Influence of Sociocultural Factors on Medication Use among Stroke Patients in Rural Cross River State, Nigeria

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Abstract
This paper examined the influence of sociocultural factors such as beliefs and practices on medication use among stroke patients in rural Cross River State, Nigeria as a way understand the health-seeking behaviour of these patients in the area. The Predisposing-Enabling-Need and Witchcraft Theories of disease causation provided the framework. Data collection was through three qualitative methods. Thirty in-depth interviews were conducted with six key opinion leaders (chiefs, elders and religious leaders), six care givers, six significant others, and 12 stroke patients. Eighteen Focus Group Discussions were conducted among men, women, community leaders and community members, while two life histories were carried out on stroke patients. Results indicated that beliefs and practices were significantly associated with medication use among stroke patients. Stroke was perceived as caused by supernatural forces working through human agencies, breach of religious taboos, and violation of social norms. As a result, the majority of the respondents and participants perceived traditional medicine essentially as the most important treatment option.

Keywords: Stroke, access to medication, Cross River State, beliefs, adherence to treatment

Background
Stroke is considered as one of the leading causes of morbidity and mortality globally and may likely worsen in less developed countries over the next two decades. It is indeed classified as the third leading cause of death and long term disability in many countries (Ogun, 2010). Stroke which is also referred to as brain attack is caused by a disruption in the flow of blood to parts of the brain due to blockage of a blood vessel which is known as ischemic stroke, or a rupture of the blood vessel otherwise known as haemorrhagic stroke. Such
disruptions prevent the brain from accessing nutrients and oxygen, which results to damage to cells in the affected regions of the brain (Allen, 2013). It was considered to be less prevalent among black Africans in the past, but recent reports show an appreciable number of stroke in less developed countries following social and economic changes (Ogunrin, 2015).

The improvement of appropriate measures to promote medication use produce important outcomes in reducing death and disability from the disease; unfortunately, all efforts to realise this has not succeeded due to the interplay of some cultural variables (Williams, Bruno, Rouch and Marist, 1997). As a consequence, the burden of stroke continues to increase. In Nigeria, the annual incidence of stroke was 26 per 100,000 populations (Ogini, 2012), while 40% is considered to be the case fatality rate. The global statistics on stroke is 15 million per annum. Of these total, about 5 million people die, 5 million remain with permanent disabilities, while only about 5 million receive medication due to poor access and utilization of medical services, especially in the rural areas (Adedayun, 2010). Stroke management has been largely resistant to change, while there is little or lack of funding for high-quality research.

Explanations of sickness and wellness are influenced by perceptions among culture bearers and changes with time (Martin, 1992). In 1978, Foster and Anderson used the "disease-theory system" to explain causes of disease and illness. They identified three basic theories that causes illness in the individual. The theories are personalitic, which locate illness on agents within the society such as witchcrafts and ancestral causes, while the naturalistic theory makes reference to biological causes such as germs and breakdown of the system. The emotionalistic disease theory on the other hand blame illness on imbalance in the psychology of the individual. illness is considered to be a function of the psychological condition which the individual finds himself.

In his study of the cultures of South America, Levi-Strauss (1967) noted that all societies have different definition and conception of health care systems. The curer is considered to be the world's oldest profession, outside hunters and gatherers. His primary role always had some general characteristics. A society's definition of illness is important for treatment and hence determines medication use. When sickness has a personalitic cause, Shamans and other related religious specialists may become relevant. They employ different techniques which sometimes could be occult and sometimes practical that comprise their various expertise. A Priest-doctor, one who specialises in magico-religious activities, may be a specialist in curing soul loss by luring the spirit back into the individual’s body. A priest-doctor may make childbirth easier by causes spirits to travel through the birth channel to guide the baby through. Sometimes, a priest-doctor may cure illnesses such as stroke and other related illnesses by acting in opposition to a curse or evacuating a substance inflicted by one who practices magic.

Cross River State was selected for this study because; the demography of the people has received little attention, especially with regards to the relationship that exists between social issues and medication use for stroke
patients. The state has majority of the population living in rural areas with farming as their major occupation, and classified in literature among areas of high prevalence of stroke cases.

Theoretical Framework
The Predisposing-Enabling-Need and Witchcraft Theories of disease causation will be employed to explain the influence of cultural beliefs and practices on medication use among stroke patients in rural communities of Cross River State, Nigeria. Whereas the Anderson and Newman theory emphasize the importance of both the individual and structures within society, and also advance a comprehensive model of how society works, The Witchcraft theory explains the socio-cultural dimension of disease causation from the point of view of the participants.

Witchcraft Theory
Sociological theories of witchcraft are a spadework of Margaret Murray (1976), a British Egyptologist, who thought the witches and wizards of western Europe to be the tarrying followers of a once general pagan religion, and related to Evans-Pritchard's study among the Azande and crystalizes two fields, the sociology of knowledge that is, the social conditions of knowledge and explanations and the study of some minor political processes. The book was a study in the sociology of knowledge in a particular society, but it contained a lot of insights that led other researchers to think about applying them in their investigations of other cultures and societies. These led to the emergence of a body of theories that considers frequent accusations of suspected cases of witchcrafts or sorcery to be social strain measuring instruments that shows the roles and relationships in a social system that are especially subject to pressures on the part of the individual and society (Emmanuel, 2005).

