

A CONCEPTUAL CLARIFICATION OF STROKE FROM NEUROLINGUISTIC CONTEXT AND CULTURAL BELIEFS

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Abstract

This paper examines the notion of stroke- a form of disease due to neurological problems associated with different parts of the brain. The paper is an attempt to give a conceptual clarification of how the discourse of disease such as a stroke is produced, distributed and consumed within the orthodox medical tradition and cultural context allowing us to excavate different perceptions, reactions and responses about a disease that was hitherto associated with spirits and witches especially in this part of Nigeria. The paper utilizes both scientific and non-scientific approaches to disease to clarify that conception and conceptualization of stroke as disease may or may not have any significant consequences on the lives of our society since any form of disease may be subjected to any interpretation depending the people's background knowledge, experience and the level of education. This draws attention to the fact that despite its scientific explanations there are other views that exist subjecting the interpretation of the disease to a spiritual explication. A result of pilot study reveals the influence of such interpretations in the world of disease where ordinary folks resist medical intervention for the treatment of stroke thus signaling how cultural interpretations of disease demote or promote health related concerns in the northern part of Nigeria.

Key Words: *Stroke, Neurolinguistic, Culture*

Introduction

This paper discusses and/or offers a conceptual clarification on issue that seems to affect many people especially in this part of Nigeria- a country that is hit by banditry, terrorism and poverty which, among other factors, are the chief sources of emotional disturbance, fear, stress, anxiety and psychological trauma that may induce excessive pressure to people's neuroanatomical structures leading to so many health related challenges. The decision to offer such clarification, therefore, does not only display epistemological concerns but also humanitarian one meant to create awareness and guide ordinary folks on such health related challenges as well as making bare to the epistemological world a cultural response to stroke from ordinary folks with a view to providing a lens that will allow us access to the non-scientific conception of stroke emanating from some group people whose view exists within a continuum of symptomatic variations. This is put in place in order to uphold interdisciplinary culture in discussing health related challenges as well as reflecting and promoting collaboration in research and other academic activities. This can be achieved by excavating both scientific and non-scientific discourses (cultural beliefs) on health issues since, according to Frake (1961) the 'real' world of disease presents a continuum of symptomatic variation which does not always fit neatly into conceptual pigeonholes. On this note therefore, the paper proceeds on the argument that irrespective of the different conceptual pigeonholes that symptomatic variations fit into, these variations are conceptual not linguistic thus making them cultural products displaying different belief systems. The paper, therefore, examines the concept of stroke from the orthodox neurological perspective situating it within a cultural paradigm portraying it as discourses that constitute different belief systems. Similarly, it explores and examines the same notion from non-

scientific perspective which, to many, is closely related to cultural beliefs. The paper concludes on the assumption that the concept of stroke has both scientific and non-scientific explanations all of which are a sort of culture, a sort of belief system.

The Problematic

In a society where superstition, religious beliefs and culture serve inspirational function in discourse production, distribution and consumption, it is likely that all discourses must submit themselves to the dictate of the interpretative capacity of these non-scientific procedures. The concept of stroke is therefore not an exception to such submission as such concept has been interpreted variously within the realm of superstition, religious beliefs and culture. These types of interpretation might have some implications not only to medical/health decision often taken to treat the disease but also might have a negative implication on the overall well-being of patients creating a kind of mind set among the patients making them resist any scientific medication of the disease. This paper is, therefore, a reaction to such situation with a view to explicating the concept from both scientific and non-scientific perspectives from which the implication of such conceptualization in the process of discourse production, distribution and consumption and it impinges on health care decision.

