Journal of Healthcare and Advanced Nursing



Open Access

Roles of African Traditional Medicine in Primary Healthcare Delivery System

Abstract

One of the existing medicine in the world that receives so much criticism is traditional systems of healthcare delivery, almost to a point of extermination in some countries in the world. Although most of the issues raised to affirm the seemingly inadequate status of this system are debatable, but the effectiveness of traditional medicine has anull all those criticism if we carefully analyse the methods of health approach in TM. Part of the misconception derives from lumping Nigeria into one integrated and indivisible indigenous unit, notwithstanding differences in values, beliefs and practices among communities. Against this backdrop, this study invites a reassessment and possible integration of African traditional medicine with the introduced systems of Primary healthcare delivery. This will ensure not only a holistic approach to dealing with complex health issues among Africas, but also the continued relevance of indigenous medicine.

Critical issues examined include forms and factors affecting traditional medicine, and conflicts between indigenous and introduced systems of healthcare delivery. Consequently, a framework for explaining traditional medicine in the context of Nigeria was designed through a triangulation of Rational Choice theory, Ethnomethodology and the Health Belief Model.

Keywords

Myocardial infarction • Uric acid • Gender

Introduction

Traditional healthcare delivery systems are those channels through which individuals and groups seeking healthcare can obtain intervention by indigenous methods of treatment, basically herbs, water and animal parts.

Review Article

Joel N. Logbo*

Lagos State College of Health Technology, Nigeria

*Correspondence: Joel N. Logbo, Heart Centre, Lagos State College of Health Technology, Nigeria, Tel: +2347030420960; Email: joelex95@gmail.com

Received: 16 October, 2023; **Processed:** 06 November, 2023; **Accepted:** 13 November, 2023

Copyright: © 2023 Logbo JN. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Traditional Healthcare systems are products of both culture and society and derive from the experiences and dictates of a particular socio-cultural environment. This implies that health systems are relative to times and places. For example, Nigerian society consists of peoples with different cultures, orientations and traditional medicine delivery varies even with same indigenous materials, approaches to healthcare in various communities are different [1].

Although several categories of traditional medicine and by implication practitioners exist in Africa (Nigeria), two main types of traditional healthcare systems are easily identifiable - general and specific systems. Components of each of these systems can be found in different communities within the country, their contents vary.

In our analysis of traditional healthcare delivery systems, especially in an era of globalization and knowledge explosion, it is pertinent to raise some crucial issues. The questions that readily come to mind include the following:

- 1. To what extent have African knowledge or technology and medical systems solved or achieved the medical needs of African peoples?
- 2. What factors militate against the proper functioning of traditional medicine?
- 3. Is "traditional" synonymous with inferiority?
- 4. To what extent can the traditional systems of healthcare delivery converge with the introduced systems in present day Africa?

These questions invite a comprehensive analysis of the dynamics of African traditional medicine within the context of seeking relevance in the 21st century.

Forms of Traditional Healthcare Delivery Systems

There are basically two major forms of medical systems in Nigeria: the traditional or indigenous, and the Western [2]. The latter is also referred to as "introduced systems" in the present analysis. This paper will centre on only the traditional system. According to Owumi's analysis of a Nigerian community that is not radically different from most societies in Nigeria, six categories of traditional medical practitioners exist [3]. Following from Owumi's insight, this investigation classifies traditional medical delivery into two main forms: (1) the general healthcare delivery system and (2) the specific healthcare delivery system. In what follows, Owumi's classifications, which centred on the Okpe people of Delta State, Nigeria, are revisited to accommodate some other societies in Nigeria - the Igbo, Efik/Ibibio, Ibani, Igala, Nupe, Kalabari and Yoruba among others [4].

General Healthcare Delivery System

The general healthcare delivery system is an outlet that offers non-specific medical care to individuals seeking various forms of healthcare. Such a system has no limitation in the extent to which it can supposedly provide medical assistance to the "needy," no matter what their needs. This type of system combines the attributes of divination, poison healing, birth attendance, bone healing or setting, and psychiatry. General practitioners are persons with diverse skills in the handling of different forms of problems.

This comprehensive expertise is common in traditional medical practice in Nigeria.

In some instances, two or three attributes are combined in a particular healthcare delivery system or individual practitioner. Investigation indicates that the explanation for such combinations is not clear, but some argue that its basis lies in economic considerations and practitioners' predisposition to material wealth. This paper does not mean to clarify the veracity or otherwise of this assertion [5].

