavy and Germain 1994; Gupta and Dasgupta 2000).

The differential responses by various consumer groups to variations in the cost of health services estimated from the elasticties of income and prices of facility choice imply that user fees may not have the same impact on various income groups. The poor for example, tend to be more responsive to price changes than the non-poor because such charges may significantly affect their disposable income (Ntembe 2009).

Consumers of health services patronize the nearest service centre in order to minimize distance. Studies have emphasized the significance of distance as an important factor on co-nsumers of health services (King 1973; Van-Etten 1972). Implicit in all these efforts, however, is that distance does not explain everything. Some other efforts have gone beyond looking at distance to identifying some other factors. Patients could however choose health care providers which they consider would give the best service rather than the ones nearest to them.

It is imperative in this study therefore to examine the economic determinants of choice of health care providers among students, using Nasarawa State University as a case study.

The following research questions were addressed in the course of the study: (i) What are the effects of level of income on choice of healthcare service provider? (ii) To what extent has price of medical care influenced the choice of healthcare service provider? (iii) What impact does distance to health facility had on choice of healthcare service provider?

In-line with the research questions, the following hypothesis were validated:

$H0_1$: The level of income has no effect on choice of healthcare facilities and service provider

$H0_2$: The price of medical care has no influenced the choice of healthcare facilities and service providers

$H0_3$: Distance to health facility has no significant impact on choice of healthcare facilities and service providers

Conceptual Issues

Health Care Services, which could be primary, secondary or tertiary, are produced by medical and related health professions for the prevention, treatment and management of illness and the preservation of mental, social and physical well-being. They help to maintain good health among individuals in the community thereby decreasing the morbidity and mortality. These services are provided closest to the people where they live (Asuzu, 2014).

Primary health services are the point at which the individual makes first contact with health service. They range from a health centre, dispensary or health post in the rural area to general medical practitioner's clinic or out-patient department of the hospital in the urban area. The health centres are community-based and patient-directed organizations that serve populations with limited access to health care such as low-income populations and farm workers. They serve as a health home for underserved people, improving public health and reduce the burden on hospital emergency rooms and providing needed services such as free immunization for children (Cueto, 2014).

The major requirements for health services have been divided into finance, human resources, materials and Management. Financing can come wholly from government revenue, development partner's funds, compulsory insurance schemes and revolving funds. Government can provide some general public health servicessubsidize some services while the communities must supplement payment for other items of health care (Kabene, Orchard, Howard & Soriano, 2016).

Empirical Review

Findings from various researches carried out on economic determinants of choice of health care providers revealed that patients prefer teaching hospital (Kolstad andChernew, 2009) while some are mixed on whether patients prefer a university medical centre (Lux, Fasching, Schrauder ,Lohberg, Thiel and Bani, 2011). Americans tend to prefer private, non-profit providers over public and commercial ones, whereas patients from the UK prefer public hospitals (Orr, Sidiki, McGhee, 1998).

Some other vital determinants are the scope of services, quality of facilities and the provider size. Bornstein et.al. (2000) posited that Patients prefer centres with many Physicians. Also, many studies have found that the qualification and/or expertise of providers to be an important determinant of choice (Tai, Porell, Adams, 2004). Patients prefer centres with highly qualified physicians. Howell, Gardiner and Concato (2002) findings revealed that patients do not usually like lengthy travel time and prefer health facilities that are quite close. The facilities are preferable when they are accessible by their own transport or public transport. In this sense, geographical access is quite an important factor in determining their access to a health care facility.

Therefore, the healthcare providers and environmental friendliness have also been identified as important determinants in accessing a health facility. Beside, reduced waiting time do facilitate people's preferences for some health facilities to others. However, the specific disease determines the level of importance that Patients attach to waiting time. Another very important determinant of choice is the quality of care. Many studies found this to have at least some positive influence on choice (Dijs-Elsinga,Otten,Versluijs, Smeets, Kievit,Vree, 2010). The rules and activities implemented in order to deliver good care were quite important as well as the use of clinical standards, the protocols and procedures a provider has implemented and multidisciplinary care to facilitate easy access by clients (Lux, Fasching, Schrauder, Lohberg, Thiel, Bani, 2012)

In addition, significant price effect has been found by several researches, including: Litvack and Bodart (1993), for Cameroon; Lavy and Germain (1994) for Ghana; for Cote d'Ivoire. All of them found the introduction of user fees as reducing the usage of public health services, particularly for the poor. However, Lacroix and Alilhonou (1982) for Benin, and non-African evidence from Akin et al. (1998) in Sri Lanka and World Bank (1987) research on the Philip-pines, have revealed that cost has relative less impact on behaviour of health care users Lawson (2004). This has been found by Lavy and Germain (1994), Lavy and Quinley (1995), in Ghana and Appleton (1998) for Kenya.