Evans-Pritchard extended Emile Durkheim's theory that every society has its own logic and that it will program itself according to its own social patterns. His work on how witchcraft is practiced among the Azande people takes into consideration certain forms of behaviour in order to deal with certain social problems that their society encounters in everyday life. He noted that Azande people are conscious of the natural causes of misfortune which they describe, using witchcraft as a reference point, but the people have a clear distinction between natural and supernatural causes of these misfortune as it affects their daily life, and hence a complex definition of how witchcraft work within their society. However, witchcraft is not necessarily the cause of the misfortune, it is only used to explain misfortune in socially relevant ways. It attempts to explain the distinctive form such misfortunes take, forms that are difficult to explained in rational language and manner. For this reason, it is not the event itself, but the very many consequences that trigger such an event to happen. Evans-Pritchard's study of witchcraft in this setting is a study of social mechanism which generates certain cultural systems (Buckman and Sabbagh, 2010).
These explanations of the cause of illnesses such as stroke are more likely to be part of a traditional paradigm of explaining the aetiology of illnesses. According to this viewpoint, illness is seen and described in terms of the machinations of evil people and forces as being due to acts or wishes of other people or supernatural beings and forces. These forces could be the work of a deity or a dead ancestor. In some cases, an individual with special powers could be a witch or a magician. Ancestors inflict illnesses in return for an offense against moral and spiritual taboos. Contraventions of social norms or religious taboos attract punishments. He may incur the wrath of the deity which will, in turn, afflict the individual with chronic diseases like stroke. This is considered to be a form of divine sanction. In the same vein, among different culture bearers, illness is considered as punishment for refusing to carry out the necessary traditional rituals for a dead ancestor. Demons find a way into the individual, occupy him, carry out vengeance for a perceived wrong against the dead. In the same vein, illnesses such as stroke and related illnesses in many cultures are considered to be bad luck. To recover from illnesses perceived to be a function of supernatural causes usually involved certain rituals and sacrifices, which in most cases, practitioners who are vested in these arts are engaged due to their knowledge of languages and symbols understood by initiates alone. The witchcraft theory of disease causation is very important to this study. Stroke patients in rural Cross River State may have the tendency of describing their illnesses in terms of the logics and idioms of witchcraft.

**Anderson and Newman Predisposing-Enabling-Need Theory**

This theory was designed to pragmatically test propositions about unequal relationship to health services in the USA. The theory is based on the assumption that some sectors of the society are grossly marginalized in terms of health services distribution. The basic assumption here is that health services are horizontally distributed such that people from ethnic minorities and those in rural areas are not properly catered for. Anderson's proposition view relationship to services as having much to do with decision-making within the individual and his social status within the system. The theory, therefore, enables researches concerning social inequalities.

A quick observation of the theory indicates three sets of prevenient factors: predisposing, enabling, and need. The basic assumption is that a sequence of factors determines the decision to use health services: The disposition to use services, the power to use services and the need to use services. Anderson's first concentration was the family as the unit of analysis; consequently, the use of family-level variables became imperative. However, with time, applications of the model considered the individual as the focus of analyses. For the individual, his use of health services is a function of three characteristics as stated earlier.
(a) **Predisposing factors:** The assumption here is premised on the logic that, a family's natural inclination to use health services can be dependent on a combination of individual characteristics that predate the illness. The individual characteristics here are made up of the makeup of the family, the structure of the society, and the prevailing health beliefs. The variables under consideration include age, sex, family size, ethnicity, and social class. These factors explain the social standing of the family which will go a long way to determine their values and attitudes, and both their physical and social environment.

(b) **Enabling factors:** The basic assumption here is that, even if a family has a propensity to use health services, certain conditions must be prevalent to provide the enabling environment for proper medication use. Such characteristics include effective demand for health services, availability of health insurance and health services. When facilities are not available, a predisposition will not necessarily approximate to utilization, as other factors must be put in place.

(c) Finally for utilization to take place, the need to use services must first exist. The need factors are included in the model to cater for this probable gap. The need factors in the case are variables related to illness on one hand, and the variables related to response on the other hand. The family must respond to illness as soon as they recognize the existence of the illness.

For Anderson, access to facilities is said to fair and just if it can be predicted by unchanging demographic characteristics such as age and sex, or to need related factors, like illness. In any case, access can be deemed to be fair and just if it can be totally based on variables such as ethnicity or enabling factors. It is upon this infrastructure that the theoretical foundation of using the Anderson model to study social inequalities in health service utilization is based.

Anderson's model has been criticized for not being able to explain the variables that must be used in the application of the need, predisposing and enabling factors. The decision of how to apply them is derivable from the theoretical relationship between the independent and dependent variables. For this reason, selecting variables, within the underlying structure of need, predisposing and enabling factors, depends on the researcher.

However, Anderson's model is useful because it is very flexible in nature when it comes to choosing between independent variables that are properly connected to their specific assumptions. In addition to that, the theory was also applied to explain different results in later life, throughout medication use (Wolinsky & Johnson, 1991), official care (Bass & Noelker, 1987) and medication (Gauler & Kane, 2001), presents its importance in research on health-seeking behaviour. This model has been very useful in predicting therapeutic choice since it was formulated (Philips et al., 1998).
This model is important in explaining medication use as it relates to stroke patients in that stroke patient who live in rural areas receive fewer healthcare than the rest of the population. The nature of the patient's family, the social structure and the health beliefs of the individual determine health-seeking behaviour when one notices symptoms of a stroke. Even if stroke patients want to use medication, certain characteristics must be put in place. They must have the required income to cater for their treatment, health insurance, and health services must be readily available. Without the ability to use particular services, predisposition to use medication for stroke patients alone, will not translate to use.

Finally, utilization is directly related to the need to use these services. This presupposes that there can only be utilized when there is a need to use medical services in the first place. The family must recognize the fact that there is a stroke, and they must also respond appropriately and in good time, in order to use those services for timely intervention.