Specific Healthcare Delivery Systems

The concept of specificity is related to terms such as "specialty," "specialization," "concreteness" and "interest." In this paper, we shall be looking at specific areas of traditional healthcare delivery systems in most Nigerian societies, such as (1) divination, (2) poison neutralizing, (3) birth attendance, (4) bone setting or adjustment and (5) psychiatry.

The intention of specializing in one major aspect of healthcare delivery systems is to enable practitioners who have adequate knowledge of the specific aspect of healthcare delivery to be experts. Notwithstanding the strength of the argument for general medicine, specialization offers a deeper knowledge to practitioners in their healing activities. Specialization is not popular among most traditional medical practitioners, although claims about specialties are made to attract individuals seeking traditional care. These practitioners ascribe to themselves varying statuses at different periods, depending on the desires of an individual or a group of individuals seeking healthcare. This seeming non-definite (shifting) posture explains the apparent failure at efficacy and the dwindling popularity of traditional medicine among some Nigerians. We now examine these specific healthcare delivery systems [6].

Divination

Diviners are practitioners who have power to see, through supernatural means, extraordinary activities of individuals pertaining to past or present events. They are believed to be particularly important in Nigerian medicine, given the notion among most Nigerians that every ailment and/or misfortune has a supernatural explanation. It follows that before any disease can be cured, its cause(s) should be known and properly understood. Owumi referred to these diviners as oracle men/women believed to be specially endowed with uncommon divination skills. Although some individuals and groups still use the services of diviners, Christianity is strongly opposed to divination. Christians' opposition partly explains non-preference for the act, given their increasing numbers in Nigerian societies. Moreover, the gift of "deep sight" or vision expressed among some Christians dislocates the essence of divination among adherents of the Christian religion.

Notwithstanding this waning posture, divination still remains a means of understanding past events and seeing into the future among traditional worshippers as well as nominal Christians.

Poison neutralizing

This healthcare delivery system deals specifically with cases related to poisoning. There is a belief in some parts of Nigeria that both supernatural and physical substances that can affect part of or the entire body network could be administered to individuals by their enemies. There are two identifiable approaches to administering poison in Nigerian communities: (1) substances that enter through the mouth with food and are digested before they finally destroy the entire system, either almost immediately or over the long-term; this type of poisoning is difficult to neutralize because of its ability to affect the biological system in totality, and (2) substances that affect a particular part of the body but do not necessarily enter through the mouth. This method is common among individuals who are involved in land disputes in some Nigerian communities. There are instances when poisonous substances are kept for opponents on the plots of land in dispute, in order to kill or paralyse them and bring the dispute to a quick end. Thus, due to the possibility of poisoning and the likely consequences, the need for a healthcare delivery system that can provide intervention for poisoning is imperative and, perhaps, inevitable in safeguarding the lives of individuals in these communities.

Birth attendance

The practice of attending to pregnant women, from conception to delivery and even during the postpartum

period, is an important aspect of traditional healthcare delivery systems in Nigeria. Various factors justify the need for the system, such as the absence of Western maternal facilities, including competent personnel and equipment, in some rural communities; affordable services; and accessibility and sensitivity of practitioners, among others. One study, for instance, found there were no introduced maternal facilities in most Ibani villages in Rivers State, Nigeria, leaving the people without an alternative to the traditional system. In the absence of Western material facilities, the traditional system is inevitable. It means that traditional birth attendants (TBAs) must be equipped with significant knowledge to handle emergencies, given the number of complications that occur each year. Studies have shown that Nigeria has one of the worst records of maternal outcomes in the world, a situation explained mainly by the low percentage of births attended by skilled personnel.

Bone setting/adjustment

This aspect of traditional medicine deals specifically with issues related to bones. Injuries and/or deformations related to bones can arise from natural causes or accidents. The duty of practitioners is to set and/or adjust these bones, using different techniques and materials, to meet the health needs of clients. Training in bonehealing processes requires carefulness, tact and hard work, given the inherent sensitivity associated with bone defects and injuries. It is important to note, however, that this particular system of traditional healthcare delivery is recognized as efficacious in dealing with bone setting and adjustment, even among patrons of introduced medicine. For some individuals, no matter what the level of treatment received from a Western bone-treating facility, assurance is only guaranteed when traditional bone healers give final approval. There is therefore collaboration between the introduced and traditional systems of healthcare delivery. Observation indicates an interesting pattern of convergence: whereas confirmation of complete bone adjustment is sought from the traditional system after initial contact with introduced medicine among most health seekers, the reverse is not the case when contact begins with the former. This scenario indicates the perceived efficacy of traditional bone-healing therapy. Consequently, bone healing is one aspect of traditional medicine that has remained consistent in terms of high patronage.