Gender disparities in access to health services have been studied in a number of places. Generally, time constraints and opportunity costs faced by women are higher than for men, thus deterring them from access to health care services to a large extent (Mwabu et al.1994; Deinngier and Mpuga, 2003).

Quite a number of studies demonstrated that the decision to use a particular medical channel have been informed by numerous socio-economic variables, such as sex, age, the social status of women, the type of illness, access to services and perceived quality of the services (Tipping and Segall 1995).

Most of these studies however, where done in settings that were quite different from the Sub-Saharan clime. Very few are available of such in Nigeria. A study by Abodunrin, Bamidele, Olugbenga-Bello and Parakoyi (2010) in Ilorin, North Central, Nigeria revealed that the preferred health facility for medical care was private hospitals followed by pharmaceutical store, general and teaching hospitals and primary health care (PHC) in that order. Reduced waiting time and availability of drugs were found to be the major determinants

of choice of health facility. The other factors were Sex, marital status, educational status, occupation and city area where the respondents lived (Abodunrin, Bamidele, Olugbenga-Bello andParakoyi, 2010).

Grossman's Human Capital Model of Health Care Demand

The demand for health access care services is one of the most central topics in Health Economics. The canonical model of the demand for health and health investment such as medical care arises from Grossman (1972a, 1972b, 2000) and theoretical extensions and competing economic models are still relatively few (Galama,2011).

In Grossman's framework, individuals demand for medical care such as investment on time and consumption of medical goods and services for the consumption benefits for which health provides utility as well as production benefits for which healthy individuals have greater earnings that good health provides. The model provides a conceptual framework for interpretation of the demand for health and medical care in relation to an individual's resource constraints, preferences and consumption needs over the life cycle. The model, for the first time introduced the concept that consumers do not demand medical care per se, but it is a derived demand generated through the demand for health *(*Arhin-Tenkorang , 2000)

METHODOLOGY

The research design adopted for the study is a simple random sample survey. The approach offered the researchers the opportunity to reflect a captured a population's characteristics that fairly represents the sample for the study. The sample of the study consists of selected students from Nasarawa State University, Keffi, which comprised of 171 from 896 populations of 300-400level Economics, Business Administration and Mass communication students using Smith (1984) sample formula.

The instrument used is questionnaire, and this has a five point Likert scale of agree to disagree, that is, Agreed, Disagree, Undecided, Strongly Agreed and Strongly Disagreed. This was used to measure the extent to which the various respondents agreed, or disagreed with the issues raised.

The result of the reliability test of the research instrument revealed that the Cronbach Alpha value for the questionnaire gave 0.821. This demonstrated that the Questionnaire items were reliable enough to conduct the study as it has

Cronbach Alpha statistic of above 0.7. Ritter (2010), opined that a Cronbach alpha of 0.7 and above imply that the data is reliable and can be used for analysis.

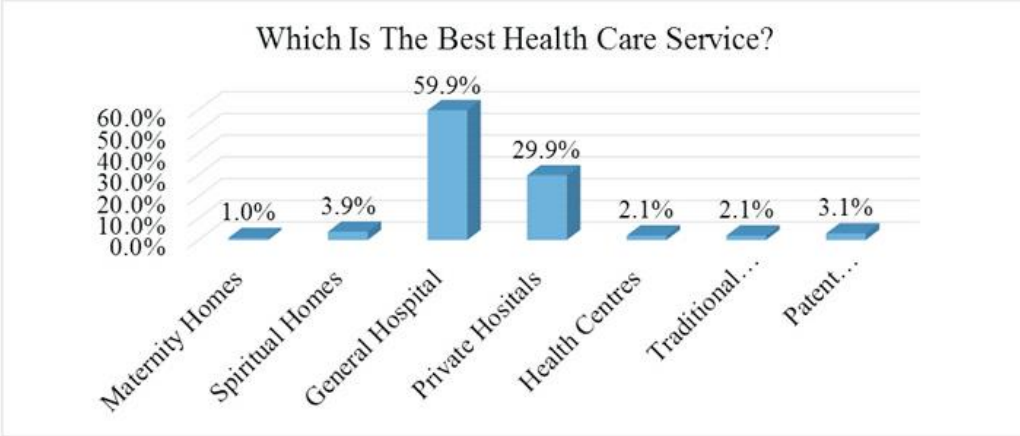
The major statistical technique used in testing the hypothesis was the independent sample t-test This was due to the fact that all the independent variables in the study were categorical variables while the dependent variable was a numerical variable.