How Neurological Conceptualization of Stroke becomes a Cultural Belief

Stroke is a word that belongs to the morphological world of disease that is used to denote health challenge associated with defects in the effective function of the brain manifested through the malfunction of some parts of the body. Different approaches have used in the conceptualization of this concept allowing us to have access to divergent cultural viewpoints. To avoid confusion and to place our discussion in an appropriate conceptual framework, there is the need for us to define the term culture. Many anthropologists such as Goodenough see “culture as a socially acquired knowledge” and this knowledge according to Hudson (2003) is often referred to as lay people’s common sense knowledge. This does not, however, exclude science driven knowledge from the realm of culture. Hudson observes that the specialist knowledge of scientist or scholar is also part of a culture, and one of the most interesting questions, according to him, in the study of culture is about the relations between common sense and specialist knowledge, since it is clear that influence goes in both directions. Cultural relations and the movement of influence in both directions reveal how these two forms of knowledge converge and diverge leading to perspectival approaches. This might be the reason why Mume (1991) identified two different approaches in the study as well as understanding of disease such as stroke. Traditional medical approach to problem of diseases, as Mume calls it, is different from the orthodox medical profession. According to Mume orthodox medical doctors believe that germs are the primary cause of diseases and the traditional medical practitioner does not share this view. The philosophy of traditional medicine (including health related discourse) centres on health and how to promote it rather than on the study of disease and how to suppress it. Implied in these views is the notion that the term stroke could be explained in the context of cultural beliefs. Cultural belief system is, therefore, an avenue which, for Lum (2000), operates in the world affecting how people explain events in their life and how they respond to them. Now the question is what are various explanations of both scientific and non-scientific (common sense approach to stroke) knowledge of the term stroke. The answers to this question might supply complicating and different views because of methodological differences

characterizing each of the approaches. The orthodox medical approach, for instance, should seek its explanatory power from scientific methodological paradigm that explains phenomena according to causation and/or cause and effect. A causal explanation of stroke should have as its background knowledge the nature of the anatomical structure of the brain as well as the functions of the brain. Although both the topographical and histological views of the brain vary, it is, however, instructive to state that these variations are but different explanations of the structure of the brain. While histological approach deals with *cyto-archetectonics*-consideration of the various cell types and structures, the topographical approach accounts for features such as gyri which stands between small sulci or large fissures. For Garman (1994) the major fissures are the longitudinal that divides the two hemispheres; the central or Rolandic which demarcates the frontal lobe and parietal lobe, and the sylvian separating the temporal lobe from frontal and parietal lobes. Another fissure is the superior temporal fissure which divides the upper surface of the temporal lobe from the lower. The temporal and parietal lobes share boundary with occipital lobe. These different parts of the brain perform and control different functions of the body. Language is, for instance, domiciled in the left hemisphere of the brain language, and it is controlled and processed by Broca's and Wernecke's areas of this hemisphere. Similarly, higher-order-thinking such as logic, reason, art, music science and creativity are only possible via the effective function of the neo-cortex that creates electrical and chemical interactions. Motor cortex is another part of the brain that controls fine motor movements in the body. We should also add the theory of lateralization and dominance to account for how the brain works. The lateralization theory submits that the function of the brain is lateralized where the right hemisphere of the brain controls the left hand side of the body, and the left hemisphere of the brain controls the right hand side of the body. Effective functions and operations of these different parts of the brain are supported by sufficient supply of oxygen from oxygenated blood channeled through blood vessels.

Against the above background knowledge, the orthodox scientific explanation of stroke should seek to show how abnormality and malfunction of the brain due to shortage of oxygen in any parts of the brain leads to brain malfunction. Given his scientific orientation, a neurologist should always seek to account for such malfunctions by relating his explanation to shortage of oxygen in the brain cell arising from the sudden interruption of blood supply to the brain which eventually translates into a brain disease known as stroke. His scientific method might also acquaint him with basic skills to understand the nature of this interruption making him to include in his explanatory report two different types of stroke. These are ischemic and hemorrhage. While the former refers to local disturbance in blood circulation due to mechanical obstruction of blood supply through vasoconstriction, thrombosis or embolism, the latter refers to rheological deformity so injurious to break a blood vessel. Hemorrhage seems to be severe case of stroke for it does not only deny brain cells access to oxygen supply but also damages them as a result of blood spillages. Blood spillages in the brain cells cause malfunctions of cells hence manifested as symptoms in the different parts of the body.