The consistency derives from the perceived reliability in meeting the health needs of individuals and groups.

Psychiatry

This branch of traditional healthcare delivery systems deals with restoring individuals with both major and minor psychiatric problems to normal mental stability to the extent possible. The purpose of attempts to cure people with various forms of brain defects is to reintegrate them into conventional society as reasonable members who can contribute significantly to the development of their communities.

Among Nigerians, there are two main sources of mental disequilibrium: (1) natural and (2) induced. The natural causes of mental imbalance derive from birth, while the induced arise from conscious or unconscious human design to harm self, enemies and/or individuals who are perceived as threats. Studies indicate that nutrition, alcohol and drug use, workload and hygiene during pregnancy are linked to low birth weight, hearing problems, learning difficulties and brain damage in children

Experience shows that traditional psychiatry is still relevant in most rural settings within Nigerian society. Some believe that an effective cure for brain defects related to supernatural causes can be achieved only after conjuring and appeasing ancestral spirits. As a result, any attempt to approach such defects from the introduced medical system is futile. In addition, traditional psychiatry deals with induced mental illness and as such has double relevance.

To what extent have nigerian knowledge or technology and medical systems achieved the medical needs of Nigerians?

Before Africa, and Nigeria in particular, were colonized, its peoples were solely dependent on indigenous medicine. However, with the introduction of Western culture that affected virtually all aspects of life, Western medicine became an integral part of health seeking, even to the extent that some indigenes of Nigeria abandoned indigenous medicine. Some who stuck to the home-grown systems relied also on "foreign" medicine. Only a few Nigerians depended entirely on medicine that is rooted in Nigerian knowledge and technology. It is within the context of these two latter categories that an assessment of the sufficiency

of Nigerian medicine in dealing with the medical needs of Nigerians will be made.

Among those who combine Nigerian medicine with Western, the former does not provide for all needs and, as such, the need for collaboration cannot be overstated. However, one is inclined to assume that the category of people who depend entirely on the indigenous and who may not have had reason to seek healthcare from the Western medical system can claim that traditional systems have sufficient capacity to deal with their health needs. This study argues that such conclusions are relative to individuals and may derive from their perceptions of and expectations from the thematic systems. As a corollary, perceiving any of these medical systems as either superior or inferior is a function of the benefits that may or may not have been derived from its use in the course of health seeking.

In addition, introduced medicine is traditional to Western societies, and what is indigenous to Nigeria becomes "introduced" in Europe, Asia, America and other continents. Does it then mean that Nigerian medicine would be perceived as superior to what exists in those societies just because it is introduced from outside those places? The same question can also be asked in examining the situation in Nigeria. Therefore, using the concepts of superiority and inferiority in the present analysis would not only be misleading but also a dislocation of the essence of objectivity in research.

Factors affecting traditional healthcare delivery systems

This section deals with issues related to the actual practice of Nigerian indigenous medicine and the factors undermining it. The report is based on two sources: (1) the author's several years of interaction (formal and informal) with different categories of people/stakeholders in rural and urban locations in Nigeria on indigenous medicine, and (2) unobtrusive observation of practices, which derive from beliefs and customs in some Nigerian communities. Data indicate that several factors affect the functioning of traditional healthcare delivery systems in Nigeria. These include (1) negative perception of traditional medicine, (2) lack of awareness, (3) the high level of gullibility among Nigerians, (4) dwindling involvement of young Nigerians in traditional medicine, (5) stiff competition from introduced medicine, and (6) government policy.

Negative perception of traditional medicine

In parts of Africa, Nigeria in particular, traditional medicine is viewed as taboo by some individuals and groups. Among the elite, for instance, this perception is manifestly common, except in cases where the received system could no longer provide remedy for certain health conditions. For this category of people, Nigerian medicine is conceived only in terms of its relevance as the last resort. This attitude derives from the notion that traditional medicine lacks the consistency, reliability and replicability that characterize scientific knowledge [7]. The extent to which the latter assertion is correct will not be examined in this paper. Some individuals perceive non-patronage of traditional health systems as elitist. While this paper views that perception as erroneous and misleading, it at the same time suggests that a re-orientation against this xenocentric (seeing one's ways as inferior to another's) view be vigorously undertaken across identifiable social strata in relevant contexts.