**Conceptual Framework**

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<th>Patient's characteristics</th>
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| 2. **Enabling:**          |
|   Regular source of care,|
|   health insurance,      |
|   income, travel,        |
|   extent and quality of  |
|   social relationships,  |
|   health personnel and   |
|   quality, waiting       |
|   time, genetic and      |
|   psychological factors.|

| 3. **Need:**             |
|   Health status,         |
|   perception of care,    |
|   and nature of illness.|

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The conceptual framework is derived from the Anderson Newman predisposing-enabling-need theory and the witchcraft theory of disease causation. This framework is anchored on the assumption that individuals faced with stroke are faced by this danger to take action. They need medication to get well. At the starting point of the schema, the spatial setting has a direct relationship with social variables like age, education, socioeconomic factors, religion, family, traditions, customs, values, norms, and beliefs and practices are major determinants of access and utilization of medical services for stroke patients. Those who see illness as a product of supernatural forces will resort to witchdoctors for medication. A stroke patient will always want to get well except there exist such barriers as patriarchy, poverty, cultural practices non-availability of health facilities, and the politics of location of health services. The belief in the aetiology of the illness may be both independently and jointly associated with access and use of medication. This factor has to do with the cause of the illness from the individual's point of view. The consideration of the fact that, the individual was afflicted by spiritual forces of which he has nothing to do about it, influences health-seeking behaviour.

**Methods**
The descriptive research design which triangulated three qualitative approaches was adopted. Cross River State was purposively selected for the study because, the majority of the citizens live in rural areas of the state and are predominantly farmers and has an appreciable number of stroke patients among them. The State is comprised of three Senatorial Districts. Cross River North, Cross River South, and Cross River Central. Cross River Central was purposively selected for the study. In this Senatorial District, there are six LGAs (Yakurr, Abi, Obubra, Etung, Ikom and Boki), and from these six LGAs, Abi, Etung and Ikom were purposively identified and selected for the study. The selection was based on the fact that these LGAs share same demographical characteristics with the North and South (Senatorial Districts), and have the majority of the population residing in rural areas with farming as their major occupation. The local governments selected possess relatively, the same background in terms of culture, tradition, and proximity. Ten wards were selected from each of the LGAs. And from each ward, 20 villages were selected for the study. Considering our definition of a rural settlement, Ikom Urban Ward 1 was excluded from the study since it did not meet the criteria; it is not a rural settlement. Thirty IDIs were conducted equally among the selected local government areas. Two of which were key culture bearers. The remaining 8 were interviewed in the ratio of two health practitioners, two significant others, and four stroke patients. Eighteen FGDs were conducted in this study. Three of the sessions were carried out during the pilot stage, whereas the remaining 15 were conducted during the study. Each FGD category included men and women with similar demographic characteristics. Proper analyses of individual cases were made. A total of two case studies were carried out. In carrying out the case studies, all data relevant to the cases were gathered, and
all available data were organized in terms of the cases. The analyses of data generated involved the use of manual content analysis to enhance the explanatory clarity of the findings. The basic ethical issues guiding social science research were strictly adhered to which included seeking informed consent from both respondents and participants, guaranteeing their anonymity, and ensuring that they are free from any form of harm that may arise due to their participation in the study.

**Results**

Findings from this research are presented along influence of cultural beliefs and practices on medication, and influence of access on medication use. Each of the components under review has implications for health seeking behaviour in the contexts which they occur.

**Beliefs and Practices on Medication**

Owumi (2006) noted that, Africans and various ethnic groups in Nigeria in particular, have their own beliefs and values that influences their definition of health and illness and so have designed mechanisms aimed at resolving challenging health issues within their cultures. These belief systems form the basis of therapeutic choice among rural Cross River people.

Results from the study revealed that attendance to clinics and home treatment using drugs bought over the counter was used for initiation of care, but the traditional medicine was preferred for retention. Most patients approached a medical doctor to seek treatment when they first noticed symptoms of a stroke (initiation) compared with those who went to traditional healers or used prayers (Faith healers) as their first therapeutic choice. However, data revealed that as soon as diagnoses were made, and it was reported that the person has a stroke, he or she opts for traditional medicine immediately.

> When I notice weakness in any part of my body, I would quickly rush to the hospital. But once I discovered it is stroke, I would find my way out of the hospital immediately before they use injection to complicate the problem. (*Male/IDI/Itigidi*)

Despite this preference for biomedicine for initiation of care, many respondents noted that they only went there to ascertain the actual cause of the problem. Once it is established that it is stroke, they find a way and go to traditional healing homes for medication. The participants noted that diseases such as stroke are best treated by traditional healers. The following extracts further clarify the above-mentioned conditions:

> Some conditions are abnormal. A situation whereby someone who sleeps and at night gets ill and starts feeling numbness in some parts of his or her body without any obvious immediate
Influence of Sociocultural Factors on Medication Use

cause, it is evident that the hospitals cannot manage these conditions, the options available is to resort to experts who can see beyond the ordinary, by way of finding out the remote and immediate cause of the illness. (Male/FGD/Edor)

As noted by Murdock (1979) in his health-causation framework, primary causes of stroke in the study area were the supernatural which was explained by members of the study communities as forces that can put spells in the human body. They noted that the same forces have the capacity of healing sick people when the right sacrifices are made. These forces were many, including the Almighty God and other human supernatural spirits like the Agbontem, ejirikpoto, mpantor, isong-isong and obasinjom.

Almost all the focus group participants emphasized the importance of these forces in their lives. Stroke was attributed by discussants to these spirits. Many of them see these spirits as guardian angels. Discussants believed that these guardian angels were sent by the almighty God (Obasi or Osowo) to guide and protect the individual. Withdrawal of this protection can lead to illnesses like stroke.

All thanks are to God. If he wants you to well so be it. I have never been to the hospital for chronic illness. At home here, we spread our grasses; we eat and chew what God has given to us according to the gods of the different days of the week. This enables the gods to be close to us and hear us accordingly. (Male/FGD/Etokpe)

Data on perceived causes of stroke revealed that most of the respondents have supernatural beliefs about the cause of stroke. The result shows that the majority of the respondents in the study area view stroke as being caused by the handiwork of evil men breach of religious taboo, and violation of social norms. This perception is supported by qualitative data which placed the causes of a stroke on the nature of the society in which people find themselves at a particular point in time and the individuals themselves.

Stroke patient in rural Cross River describes their illness in terms of the logic and idiom of witchcraft. There is always the assumption that the individual was good, and was only hated and afflicted by evil persons with illness. People are also made to believe that their failures and illnesses are due primarily to the external influence of others, and not merely the fault of theirs.