The symptom dimension of the stroke builds its theory considering perceived changes in some function sensation or appearance of a person that indicates disease or disorder such as paralysis or language disorders such as Broca's aphasia or Wernecke's aphasia. In describing Broca's aphasia, symptom theory, for example, enables us to construe stroke in the context of speech production. Broaca's area is the area concerned with language production and damage to this area affects language production. Patients with mild stroke leading to Broca's aphasia find it

difficult to produce language. These patients produce short simple sentences and in most cases produce one or two word utterances. Their sentences are mostly telegraphic in nature. Similarly Wernecke's aphasia occurs as result of damage to Wernecke's area which is responsible for language comprehension. Stroke affecting this area produces patients who have difficulty in understanding language and when they talk, they talk meaninglessly. A manifest of symptoms such as the inability to produce language accordingly and understand language effectively cultivates narratives of stroke from the perspective of symptomatic dimension.

How Language Assigns Cultural Notations to the Scientific Views of Stroke

After his scientific investigation and/or discoveries, a scientist (neurologist for instance) requires a medium to communicate his findings to his immediate constituents and to the general public, and this medium is language. This means that scientific discoveries as well as inventions, no matter how objective and factual they might be, have language as the only effective and reliable medium for their production, consumption and distribution as discourse material. That is to say that the eventual production, consumption and distribution of scientific concept such as stroke are only possible via a non-innocent means of communication known as language. To make a very radical submission, we take a leaf from structural linguistics to supply for this paper a theoretical grounds showing apprehension to any factual and objective representation of any conceptualization of the discourse of stroke through language. By way of information, Ferdinand de Saussure- a father of modern linguistics- informs us that language presupposes the exclusion of everything that is outside its organism or system. It is on this note Wardhaugh (2013) theorizes that human beings do not live in an objective world alone nor alone in the world of social activity as ordinarily understood, but are at the mercy of the particular language which has become the medium of expression for their society. Implied here is that language is a self-contained system whose operation is determined by the internal structures of its constitution.

In other words, suffice it to say the conceptualization of the notion of stroke (be them neurological or symptomatic) into linguistic structures reduces them into linguistic concepts reflected as narratives or discourses that fit into a particular culture or belief system. By implication, language being an arbitrary system of communication allows us to see and interpret those narratives or discourses as cultural artifacts constituting a belief system that can be accepted or rejected. This can be seen in the different interpretations of the narratives of covid-19 vaccine despite its scientific affiliations which implies that once a discourse of any disease entered into a public domain its interpretation and consumption would be subjective creating different beliefs. Subjective interpretation of scientific knowledge or findings as historical artifacts reflects a philosophical rendition of Euhemerism that is anchored on the premise that historical accounts become myths as they are exaggerated in the retelling, accumulating elaborations and alterations that reflect culture mores. It is on this ground that conceptual clarification such as this one becomes imperative as such explanations will not only demarcate the scientific from non-scientific views but showcases the intrinsic role of language in shaping perception and comprehension of health related discourses.

The non-scientific dimension should be explained from psychological ideas of Folk Psychology which is concerned with human capacity to explain and predict the behavior and mental state of the people. According to Folk Psychology, processes and items encountered in daily life such as pain, pleasure, excitement and anxiety use common linguistic terms as

opposed to technical or scientific jargon. The theory of folk psychology reveals how every people- those without formal training in the various academic fields of science- go about attributing mental states. It is in this paradigm, the non-scientific views about diseases- and by extension views about stroke emerged. The emergence of disease discourses within the non-scientific paradigm creates conflicting and divergent views on the interpretation of stroke. These interpretations must not be segregated from the traditional conception of man and disease. For Mume, (1991) traditional views see man as combination of body, mind and spirit which his trespassing against binding rules of health causes disease. Mume has highlighted some factors which he argues are the causes of disease in the following quote:

Wrong habits of living encourage accumulation of toxin in the body and when the systems are saturated with these poisons, disease follows. In other words; acute disease is the body's struggle to cleans itself of those harmful substances which have accumulated in the body as a result of our bad habits of eating, drinking and getting insufficient sleep, physical exercise, over-indulgence in alcohol, drug abuse etc. When the body's attempt to rid itself of these accumulated poisons and restore its equilibrium fails, death results. Sometime, circumstances may force the body to push the struggle underground, in such cases chronic diseases becomes the result. Chronic disease therefore represents the body's inability to adapt itself to certain unfavorable conditions (p317).