Lack of awareness

One of the major factors militating against the functionality of traditional healthcare delivery systems is ignorance among indigenous peoples about the efficacy of these systems. Some of these individuals are genuinely not aware of the extent to which traditional medicine is relevant, while others intentionally avoid traditional systems because of negative information ascribed to them. Some parents of the younger generation of Nigerians castigate African medicine to the extent that they see "nothing good" about it. This orientation has largely affected both improvement and sustainability of traditional healthcare systems. We note here that justification for sustaining traditional medicine has been weakened by the negative picture painted in indigenous Nigerian movies, to the extent that the system is conceived as wholly diabolic. While not absolving the system in entirety, it is argued here that a comprehensive exposure of the system be made by the Nigerian movie industry to counterbalance the lopsided, partial view of reality presented to date. In that way, a complete assessment can be made [8]. We contend that beyond the fact that Nigerian traditional medicine is universal in the country and can be assessed promptly, divination has sustained "the spirit of saying the truth" in places where it is practised. This does not suggest, however, that outcomes

of divinations are always valid and reliable; the mere fact that divination is feasible in investigating a particular uncertain situation or event discourages individuals and groups from deviant behaviour.

Gullibility of nigerians

Nigerians' negative attitude toward traditional healthcare delivery systems and the corresponding ignorance are a function of inconsistency and gullibility. This Nigerian attitude has links with colonialism introduced into the continent in the 19th century. Colonialism dislocated the norms, perceptions, attitudes and behaviour of individuals to the extent that the psyche of Nigerians was/is changed. We would even agree with Ekeh that colonialism "represents a congery of events and consequences ... in its fullness." We argue that the colonial era dislocated "Nigerian knowledge" and "Nigerian confidence." It was an epoch that rewrote African views, entirely, as inferior to those of the West. The period was marked by forceful enthronement of the spirit of xenocentrism among Africans, and Nigerians in particular. This lack of courage to sustain African culture, views, knowledge and technology has implications for what persists in the continent, including the functioning of traditional healthcare delivery systems in relevant societies.

Dwindling involvement of young Nigerians in traditional medical practice

One of the greatest challenges facing traditional medicine in Nigeria is the threat of extinction. This fear stems from the observation that aged practitioners are not being replaced by a younger generation. The implication is that if lack of interest in traditional medical practice persists among young Nigerians, patronage of traditional healers will wane and, by extension, so will income and prestige. When these attractions diminish significantly or no longer exist, fewer people will join the profession. Moreover, it is highly likely that younger people who join the traditional medical practice would be ridiculed, stigmatised and even discriminated against by peers. This perception and attitude among individuals and groups in contemporary Nigeria portends problems for traditional medicine unless genuine efforts are made change attitudes to indigenous medicine.

Stiff competition from introduced medicine and practitioners

The quest to establish superiority between traditional and introduced healthcare systems has given and is still giving rise to conflicts between these systems. Although the former is indigenous, the latter, notwithstanding that it was inherited from the colonial experience, is enjoying more confidence from some people in the country. This situation is similar to saying that the systems are "two sides of the same coin" and supposes that improvements in one would ultimately retard the fortunes of the other. It has been argued, for instance, that the scientific basis of the Western medical system is lacking in the traditional system.

The above position arises from a perception in most quarters that the traditional system operates on the "trial and error" principle that negates scientific norms and procedure. This view is seen among traditional health practitioners as a misconception derived from ignorance because, as they argue, indigenous medicine is characterized by exactitude and rigor consistent with the scientific enterprise. There is a need to correct the impression that the development of one of the systems would automatically lead to underdevelopment of the other. The position of this paper is that these systems could be complementary without demeaning their individual strengths.

Government policy

Part of the problem facing traditional health delivery systems in Nigeria is the lack of political will by governments to introduce policies that sustain the existence of indigenous medicine. It can be argued that the major reason for this deliberate indifference is to satisfy the requirements for international agencies' support for various programs. In fact, grants and aid to the less-developed countries are, for the most part, tied to their readiness to accept "hook, line and sinker" the definitions of these agencies. The implication is that instead of protecting indigenous medicine, there are obvious efforts to either ignore traditional systems or debase them completely. Feasible solutions can evolve only when governments genuinely appreciate the problems facing traditional medicine and muster enough courage and political will to introduce policies that are both culture and people oriented. Ghana realized the

essence of indigenous medicine immediately after political independence and made attempts to emphasize its use. Governments in some other African countries, such as Ethiopia, Tanzania and very recently Nigeria, are making efforts to mainstream indigenous medicine. These efforts are timely in view of the increasing patronage of traditional healthcare system.