A key informant in Etakor village in Nde clan noted that, once somebody notices symptoms of stroke in the community, a lot of issues begin to go through the mind of people over the cause. Firstly, there could be a struggle for a parcel of land over actual ownership or inheritance. Secondly, the patient could have a strong desire to possess something that belongs to somebody else, especially cocoa farm in this case. Thirdly, it could be that the patient owes and all effort to get him to pay has proved abortive. Fourthly, the patient could
have coveted someone else’s wife. Fifthly, the patient could have harvested
food crops in somebody’s farm without the consent of the owner. He further
noted that all these, but not limited to the above can cause stroke for
somebody. However, among the people, there are cases where one can be
afflicted by the illness by the mere fact that he is being hated by evil men in the
community. This notion was corroborated by a male participant in an FGD
session:

Stroke is not an ordinary illness. You cannot just get stroke
naturally. We are farmers, we do regular exercise, we eat
vegetables, yet people still get a stroke. It used to be for old
people, now anybody can get it. It is caused by too many
enemies of progress around us. God will punish them one by
one. (FGD/male/35/Akparabong)

Just like the Azande people studied by Evans-Pritchard, the people of rural
Cross River are conscious of the natural causes of misfortune such as stroke
that they attribute to witchcraft, but they have a clear distinction between
natural and supernatural causes of misfortune in daily life, and hence a
complicated structure of how witchcraft work within their society. Rather than
being necessarily the cause of the misfortune, it is used to explain misfortune
in socially relevant terms. It tries to explain the unique form such misfortune
takes, forms that cannot be explained logically. Thus, it is not the event itself,
but the variety of chances that cause such an event to happen.

Structural and system-level issues which included lack of infrastructure for
medication, urbanization, poverty, and lack of government programs, lifestyles
such as lack of medical check-ups, poor eating habits, sedentary life and
excessive smoking of Tobacco, and risk factors for stroke such as diabetes,
hypertension, high blood pressure, high lipid level, stress, previous stroke and
family history of stroke were also reported as causative factors. However, the
above factors were far less significant than superstitious beliefs.

Among the Ekureku and Adadama people of Abi Local Government Area
of Cross River States, a man is inflicted with paralysis if the wife commits
adultery. A key informant in Ekureku noted that:

When a woman commits adultery, the husband is expected to
notice some signs. If he does not, or if he tries to understand with
his wife, he will paralyzed and if not treated after four days, the
man will not survive. (IDI/Female/Ipbo Ekureku)

Similarly, a male participant in an FGD session in Adadama noted that:

It is infidelity on the part of women that causes a stroke. They
are expected to confess and a purification sacrifice is carried out
before the woman can be reaccepted. This sacrifice involves a
goat, fowl, palm wine, bush meat, and a token. However, this confession must be done before two days of symptoms onset. This sacrifice is done to appease the god of the ancestors called Ledugekolo. (FGD/male/48/Adadama)

Among the Ajassor in Etung in Cross River, stroke is explained in terms of the supernatural. A witch that operates at night incurs the wrath of the deity called Ejirikpoto. This deity causes paralysis which is a risk factor for stroke. The Ejirikpoto is a god of darkness. It is believed to possess the power to detect people who cause havoc at night. Virgins are involved during sacrifices to the deity. Virgins are believed to be pure and hence used to supply water from the stream during sacrifices. It is situated in the middle of the village and seen as a protector of the community.

The sacrifices are done seasonally during which every Ajassor son and daughter are expected to drink from the water with a native calabash put in an empty snail shell. This sacrifice is said to have an attachment with the spirit of the land. It is also believed that a victim found guilty is expected to confess in the shrine and some prayers offered by the Chief Priest, and the patient is cured immediately. However, a confession must be made with the victim promising never to be involved in witchcraft any longer.

The situation in Akparabong in Ikom is somehow different from what obtains in Ajassor. While the Ajassors and Adadamas see stroke as being inflicted by a particular deity, the Akparabongs see stroke as being caused by either the patient himself or by evildoers. For instance, when a man covets another man's wife, the husband of the woman will invoke the spirit of the ancestors to cause paralysis on the adulterer. In this case, it is the behaviour of the patient that attracted such a punishment to him. It can also in many cases be caused by evildoers in the community. A key informant in the community noted that:

Some bad people can bury some charms in the cocoa farm for the victim. This is more so when there is a problem of inheritance. Some relatives may feel cheated by how the farms were shared, and thus may decide to bury charms to cause paralysis for the man to render him useless. (IDI/female/42/Balep)

The Afi people of Ikom seem to have the same belief system as the Akparabong people of the Akparabong clan in Ikom. Stroke is not caused by risk factors, lifestyles, and structural and system-level issues. It is caused by a violation of social norms which in most cases is caused by the patient himself. A female participant in a Focus Group Discussion noted that:

In this community, stroke is not ordinary and very unusual. Stroke attacks people with questionable characters. People in this category are men or women who dupe people of their monies,
and those who forcefully take lands, and other landed properties that do not belong to them. The aggrieved will travel to southern Etung in Etung Local Government Area Cross River State where the consult with a deity that is expected to fight for them. (FGD/female/50/Akparabong)

A key informant in Balep village in Akparabong clan noted that there is a society in the clan called Dekpaghi (water society). This society expects members to meet up some obligations from time to time. Members who fail to comply are visited with stroke as a form of reminder. If he fails to confess, he will die.

A female member of the Focus Group in the same Akparabong clan noted that stroke can be caused when you incur the wrath of a deity known as Katingari. This deity is usually kept in the farms to ward off criminals. Those who steal from the farms in which Katingari is kept get paralyzed. However, upon confession, and provision of certain items for sacrifices, the person can still get well. The Katingari is said to have a time frame within which the victim is expected to confess and provide those items. He may die in the process if he doesn't meet up within the specified period.