In support of the mind-body argument, Ryle deduces that with doubtful exceptions of idiots and infants in arms every human being has both a body and a mind. Some would, according to him, prefer to say that every human being is both a body and a mind. His body and mind are ordinarily harnessed together, but after the death of the body his mind continues to exist and function. Ryle (ibid) goes on to state:

Human bodies are in space and are subject to the mechanical laws which govern all other bodies in space. Bodily processes and states can be inspected by external observers. So a man's bodily life is as much as public affairs as are the lives of animals and reptiles and even the careers of trees, crystals and planets. But minds are a space, nor are their operations subject to mechanical laws. The workings of one mind are not witnessable by other observers; its career is private. Only I can take direct cognisance of the states and processes of my own mind. A person therefore lives through two collateral histories, one consisting of what happens in and to the body, the other consisting of what happens in and to his mind. The first is public and the second is private. The events in the first history are the events in the physical world; those in the second are events in the mental world.

Here we have been made to understand that the non-scientific conception of disease and/or stroke reveals the complex philosophical polemics that seeks to explain man as composed of two histories- the history of the body and that of the mind. In the history of the latter, the concern has to do with mental world which for Carnie A. (2008) represents the output and the abstract organization of the brain. This implies that in psycholinguistics the concept of mind has been acknowledged giving it a scientific aura. Thus, this should not be confused with the

neurological structure of the brain. Neurological structure of the brain is concerned with the actual firing of the neurons and the physiology of the brain. It, therefore, means that the mind is the product of such neurological activities. Chomsky (2000), on the other hand, views the concept of the mind from the internist perspective where he sees the mind as some aspects of the world on the basis of usually hidden structures and explanatory principles. Chomsky says that by “Mind” ‘I mean the mental aspects of the world’. Now, if mental events distinguish and uphold the notion of mental world, it is therefore, expedient to argue that the non-scientific approach to the study or discussion of disease represents a kind of discourse whose raw material is drawn from the mental world but not from the human body found in space as well as governed by mechanical laws. On the contrary, the mind- the output and the abstract organization of the brain- is not governed by mechanical laws hence cannot be observed by external observer.

Thus, the notion of disease and/or stroke should be examined from symptoms located in the abstract mental events or world. The world of disease, here, represents a mental world, a space that is not accessible to the public and is also not subjected to mechanical laws whose discourses regarding diseases derive their brainwave from that world and no other. Conceptualization of disease should not account for the neurological malfunctions of the brain; instead such conceptualization should be seen as epiphenomenalism- a doctrine that a symptom develops during the course of a disease that is not connected to the disease. In traditional Hausa medicine, for instance, *hawan jinni* (stroke) is a very rare term which until recently was known as result of diagnosis and enlightenment from health personals. This world of disease is entirely linked to spiritual world that denotes much epistemology to the process of the conceptualization of the notion of disease to spirits, witchcraft, guilty consciences, astral and cosmic influences that have a kind of power to interact with this world and interfere with its normal operation.

Unlike the scientific approach, classification of stroke into different types should follow what Frake (1961) describes as a set of mutually exclusive categories which either fits into one category or is describable as a conjunction of several categories. Classification of stroke into different types is, therefore, not based on therapeutic value of treatment but also on the validity of the system of classification for disease, for Wardhaugh, (2013) the last system is a ‘folk’, not a scientific one, hence stroke can only be classified from mind/spirit categories.