To What extent can the two systems converge?

Convergence of the introduced and traditional systems of healthcare delivery is visible in psychiatry, bone setting and poison neutralization. Experience has shown that people who need medical attention in these three areas experience the collaborative effects of the two major systems. For instance, mental defects that are conceived as induced rather than natural are treated at two levels. The first is through divination as a means of ascertaining the latent source of the illness condition so as to apply the most appropriate approach to spiritual cure. The second, given that mental illness has physical and psychological implications, is the treatment from introduced systems to cater for the manifest effects of psychiatric disorders.

The collaboration is also evident in bone setting. Most Nigerian peoples who access introduced medicine as initial therapy still undertake treatment based on traditional medicine. The justification for the convergence is to concretize the benefits of each system while diminishing their weaknesses at the same time. A notable feature of this collaboration is that whereas it is rare among people who have access to traditional bone setting to seek further treatment from the introduced system, the reverse is usually the case among a large majority of Africans. This attitude derives from the perception that the introduced system lacks capacity for the comprehensive cure of fractured bones. The veracity of these views is not discussed in this paper.

Traditional and introduced medicines: can the code be broken?

Although the paper focuses on indigenous Nigerian medicine, there is a need to examine the relationship between the home-grown healthcare system and the Western type. This examination is necessary in view of their side-by-side existence; what happens in one affects

the other, albeit not necessarily negatively. The traditional and introduced medical systems have had conflicts from the time the former was introduced into Nigeria. As with other activities forged by colonialism, Western medicine in Nigeria is an inherited legacy, first introduced by medical missionaries as early as the 1850s.

Studies indicate that practitioners of traditional medicine in Nigeria are operating in a difficult environment. This, according to Alubo and as highlighted by Owumi, is due partly to government attitude and policy, and to the low educational status of traditional medicine practitioners. It is thus argued that the introduced healthcare system enjoys higher patronage and supremacy over the traditional [9]. However, for some healthcare seekers, particularly pregnant women, traditional beliefs surrounding childbirth coupled with misconceptions about and fear of medical institutions sustain women's reliance on home delivery, particularly with the assistance of TBAs.

In a "cold war" between practitioners of these medical systems that had existed over several decades, Western medical practitioners denigrated and deprecated traditional healers. For their part, practitioners of traditional medicine argue that their practice is superior to the introduced practice. According to one herbalist, "modern doctors are good, but there are some ailments and conditions that the white man's (Western) medicine can not handle". Hence, the local belief that some "indigenous diseases" are not likely to be understood or treated successfully by introduced or Western medicine, but by traditional medicine, is reinforced. Even though concrete data are not available, Owumi has noted that literature indicates 70% utilization of traditional medicine among Nigerians. This does not suggest that only 30% patronize the introduced system; rather, the 30% constitutes individuals who do not rely on the traditional in any way. It also means that some of those in the 70% category rely on the introduced system in some way in dealing with their health needs [10].

Considering the acceptance of each of the medical systems at various quarters, the need for understanding of traditional health practices and possible integration with the introduced system has been both acknowledged and emphasized. Sophie observed that alternative care providers have always existed in most less-developed countries in the form of traditional medicine. While the

latter observation is correct in most parts of Nigeria, there are, however, scepticisms about and divergences between the two types of healthcare delivery systems in Nigerian societies. This division results from both the differences in orientation and the perceived practical significance of each of the systems against the other. Gureje for instance, highlights the difficulty in integrating the two systems by discrediting, in part, indigenous medicine as embedded in secrecy and risk.

Nigeria in the 21st century is characterized by a high rate of migration and urbanization that necessitates interaction of perceptions, knowledge and behaviour among different peoples. Moreover, the economy of most societies in sub-Saharan Africa compels individuals to deviate from normative values to innovative activities, most of them negating traditional expectations, in a bid to survive. This "survival of the fittest" approach accounts to a large extent for the high prevalence of sub-standard and fake drugs in countries on the continent and in Nigeria in particular. These reasons further signal a need for the convergence of traditional and introduced systems of healthcare delivery [11]. The implication of such collaboration is that the limitations of one system can be bridged by the strength of the other and could lead to the evolution of a comprehensive healthcare system. Owumi observed that the Alma Ata conference of 1978 provided a platform for highlighting the limitations of Western health systems in terms of equitable and adequate healthcare delivery.