Access and Medication Use

Stroke symptoms are unexpected and develop very quickly, and may worsen over the next several hours or days. The symptoms basically affect only one side of the body since the flow of blood is cut off to only part of the brain during the illness. One of the most common symptoms of strokes is that as soon as the brain stops receiving oxygen, sudden weakness of one side of the face or one arm or leg starts to show. Under such circumstances, the movement of the patient and the family member who take them through bad roads tend to worsen the situation. A male participant in a Focus Group Session in Ediba noted that:

When you consider the physical condition of the patient, he cannot walk on his own because some parts of his body are not functioning well. Somebody has to go with him when the patients trek through the bad roads, the situation becomes worse for both the patient and the person going to take care of him. Sometimes when you consider the bad road, you will be forced to look at other alternative means of treatment around the community. (FGD/male/55/Ediba)

This was corroborated by another male participant in a Focus Group Session at Alok when he noted that:

Nothing is being said about these roads unless during elections. Cases like stroke need quick action. The kind of roads we have in this community is such that a stroke patient can be paralyzed
before reaching health centres. This is more so when the symptoms develop rapidly. (FGD/male/48/Alok)

Information on distance travelled by rural stroke patients to health facilities for treatment was collected. Even within the same settlement, rural stroke patients travelled to locations of different distances for healthcare services. The implication of these is that settlements with short distances to health facilities display fewer constraints of movement than those with long distances. In order words, accessibility is higher in the former than the latter because the shorter the distance, all things being equal, the higher the accessibility.

In the classification of distance covered by health consumers into a degree of relative accessibility, Adejuyigbe (1977) noted that an average distance by health workers in Ife region was 7km, while for Okafor (1984) 8km was assumed as maximum average distance which health consumers accepted to cover by walking to obtain health services in rural Bendel.

For this study, less than 5km is used as high accessibility. This is because, the report of the committee on vision 2010 suggested that an average rural Nigerian should not travel more than 3km to enjoy healthcare services by the target year, 2010 (Philips, 2000). Other distances were classified as moderate and low accessibility.

It is pathetic to observe from the study that only a few of the respondents perceive stroke patients to travel below 5km to obtain treatment when an observation in the area revealed that the majority of the people in Itigidi were living in locations under 5km to the General Hospital in the area. This paradox implies that many of the stroke patients did ignore health centres and other modern health facilities within and around their villages to patronize health facilities in Calabar, the state capital for those who perceived risk factors to be the cause of stroke, while those who perceived stroke to be caused by personalistic factors do travel to other communities far from their immediate communities, to seek medication. A Key informant in Adadama community noted that:

Our people understand that stroke does not just come like malaria. It is caused by the gods and evil people. We do not see any need to go to the hospitals because it is just a waste of time. We know where to go we do not know of anybody that went to the hospital and came back with any reasonable response. (KII/female/55/ Adadama)

Another key informant in Ekpalegwa village in Abi noted too that:

Stroke is not a hospital sickness. It is a black men's sickness. Nobody who knows what he is doing will waste his time going to the hospital because you will still seek an alternative cure.
This belief is supported by a 35-year-old man in a Focus Group Discussion in Etara who noted that:

Anybody who has a stroke in this community should check him or herself well. He must have offended gods or men. If it is somebody, then he needs to either go and beg or look for a way to fortify him. But if he offended the gods then he needs to go and appease the gods by providing what is expected of him. He knows what to do in as much as he is a member of this community. (FGD/male/35/Etara)

Before receiving medical treatment, stroke patients are expected to undertake certain preliminaries which among others include payment for and registration of patients at the record office of the Health institution, minor examinations of patients which include observation of body-temperature and blood pressure; and also being on a queue at the doctor's waiting-room for medical consultations which is usually in turns. As noted by Lewis et al. (2009), the time to receive medical care is considered to be one of the conditions of consumer satisfaction.

A stroke patient may undergo a battery of imaging techniques in order to avoid other medical problems and establish that stroke has occurred. The major imaging technique used in diagnosing stroke is computed tomography which uses x-rays to obtain images of the internal mechanisms of the body. A computer tomography scan tells a doctor whether or not a stroke is occurring, the type of stroke (ischemic or haemorrhagic), and in most instances, the level of brain damage caused by the disease. There are several other techniques employed in testing for stroke available in health facilities which take some reasonable time for the process to be completed.

As a result of these dynamics, waiting time to receive medical treatment for stroke patients varies from place to place. By the action ties of rural households in earning a living in Nigeria; the majority of rural dwellers earned their living in agriculture (Titiola, 2008). Most times, time is taken off their farms-work to attend health facilities for serious medical cases like stroke. This is because of the long time spent on associated preliminaries which they were expected to undertake. These preliminaries are considered as constraints that could influence medication use of health services for stroke patients. And since too, the rural patients have always been informed about their problems by the traditional healer at the first instance, they become surprised and even disappointed when on getting to the clinic, the physician who is assumed to know all diseases, ask for presenting complain. This was accentuated by a female participant in a focus group discussion in Ngbaka:

Once the native doctors see you, he will tell you on the spot what the cause of the disease is. But when you go to the hospital, they begin to ask you plenty of questions to know the actual cause of
the disease before they start treatment. Sometimes the situation gets worse even within the hospital premises since you have to spend so much time for the only examination in the hospital. (FGD/female/48/Ngbaka)

From the perception gathered from respondents, information on waiting time before treatment will start was collected, and their perception of what they considered as tolerable waiting time were also sought. Thus, a waiting time of less than one hour was regarded as normal and considered high accessibility. Subsequent grouping using under one hour as base-line was determined in terms of moderate and low. The result from the study indicated that only a few persons enjoyed high accessibility, while a greater percentage enjoyed low accessibility. The reasons for these results are not unconnected with the length of time needed to go through the various processes, the computed tomography, and the x-rays. All these procedures take much time coupled with the behavioural inadequacy of the health personnel working in rural areas.