The justification for the use of independent sample t-test is because it measures the relationships existing between two or more variables. It is simple to compute without errors and it helps to illustrate the directional outcome and strength of the variable. It further shows a precise quantitative measurement of the degree of relationship between dependent and independent variables and it is the superior method best fit for this study compared to the ordinary t-test.

The analysis was conducted using the Statistical Package for Social Sciences (SPSS), and MS Excel.

Pattern of health care delivery services utilization and perception of the services by the respondents

Figure 1: Response on the Best Health Care Service

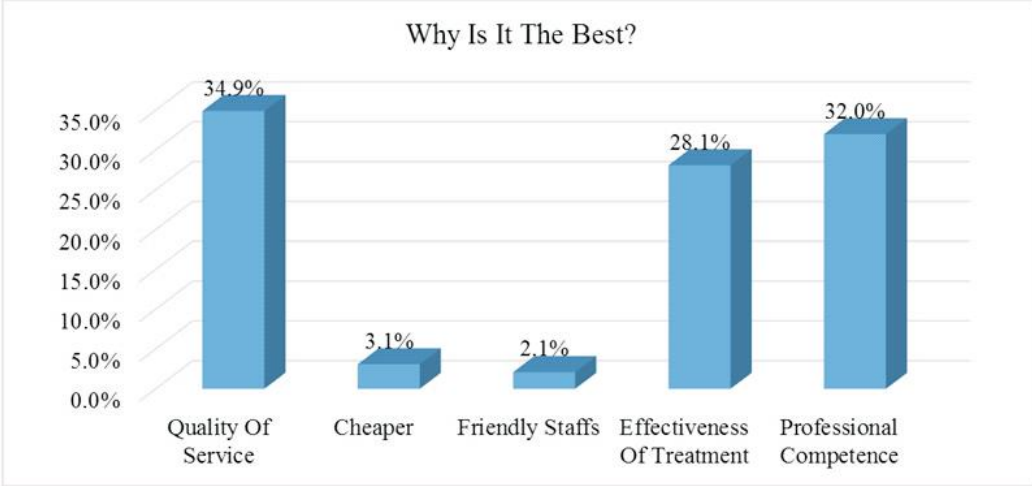


Source: Field Survey, 2017

From figure 1, it could be observed that all the respondents identified the

providers of health care Patent medicine sellers, General and Private Hospitals, spiritual homes, maternity homes and traditional homes.
An overwhelming majority (59.9%) of the respondents felt that the Teaching Hospital provided the best health care services followed by Private hospitals (29.9%). Spiritual, maternity and spiritual homes, health centres and Patent medicine sellers were not rated highly in health services provision.
We infer on the responses from the clients on the quality of facilities and services rendered as demonstrated in figure 2 Below:

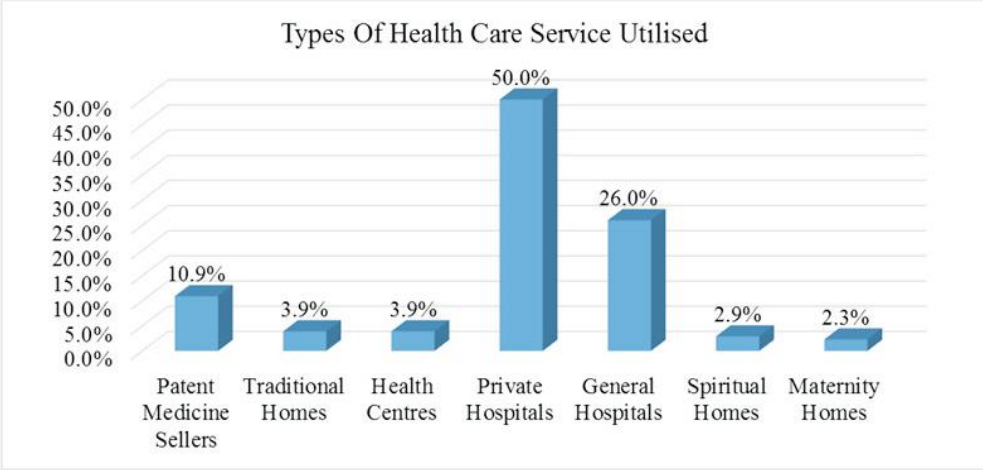
Figure 2: Response on why It's the Best Health Care Service