Consequently, it became necessary to promote indigenous medicine to enhance accessibility and cost reduction, critical factors in utilization. It is argued here that while access can be canvassed as a factor in the effort to develop traditional medicine, cost may not suffice; in some instances, the traditional system of healthcare delivery is more expensive, especially when treatment involves material sacrifices and appeasement of gods [12].

Conclusion

This paper has examined traditional healthcare delivery systems in the Nigerian context as a way of understanding the prospects of Nigerian medicine in the 21st century. Our analysis indicates clearly that although scepticism still surrounds the proof of efficacy of traditional medicine, it has a high degree of relevance, at least within the context

and peculiarities of contemporary Nigerian societies. This paper has shown that recourse to indigenous medicine is beginning to increase once again among the peoples of the country, after several decades of denigration and castigation. This change in perception and attitude arose out of inquiry and experiences that had consistently revealed the inseparability of the medical system from its peoples and cultures.

Toward the end of the 20th century, it became apparent in medical literature that viewing the introduced medical system as possessing the ability to take care of every aspect of Nigerians' medical needs was deceptive and unnecessarily pretentious. Consequently, a synthesis of these systems has become paramount. This collaboration will ultimately take care of the health needs of Africas in an era that is becoming medically more complex and for which the essence of both micro and macro linkages cannot be overstated.

References

- Haig, Andrew J., Jonathan Im, Deji Adewole, and Virginia Nelson, et al. "The practice of physical and rehabilitation medicine in sub-Saharan Africa and Antarctica: a white paper or a black mark?." J Rehabil Med 41 (2009): 401-415.
- 2. Tannor, Abena. "7.6 The organizations of physical and rehabilitation medicine in the world: Physical and rehabilitation medicine in Africa." *J Int Soc Phys Rehab Med* 2 (2019): 156.
- Gutenbrunner, Christoph, and Boya Nugraha. "Physical and rehabilitation medicine: responding to health needs from individual care to service provision." Eur J Phys Rehab Med 53 (2017): 1-6.
- Harms, Sheila, and Olive Kobusingye. "Factors that influence the use of rehabilitation services in an urban Ugandan hospital." Int J Rehabil Res 26 (2003): 73-77.
- Bowling, Ann. Research methods in health: investigating health and health services: McGraw-hill education (UK), (2014).
- Skempes, Dimitrios, and Jerome Bickenbach.
 "Strengthening rehabilitation for people with disabilities:

 a human rights approach as the essential next step to accelerating global progress." Am J Phys Med Rehab 94 (2015): 823-828.
- 7. Guwatudde, David, Gerald Mutungi, Ronald Wesonga,

- and Richard Kajjura, et al. "The epidemiology of hypertension in Uganda: findings from the national non-communicable diseases risk factor survey." *PLoS One* 10 (2015): e0138991.
- UBOS. Uganda demographic and health survey 2016: key indicators report. Kampala, Uganda: UBOS, and Rockville, Maryland, USA: UBOS and ICF. In. (2016).
- Ajagbe, Sunday Adeola, Joseph Bamidele Awotunde, Ademola Olusola Adesina, and Philip Achimugu, et al. "Internet of medical things (IoMT): applications, challenges, and prospects in a data-driven technology." Intell. Healthc. Infrastruct. *Algorithms Manag* (2022): 299-319.
- 10. Silverstone, Roger, and Leslie Haddon. Design the domestication of information communication technologies: Technical change everyday life. In Communication by Design: The Politics of Information and Communication Technologies; Mansell, R., Silverstone, R., Eds.; Oxford University: Oxford, UK, (1996): 44-74.
- 11. Ugon, A., Brigitte Séroussi, and Christian Lovis. Transforming Healthcare with the Internet of Things. In Proceedings of the EFMI Special Topic Conference 2016, Paris, France, 17-19 April 2016; IOS Press: Amsterdam, The Netherlands, 2016.
- 12.Lee, Chang Won. "Application of metaverse service to healthcare industry: a strategic perspective." *Int J Environ Res Public Health* 19 (2022): 13038.

Citation: Logbo, Joel N. "Roles of African Traditional Medicine in Primary Healthcare Delivery System." *J Healthc Adv Nurs* 1 (2023): 105. DOI: 10.59462/JHAN.1.1.105.