Stroke increases in intensity if the flow of blood and oxygen are disrupted at any point between the heart and the brain; the parts of the brain relying on blood from the obstructed blood vessel become deprived of oxygen. Brain cells are very sensitive to such oxygen deprivation, and nutrients, and when they happen for several minutes, they will starve to death.

The irony of the situation is that stroke patients may be in the processes of conducting computer tomography and X-rays, waiting for the result of such exercises, and blood vessels become deprived of oxygen the more since these processes sometimes take hours and sometimes days for results to come out.

A key informant in Balep noted that:

Stroke develops like as light. You have to seek treatment immediately. But unfortunately, when you go to a hospital for treatment, they take plenty conducting plenty of tests and in most cases, before they finish their tests, the situation gets worse. (KII/male/44/Balep)

Stroke causes permanent damage to the brain cells – and in many cases, permanent disability for the patient. For example, a patient who has had a stroke may develop paralysis on one or both sides of the body; have difficulty with working, eating or other daily activities or lose the ability to speak or understand speech.

A survey around the area showed that these disabilities increase the waiting time before medications are administered since the patients may not be able to present the necessary information needed. A stroke patient may experience a sudden dimness or loss of vision, particularly in only one eye. They may also become unable to speak or have trouble understanding speech. Sudden severe headaches with no known cause and sudden unexplained dizziness, unsteadiness, or falls are all warning signs of a stroke. A patient with these
symptoms will have difficulty presenting him/her to the medical personnel within a recommended time frame.

A vital determinant of accessibility to medication for stroke patients is the purchasing power, which to a large extent depends on income (Wagstaff, 2011). The increase in the proportion of one's income spent on treatment for stroke, the less accessible is healthcare services for stroke patients in the rural area. Even when there is free treatment available in the communities, one needs to spend money on some associated preliminaries such as transport costs, medical examinations, and tests as well as the purchase of drugs when not available in the government-owned health institutions. Everything put together constitutes part of one's income being spent on treatment for stroke and these form part of the service cost for medication.

**Discussion of Findings**

The study found that among rural Cross-River people there exists a very wide range of perceptions that regards illness causation. Illness like stroke is believed to be caused by sorcery, witchcraft, violating taboos and offending disease-causing spirits. Traditional healing systems exist side by side with the orthodox system and both are interdependent of each other. Most of the respondents had supernatural beliefs about the cause of stroke. This found expression in the work of Levi-Strauss (1967) who noted that a people's illness-causation theory is very important for medication use. Levi-Strauss pointed out that when sickness has a personalistic cause, which sees stroke as a handiwork of evil persons working through human agency, the Shamans and other magico-religious professionals are regarded as better curers. In his (Levi-Strauss) study on the beliefs of South Americans about the aetiologies of chronic illnesses like stroke, it was found that outside hunters and gatherers, the oldest profession is the curer, who in most cases is a Shaman.

The Shaman becomes relevant when illness has a personalistic cause. They rely on various techniques like occult and practical which compromise their various expertise. A Shaman cures stroke by counteracting a curse or by removing a substance compromising the body, which was introduced by a sorcerer. Hetzel (2016) on his part noted that various and diverse belief systems to a large extent has an impact on medication use. These findings are consistent with the findings of Martin (1992) who noted that sick and healthy bodies are influenced by perceptions among culture bearers that varies in accordance to time and space. This finding by martin is also in tandem with the findings of Foster and Anderson who identified and explained sicknesses like stroke in terms of agents in the society such as witchcraft and ancestral causes. Sjolander, Eriksson, and Glader (2019) in their study on relationship between patient’s belief about stroke and medication use in a Swedish hospital, found a significant association. It was a cross-sectional questionnaire survey in which questionnaires were administered to 989 stroke patients to determine their perception about the illness, beliefs about the illness, and medication use. It was found that low utilisation patients scored lower on positive beliefs and
higher on negative beliefs. The study showed a significant association between beliefs of Swedish stroke patients about medicine and medication use. Positive beliefs were less common and negative more common among lower users. The study recommended that in order to improve medication use, stroke patients’ belief about medication should be taken into consideration.

A similar study by Sanuade (2019) on comprehending the cultural meaning of stroke in a Ghanaian setting found that the disease had gone through several medical definitions over the years. The medical profession sees disease as a biological condition, universal, and remains the same, while the social definitions view it as the social meaning of the biomedical condition. In the study, 30 focus group discussions (FGDs) were conducted on local community members. It was found that the local words used to describe stroke in the communities under review concentrated on physical disabilities and these created fears in the minds of the people. The majority of the participants noted that there existed a spiritual as well as left-side stroke that have proven to have the most devastating influence on the patients. Findings from the study showed that the social meaning of stroke in the five communities under investigation reflects both the biomedical and the cultural conceptions. There was need to pay close attention to the social and cultural contexts when designing intervention approaches on stoke prevention and control in Ghana. The result showed that the majority of respondents’ view stroke as being caused by supernatural factors. Other perceived causes such as risk factors are deemphasized. For these reasons, respondents preferred traditional medicine as a pathway to treatment. Traditional medicine was considered more efficacious due to two main considerations: a) The perceptions of the aetiology of the illness, and b) The time, level of severity and the chronic nature of the illness. Traditional healing practice is perhaps the only health system that is accessible to the majority of Africans. The majority of rural Africans use traditional healing methods (Bannerman, Burton and Wen-Chich, 2011). This form of healing is believed to have been in place over the years partly because it relies on cultural beliefs, values, and norms of the people and also because it is readily available, satisfactory and affordable.

This assertion is consistent with the findings of Airhihenbuwa (2000) when he noted that Africans use of traditional remedies to cater for chronic illnesses like stroke dates back several centuries in the examination of health services. He was of the view that practitioners in health education and promotion must critically take into consideration, the beliefs and cultural practices of the people, so as to be at home with the perceptions about the sicknesses, diseases and appropriate pathways. He also pointed out that researchers who study both health practices and health beliefs are not oblivious of the fact that patients and clients who seek prevention and cure for illness or diseases do so in several ways, so also are prevention and cure sought from several sources, in line with the perceptions of the patients.