Source: Field Survey, 2017

The overall quality of care 34.9%, perception of competence of health professionals (32.0%) and effectiveness of treatments given,28.0% were the factors considered to be the most important in determining which facility provided the best services as captured in figure 2.
We present the classification of health care services and access to them in figure three asfollow

Figure 3: Opinions on the Types of Health Care Service and Utilization.

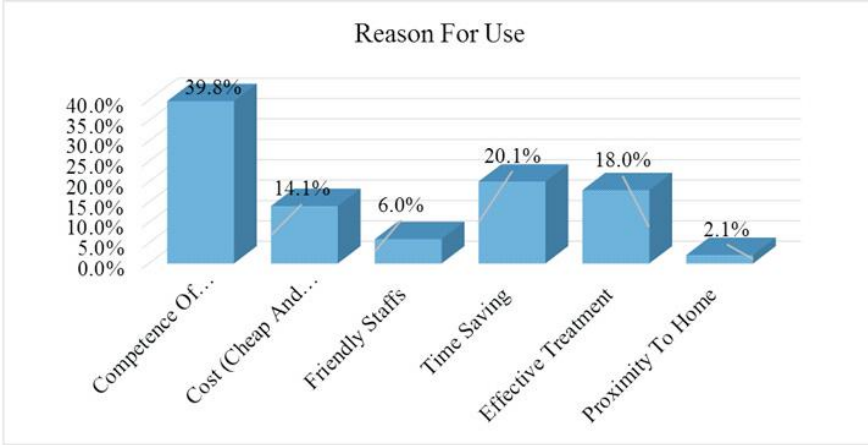


Source: Field Survey, 2017

From figure 3, it could be revealed that half of the respondents utilized Private hospitals while 26.0% utilize the General Hospital services. Patent medicine sellers and Maternity homes were patronized by 10.9% of the respondents each. Spiritual homes, Traditional homes and health centres were utilized by 3.9% 0f the respondents respectively.

Figure four below for responses on the reasons for utilization of health care services as follow*:*

Figure 4: Responses on Reason for utilization of Health Care Services

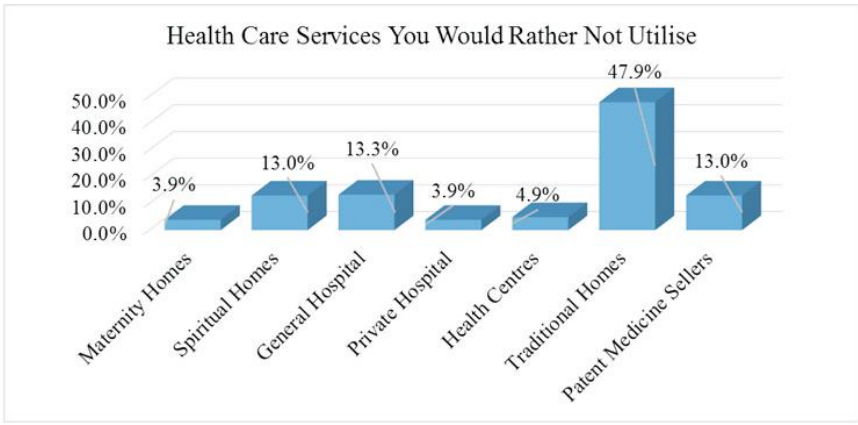


Source: Field Survey, 2017

The most important determinants of utilization were those who perceived competence of health professionals had 39.8%, promptness of services had 20.1%, effectiveness of therapy had 18.0% and cost had 14.1% responses as revealed in figure 4.