From the perspective of mind and spirit, disease is, therefore, caused by certain factors these, according to Mume, include sin, guilty conscience, witchcraft spells, evil spirit attacks, astral and cosmic influences as well as psychological factors, hence the spiritual aspect of man is important and is taken into cognizance of in traditional medical treatment and diagnosis. It is in this conception of disease that the traditional and/or non-scientific view about stroke emerges. Stroke is here contextualized as a disease that is caused by some of the above factors. This is because the discourse about stroke is drawn from its manifestations- as in one’s inability to move any part of his body i.e., it is symptomatic. However, the cause is not attributed to any malfunction of the biological system of the body but to external factors such as witchcraft and attack from evil spirit which is mostly directed to the mind or soul. Thus, inability to talk, walk or move any part of the body sources its explanations mostly from attack from witchcraft or evil spirit. Thus, language is the medium through which such conception is structured making them a linguistic product that is shared and consumed by the public as a form of information or discourse on/about stroke. These views also become cultural artifacts as they enter into

public domain thereby creating a kind of belief which is held and shared by some group of people or community.

Instances of non-scientific explanation on stroke pervade cultural corridors of our society creating a nexal relation between our culture and beliefs. Among Fulani, for example, the manifestations- symptoms- of stroke communicate to the narratives of disease that someone has been attacked either by evil spirit or witch. According Aminu, A. (2022) stroke is known as *Garsa* in Fulfulde Adamawa and it is caused by attacks from evil spirit. Treatment of *Garsa* is done by reading and spitting some sacred words to the patient or a medicinal rope may also be tied on some part of the body such as neck, ankles or wrists. Hausa medicinal epistemology is not also an exception to the theorization of disease such as stroke to the above epiphenomenal folk psychology. In Hausa, terms such as *maye*, *bugun jinnu* or *aljani* and *iska* are readily available in describing any incidence of stroke. *Karyewar harshe* (inability to talk due to Broca's aphasia) has been in Hausa medicinal jargons to showcase spiritual attack on a patient who could not talk. Patients with cases of stroke are often referred to herbal doctors, *yanbori*, *sarkin mayu* and so on for spiritual treatment of those cases. This reflects in linguistic expressions such as *wannan ciwon bana asibilti bane*, (this is not a hospital case). Thus, these views have been rooted into psychological consciousness of our society defining as well as uniting us from which we represent a type of culture which according to Baran (2004) defines our realities thereby shaping the way we think, feel and act on or about stroke, a situation that creates a belief system we share and transmit to our young ones as cultural artifacts. Put differently, the non-scientific dimension to stroke constitutes a culture in the world of disease that is held and shared among people.

Implication of these Conceptions to the Psychological Consciousness of our Society: Evidence from Pilot Study

A pilot study conducted on some locals reveals that the unscientific conception of stroke has had a far reaching influence creating a kind of mindset that resists any form of intervention from medical practitioners. Forty out of the fifty (50) respondents interviewed reported that they did not believe with the scientific view of the stroke arguing that stroke (*Shan inna*) is a disease resulting from spiritual attacks hence medical treatment is not applicable. The implication of this type of conception especially to those interviewed reflects a kind of psychological consciousness built around the narratives of cultural belief systems that birthed a segment of the society operating and acting within the world of disease under the dictate of those belief systems. This development has greatly impacted on the psychological wellbeing of our society. The above statistics insinuates that more than half of those interviewed can resist the scientific narratives of stroke thereby denying them access to any medical intervention no matter how accurate and effective it is. It is, therefore, recommended that extensive enlightenment campaign must be put in place to reduce the efficacy of such narratives so that people may have access to medical services which might lead to creation of more informed and enlightened society on the danger and influence of stroke on the people.

In conclusion, the paper anchors the premise that the notion of stroke represents a distinct but related concept demonstrating methodological and/ or theoretical differences albeit same cultural explanation. Stroke, from scientific approach, is explained from the malfunction of neuroanatomical structures of the body observed through symptomatic lens allowing us to examine the cause as a result of neurological disturbances in the brain. Here two types of stroke

ischemic and hemorrhage have been identified. On the other hand, the non-scientific approach proceeds from symptom and ends at the mind- psychological- hence this dimension sees ‘man’ as a combination of body, mind and soul. Despite these divergent approaches to the concept of stroke, the paper argues that both views- either scientific or non-scientific- are discourses about a disease called stroke packaged as linguistic product that is deposited into cultural artifacts whose telling and retelling accumulates elaborations and alterations constituting different cultural beliefs.

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