Findings also showed that the rural Cross River people have categorised diseases into hospital and non-hospital types. The hospital diseases are those
perceived to have biological causes like malaria and migraine, while the other is perceived to be a product of spiritual agents within the society like demon possession, witchcraft, and violation of taboos, etc. Stroke was perceived to be caused by all but not limited to the factors highlighted above. These findings corroborate the results from similar studies from other parts of Nigerian rural societies, which consider the perception of ill-health as being more complicated than the mainstream medical approach as regards stroke and related illness.

The overall assumption here was that Traditional practitioners possess better communication skills, which enables them to build trust and better interaction with patients. Experience from the communities indicated that any meaningful collaboration would involve being very meticulous to ensure the implementation in which trust and respect for each other would enhance a successful cooperative relationship.

A further finding on the influence of beliefs on health-seeking behaviour for stroke cases aligns with earlier results on the relationship between behaviour and health outcomes. This found expression in the works of Taffa and Chepngeno (2005) when the found that the relationship between beliefs and behaviour increases the chances of preventing the occurrence of chronic illness like stroke, and its effect on care, through the advancement of most desirable health-seeking behaviours.

Among the people of rural Cross River, medication use sometimes changes into questions of ethics and religion. The reason for this is not unconnected to the high significance of these factors in social life. Iyalomhe (2010) found that all societies have historical and disease classificatory beliefs which explains the causes (s) of disease and illness in terms of supernatural forces, working through human agencies, that are beyond the individual. The working assumption here is that the doctor is knowledgeable and as such can proffer solution to all causes, in so far as the enabling environments are created for him to operate. It is in the light of this that treatment of disease is termed as "common" or "ordinary" is separated using either unorthodox or other effectives remedies, while those regarded as "severe" or "extraordinary" usually expect more serious (local) attention (Olujimi, 2006; Ewhudjakpor, 2007; Omotosho, 2010). As stated earlier, theoretically, the major explanation is that in cases of stroke, attribution is made to forces outside the control of the individual, and under this arrangement; the ancestor spirit is the basic focus of all explanations. This has influenced theoretical attributions in understanding health in the African milieu. A violation of the dictates of the ancestors causes these kinds of challenges and the consequences are diseases and illness. A perception among Africans is that all living creatures have a special pact and relationship with the gods and spirits. Such relationships are attributed to important forces that the individual brings into existence. This belief is mostly found among the adherents of African traditional religions, Christianity and Islam (Mbti, 1987; Ewhudjakpor, 2008).
It was further noted that when there is a break in the relationship between man and his social, as well as spiritual and environmental wellbeing, illness can result. This illness can also be a result of forces directed by witches, wizards and sorcerers, including the violation of other social taboos (Mbiti, 2007). The general perception is that people do not suddenly become ill without having a root in a supernatural cause. However, biomedical explanations are accepted in some instances but not as a primary cause rather as a secondary cause of the illness. Primary causes are basically offer explanations as to why the illness fell on one person, but not on another person. It explains why a particular person is afflicted with such a chronic and contagious disease, and no other members of the society.

In a similar vein, a study conducted by Katung (2001) among rural dwellers in Ghana found that indigenous medicine has been practiced for a long period of time among the people, and there have been lack of adaptability of Western medicine, coupled with other challenges that accompany the use of modern medicine, traditional medicine has become the predominant pathway for chronic illnesses like stroke. Orthodox medicine will be considered expect a positive outcome is not guaranteed. Silah (2007) supported this finding when he also found that African medicine is the combination of rituals, divinations, and other traditional practices, with portions of animal and plant parts forming parts of the healing process. The major focus is to restore the connections which exist between the sick person and the environment, and at the same time check the supernatural and human agents working against the body.

Several scholarly researches on medication use among stroke patients in rural communities in Ghana and other West African countries have indicated an increase in the use of traditional medicine in the past decades with some changes within, and even between national, regional, and international levels. Gyasi, Asante and Yeboah (2016) in their study on influence of health beliefs on the use of traditional medicine described traditional medicine as those diagnosis, cures, and prevention which are line with mainstream therapies by way of contributing to a common whole, taking care of those needs that are not met by mainstream pathways to treatments or expanding the conceptual underlying structures of treatments. In the study, the theory of care-seeking behaviour was adopted as framework. It originated from Trands (1980) theory of general behaviour, which is a social-cognitive approach used in the area of behavioural changes as it has to do with healthcare utilization among patients. It investigates the influence of psychosocial variables on utility, norms, and values and also supporting variables on health-seeking behaviour. The study adopted a retrospective household cross-sectional and other related survey that considered both rural and urban differences. In collecting data for the study, reports and results from part of the qualitative aspect of the general study, which examined the way in which individual health beliefs determine the inclination to use traditional medicine as a pathway to treatment among adults in the Ashanti region, Ghana was considered and thoroughly analysed.
In the study, a systematic arrangement that made sure the original experiences and perceptions of participants are given the needed prominence was taken into consideration. This promoted a proper synergy between both the researchers and the participants to make for the much needed collaborative and triangulated efforts. Selection of participants in the study was purposive, which was followed by a sampling of theories to focus on the developing concepts and categories, as the study went on, was following established standard. The inclusion criteria involved individual members of the community that have used any form of traditional medicine and those who had accessed the services of unorthodox physicians for a comprehensive period of 12 months before the interview and had also attained the mandatory age of 18 years and more. In all, 36 participants were interviewed based on the inclusion criteria stated above. A total of 19, out of the 36 participants were from the Sekyere South District, while the remaining 17 were from Kumasi, all in Ghana. The researchers selected larger respondents from the rural areas based on the understanding that most of the rural communities included had limited access to modern health care facilities and as a result relied more on traditional medication. Observations showed too that the majority of the rural people had strong cultural ties which could find expression in certain beliefs system as they had to do with health behaviours.