Table five below provided data on health care services under preference for utilization as follow:

Figure 5: Opinions on preference for utilization of Health Care Services They Would Rather Not Utilize

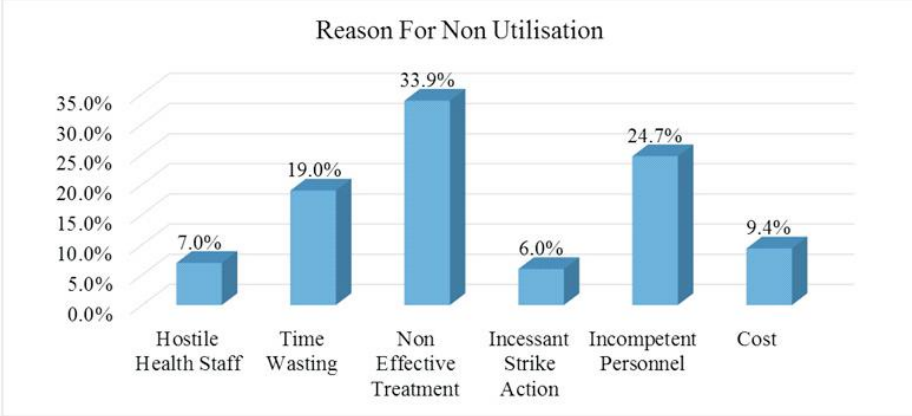


Source: Field Survey, 2017

In response to which health facility respondents would prefer not to utilize in figure 5; 47.9% preferred Traditional healing homes, 13.3% preferred the Teaching Hospital while 13% each preferred spiritual homes and patent medicine sellers.

Figure six below provided data on responses on the inability of clients to utilized health care facilities

Figure 6: Responses on Reason for Non Utilization of healthcare facilities.



Source: Field Survey, 2017

The most important determinants of non-utilization were perception of ineffectiveness of therapy,33.9%, incompetence, 24.7% and time wasting at health facility, 19.0%. Other factors include cost, 9.4%, health staff hostility,7.0% and incessant strike action by health personnel,6.0% as shown in figure 6.

Validation of Hypothesis

In line with the statistical research, the three hypotheses formulated in this study were validated with the application of *t-statistics*. The level of significance for the critical value is 5%, for a two-tailed test. Where the null hypothesis that is, the critical t-value of ±1.96 is greater than the estimated value, the results will be rejected. Thus, hypothesis are:

Hypotheses One: $H0_1$*: Level of income has no effects on choice of healthcare facilities and service providers.*

Table 1: Independent Sample T- Test for Level of income and choice of healthcare service provider.

Independent Samples Test					
Variable		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F-test	Sig,	T-test	Sig. (2-tailed)
Level of income	Equal variances assumed	32.14	0.000	8.71	0.000
	Equal variances not assumed			7.106	0.002

Source: Authors Computation, SPSS 24

The calculated t-value for Level of income in Table 1 is 8.71 and the critical value is 1.96 under 5% significance. The estimated value is less than the critical value 8.71 > 1.96. We therefore reject the first null hypothesis ($H0_1$) by concluding that the level of income has a significant effect on choice of healthcare service by both the providers and the clients.

Hence, the effect size statistics provide an indication of the magnitude of the differences between the two variables (not just whether the relationship could have occurred by chance). Eta squared range from 0 to 1 and represents the proportion of variance in the dependent variable that is explained by the independent variable. The resulting eta squared value, which in Cohen's (1988) terms would either be considered a small effect size or large size. Cohen classifies 0.01 as a small effect, 0.06 as a medium effect and 0.14 as a large effect. The guidelines (proposed by Cohen, 1988) for interpreting this value are: 0.01=small effect, 0.06=moderate effect, 0.14=large effect.

The formula is given as: $$Eta\_Squared = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

Replacing with the appropriate values from the example above:

$$Eta\_Squared = \frac{(8.71)^2}{(8.71)^2 + (171 + 171 - 2)} = 0.1824$$

For our current results, it can be observed that the effect size of 0.1824 is relatively large. Expressed as a percentage (multiply your eta square value by 100), only 18.24 per cent of the variance in choice of healthcare service provider is explained by Level of income

Hypotheses Two: $H0_2$*: The Price of medical care has no significant influence on the choice of healthcare facilities and service providers.*

Table 2: Independent Sample T- Test for *Price of medical care* and choice of healthcare service provider.

Indepe ndent Samples Test					
Variabl e		Levene's Test for Equality of Variances		T-test for Equa lit y of Means	
		F -test	S ig,	T-test	Sig. (2-tailed)
Price of medical care	Equal variances assumed	14.221	0.000	5.23	0.0000
	Equal variances not assumed			2.89	0.0001

Source: Authors Computation, SPSS 24

From the independent sampled t- test result in Table 2, it is glaring that the calculated t-value for the price of medical care is 5.23; while the critical value is 1.96. The t-value therefore falls in the rejection region and hence, the price of medical care has a significant influence on the choice of healthcare service provider.