The instrument for data collection was divided into two sections. In the interview section, there was the open, loose-ended and dynamic items which were collected and used to generate in-depth data. However, the second part focused on the socio-demographic characteristics of respondents. The instrument was described as appropriate for the research, considering the differences in beliefs and its inspirations for health behaviours, especially rural settings. Analysis of data generated for the study was carried out in consideration of the health beliefs and motivations of participant's consideration for the use of traditional medicine. Results from the research revealed that, the analysis of unorthodox users' account that depends on the beliefs theories and its influence on the use of traditional medicine was adequately reported. The factors that encouraged traditional medicine use included those that had to do with the overall dissatisfaction with the use of orthodox medicine. The participants presented some minor categories: control and participation, general methods and natural care, perception of illness, individual's philosophy of health, coping mechanisms, and the general experiences in the use of modern conventional medicine. In addition to this, the perceived belief in conventional medicine was based on the negative results that participants got by choosing conventional treatment. In line with similar studies, results from this study revealed the ineffectiveness of conventional medicine in dealing with terminal illnesses like stroke. The participants also reported that conventional medicine is laced with side effects which sometimes, threaten the life of the patient. A poor physician-patient’s relationship was also reported by participants. This can psychologically discourage patients and worsen the illness of the patients. In the end, the study
Influence of Sociocultural Factors on Medication Use

highlighted the relationship that exists between the decision to use, and health beliefs of patients. The result equally showed some clear evidence to demonstrate a strong affinity between cultural attitudes and people’s tradition on one hand, and a strong and crucial association with the motivation to accommodate traditional medicine that transcends socio-demographic characteristics of individuals.

This study provides an insight into the basic understanding of the factors that influences individuals into making informed choices and behaviours within the context of traditional medicine utilization among the Ashanti people of Ghana. Findings from this study also indicated that using traditional medicine is integrated into the cultural beliefs that carry along both spiritual and general orientation to life, natural treatment approaches, perceptions of illness, philosophies of health, the freedom to control and take part in the treatment process on the one hand, and the perceived negative experiences of utilizing conventional treatment options on the other hand, and the reasons for growing use of traditional medicine.

Where illness is believed to be a product of anger of the ancestors, the individual must confess the misdeed. As a follow-up, ritual sacrifices are made for the purpose of appeasing the ancestral spirits or supernatural beings that have been offended. When these processes are religiously followed, he can recover and thus be reintegrated into the society (Badru, 2001).

Findings show that access to modern healthcare providers in the study area is significantly low. It was also observed that even with the difficult terrain and physical environment, many of the communities are neglected in terms of the provision of health facilities to cater for a devastating illness as stroke. It was found that the majority of the respondents used motorcycle as the major means of transport. This led to delays in reaching treatment centres, especially in emergencies. It further showed that most of people enjoy low accessibility by travelling on bad roads and these greatly influenced their health-seeking behaviour. Results revealed that the majority of the respondents had low access in terms of distance to treatment centres. It was found that only a few of the respondents travel less than 5km to health facilities. These factors of low accessibility predisposed the people in the study area to patronised traditional medicine. This finding is consistent with the findings of Good (1987) who also found that rural stroke patients have a high propensity to use traditional medicine because of their distance from modern medicine. This result was also supported by Read (1996) who identified bad road network as an obstacle to medication use. With the conditions of the rural roads, they can serve as barriers to hospital treatment and hence the preference for traditional treatment which is more available, and a cheaper option. The findings were further supported by Ogun, Ojini, Ogagbo, Kolapo and Danesi (2009) who reported that the majority of deaths and disabilities resulting from stroke in Ogun State University Teaching Hospital, happened in the emergency section. A follow-up investigation showed that most of them resided in rural communities, which influenced timely medication use.
Bohland (2008) had a similar result when he found that the relative scarcity of health facilities in the remote areas is a function of a lopsided distribution of facilities between rural and urban areas, and also between the urban core and urban periphery and even the slums. The disparities in the provision of care between rural and urban areas are so glaring that it makes national averages of population facilities almost insignificant. This finding is also accentuated by the findings of Adedayo and Yusuf (2012) in a research on deprivation based on the spatial pattern of rural settlement in Borno on access to health infrastructure. In that study, two basic types of accessibility were considered and analysed. The physical accessibility (distance and time), and the socio-economic accessibility (affordability of services), were used as determinants of health deprivation. It was reported that only 17.0% of respondents were within less than 30 minutes to health service which was the closest physical distance to a hospital, while 34% of the rural household had to travel up to an hour to access a general hospital. It was found that 30.6% of respondents usually travel in a vehicle or on a motorcycle up to 90 minutes to access treatment, while about 17.5% of the people travel up to two hours to get care. An analysis of the spatial distribution revealed that, settlements with shortest-distances were found in Damboa, Konduga, Monguno and Hawul LGAs. Their analysis also revealed that most people travel up to 60 minutes before receiving medical attention throughout the study area. Based on distance, settlements in Bama, Kujawa, and Mobbar have poor access. Apart from distance, the study also noted that the high level of poverty in rural areas acts a barrier to medication use.

**Conclusion**

This research has revealed that several stroke patients in rural Cross River State are classified among low users of medication. Different reasons were identified for this low medication use. It was also revealed that the propensity to use, the level of utilization and perceived pathways to treatment varied among stroke patients. The implication is that accessibility is not a guarantee for utilization. This finding from Cross River, mirrors the situation of stroke patients rural in Nigeria on medication use. The study found a significant existence of high use of traditional medicine for the treatment of stroke. This result implies that it is imperative to improve healthcare availability in Africa, with special consideration for the traditional systems of healthcare delivery. Of interest here is that results indicate that both traditional medicine and the orthodox system can be mutually dependent. These two systems play a complementary role, rather than working against each other. The complementary roles become even more imperative, given the poor and underfunded state of modern health facilities in Nigeria.
References

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