Estimating the effect of Price of medical care and choice of healthcare service provider, the Eta value gave:

$$Eta\_Squared = \frac{(5.23)^2}{(5.23)^2 + (171 + 171 - 2)} = 0.0744$$

It can be observed that the effect size of 0.0744 is also moderate. Expressed as a percentage multiply your eta square value by 100, only 7.44 per cent of the variance in choice of healthcare service provider is explained by price of medical care

Hypotheses Three: $H0_3$*: Distance to health facility have no impact on choice of healthcare facilities and service providers*

Table 3: Independent Sample T- Test for Distance to health facility and choice of healthcare service providers

I nd epend ent Samp les Test					
Variable		Levene's Tes t for Equality of Variances		T-test for Equality of Means	
		F-test	Sig,	T-test	S ig. (2-tailed)
Distance to health facility	Equal varia nces assumed	14.524	0.000	4.87	0.0012
	Equal varia nces not as sumed			3.421	0.0211

Source: Authors Computation, SPSS 24

From the Independent Sample T- Test in Table 3, it is revealed that the calculated t-value for distance to health facility is 4.87 and the critical value is 1.96 under 5% level of significance. Since the t-calculated is greater than the critical value 4.87 > 1.96. We may reject the null hypothesis **($H0_3$)**. and conclude that distance to health facility have impact on choice of healthcare facilities and service providers.

Estimating the effect of for our current results, the Eta value gave:

It can be observed that the effect size of 0.065 is moderate. Expressed as a percentage (multiply your eta square value by 100), only 6.50 per cent of the variance in choice of healthcare service provider is explained by distance to health facility

Implications of Findings

The findings so far revealed that the level of income has a significant effect on choice of healthcare service providers. Individuals who have sufficient incomes preferred to use modern health care facilities irrespective of where they are located so long as they can afford such services. The findings demonstrated that, the price of medical care has a significant influence on the choice of healthcare service providers. This agrees with Ntembe's (2009) findings that the poor tend to be more responsive to price changes than the non-poor as such charges could significantly affect their disposable income. Deinngier and Mpuga (2003) also affirmed user fees as an important determinant to accessing health care services, particularly for the poor people. Distance to health facility was revealed to have a significant impact on choice of healthcare service providers. This is in agreement with the findings of Lavy and Quinley (1995), in Ghana and Appleton (1998) for Kenya whose studies revealed that distance to health facility was found to be an important factor associated with decrease in seeking of health care services. Indeed, these findings have implications for planning health care delivery system in Nigeria. For instance, the nature, type and quality of services in a health facility should provide based on available, accessibility and affordability. The absence of this can mere the prospects of increased access to health care services and unmet needs of the poor, the very poor and helpless citizens of the country where income level are quite low or not even available to enable them access health care services.

Policy thrust much incorporate and integrate income level of citizens in their plans and plight to reform the future health care facilities and their service provided for by care givers. The policy utmost ought to redirect attention to user friendly health care facilities and services that ensured full capacity utilization of resources endowment in a facility. Both the clients and care givers are crucial in the conception, execution, monitoring and evaluation of the health system policies and reforms.

CONCLUSION AND RECOMMENDATIONS

The paper illustrates the need for an understanding of the determinants of choice of health care utilization which provides a basis for Government's health policy reform. Evidence from the study reveals that the major determinants of choice of Health Care Utilization include user's fees, level of income, distance from healthcare service, severity of illness and level of education. It shows that the accessibility and cost of health-care utilization are very important determinants of choice of health care utilization. There is therefore an urgent need for government to incorporate these determinants into programmes and policy aimed at ensuring health care for this special category of persons.

The findings from the study show that if government is planning to expand and improve health care delivery, it needs to consider how best to include the low-income groups in Nigeria and Nasarawa State in particular. Based on the findings the following recommendations are made viz;

i. There is the need for government to subsidize cost of health care services particularly for the students.
ii. In citing health care services, federal and state medical boards should put into consideration the students and indigent citizens. This is to enable them access health care services in the face of rising income constraint by these group of people.
iii. The amount charged on health services provided to students and indigent citizens should be provided in a subsidised form to enable those with low income to have access to available health care services wherever they are especially in cases of emergencies and other health challenges.

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