
Alternative Medicine and Inclusive Public Health Management of Pandemic In Rural Areas of Nigeria

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ABSTRACT

The paper examines integrating Alternative Medicine (AM) into health management of pandemic in rural areas of Nigeria. Most states in Nigeria have rural areas that significantly depend on Alternative Medicine for health maintenance and pandemic management due to various challenges including accessibility and traditions. Evidences reveal possible vulnerability of rural communities in the last Covid 19 era and how they largely depend on Alternative Medicine. The study adopts survey method, simple random and convenience sampling, and Likert format questionnaire as instruments, using 262 primary school teachers in the rural areas of Oyo State, Nigeria as sample for primary data. The study conducts T- test for two hypotheses. The first; confirms the null hypothesis that existing public policy and regulation does not integrate Alternative Medicine to the management of Covid 19 pandemic. However, the second T -test result aligns with second alternative hypothesis that effective integration of Alternative Medicine into the management of pandemic can impact on rural areas. Therefore, for future pandemic, the paper recommends strengthening capacity, enhancing collaboration, promoting community based participation, and creating digital platform for documentation and interaction.

Keywords: Alternative Medicine, Conventional Medicine, Covid 19, Pandemic, Public Health, Nigeria, Rural areas.

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I. INTRODUCTION

In rural Nigeria, where health infrastructure is often inadequate and access to Conventional Medical Care remains limited, Alternative Medicine (AM) occupies a central role in promoting community health and well-being. Practices such as the use of herbal remedies, spiritual healing, and other traditional therapeutic approaches are deeply rooted in cultural traditions and frequently serve as the primary recourse for managing illness, including during public health crises (Fakeye et al., 2009; Okoronkwo et al., 2014).

A rural survey indicates that nearly 96% of Lagos State residents uses herbal medicine, with over two-thirds using it as their first line of treatment and a majority perceiving it as more effective than conventional medicine (Abodunrin, 2011). Similarly, finding of a study at Ilorin, Kwara State shows that 67.7% of adults uses alternative therapies, though, only 3.5% met criteria for safe use (Anjorin, 2022). This underscores the need for a more inclusive public health framework that acknowledges and integrates these alternative systems, rather than marginalising them. In addition, a study on farmers in Southwest Nigeria highlights that herbal preparations are integral to livelihoods, with magico-religious dimensions (Mafimisebi, 2010).

The COVID-19 pandemic further exposed and intensified the existing vulnerabilities within rural health systems, revealing significant deficiencies in access, trust, and infrastructure. In the absence of timely biomedical interventions, many rural residents turned to traditional healers and herbal formulations as their main source of care (Ekor, 2014). Despite their widespread use and cultural legitimacy, these traditional practices are frequently excluded from national pandemic preparedness and response strategies. Such exclusion limits the potential for effective, community-driven health responses in rural contexts. An inclusive approach to public health management must, therefore, embrace a pluralistic health system that incorporates both formal healthcare institutions and community-based traditional practitioners. Integrating these parallel systems can expand health coverage, strengthen disease surveillance and health education efforts, and build community trust, particularly during public health emergencies (World Health Organization, 2013).

Therefore, the research questions are; how often are rural populations patronises AM in Nigeria, what often motivate seeking Alternative Medicine, how has the existing policies and regulations enhance integration of AM for pandemic management, and what is the perception of rural population on the potential of AM in impacting pandemic management?. Thus, in responding to the questions, this paper examines the potential for enhancing public health responsiveness during pandemics in rural Nigeria through the recognition and strategic integration of Alternative Medicine. The remaining sections are; theoretical framework, conceptual explanation, methodology, results and discussion, policy implications and recommendations, and conclusion.

2. CONCEPTUAL EXPLANATIONS

Public Health Management

Public health is a comprehensive system aimed at enhancing the well-being of entire populations. Originally rooted in efforts to control epidemic diseases such as polio, the field has since expands to address a broad spectrum of issues, including psychological and behavioural disorders, in addition to physical health. It also considers the impact of environmental and societal conditions, such as the marketing of tobacco, alcohol, and unhealthy foods, as well as poverty and systemic discrimination, on the incidence and prevalence of health-related problems (Biglan, Van Ryzin, & Westling, 2019). Public health management refers to the application of management principles to the public health practice and administration. It entails the systematic planning, implementation, and evaluation of health programmes designed to improve population-level health outcomes.

Emphasizing efficiency, equity, and sustainability, public health management encompasses a wide range of functions, including health promotion, disease prevention, risk assessment, healthcare planning, and policy development (Willacy, 2015).

Alternative Medicine (AM)

Alternative Medicine refers to a broad range of medical treatments and practices that fall outside the scope of conventional or mainstream biomedical approaches. These practices are often grounded in natural remedies and longstanding cultural traditions that have evolved over centuries across diverse regions, including Africa (Chitindingu, 2014). Alternative Medicine encompasses a wide array of therapeutic modalities, such as herbal medicine, acupuncture, chiropractic care, naturopathy, homeopathy, and mind-body interventions like yoga and meditation (World Health Organization, 2021). In contrast to conventional Western medicine, which typically emphasizes disease-specific interventions, often involving pharmaceuticals or surgical procedures, alternative medicine adopts a holistic perspective, attending to the physical, emotional, and spiritual dimensions of health.

A defining feature of Alternative Medicine is its focus on natural processes and the belief in the body's intrinsic capacity for self-healing. For example, herbal medicine, which is one of the most prevalent forms of alternative therapy, utilises plant-based compounds to promote health and restore physiological balance. These treatments are frequently complemented by lifestyle interventions, including dietary changes, physical activity, and stress management strategies (Ernst, 2020). Similarly, acupuncture, a practice rooted in Traditional Chinese Medicine (TCM), seeks to restore the flow of vital energy, (or qi), through the body's meridians by inserting fine needles at specific points, thereby addressing imbalances believed to contribute to illness (Xu et al., 2021).

The Federal Government of Nigeria, through the Ministry of Health, has undertaken initiatives to promote the practice of traditional medicine within the country (Awodele, 2014). Notable among these efforts is the development of the National Policy on Traditional Medicine along with accompanying laws and regulations in 2004. The Ministry's approval of the establishment of the Council for Traditional, Alternative, and Complementary Medicine Practice in Nigeria in 2020, marks further progress. These measures reflect a growing institutional recognition of alternative medicine and its potential contribution to public health. Globally, Alternative Medicine is increasingly being integrated into national healthcare systems, particularly through the incorporation of complementary therapies alongside conventional medical treatments.

A Pandemic

A disease is classified as a pandemic when it meets specific criteria concerning its geographical spread, transmission dynamics, and societal impact. Primarily, a pandemic involves the emergence of a novel infectious disease that spreads across multiple countries or continents, affecting a substantial portion of the global population. This extensive and transnational transmission differentiates pandemics from localised or regional epidemics (World Health Organization, 2020).

A defining characteristic of a pandemic is, the sustained human-to-human transmission, whereby the infection spreads efficiently within and across populations, resulting in high infection rates in multiple regions (Smith et al., 2022). Additionally, the severity of the disease, manifests through significant morbidity, mortality, and societal disruption, is a key determinant. Pandemics often overwhelm healthcare systems, disrupt economic activities, and trigger widespread social and behavioural transformations (CDCP, 2021).

The official declaration of a pandemic by the World Health Organization (WHO) is based on both the global spread and the severity of the disease. Such a declaration is critical for mobilising international resources, facilitating coordinated response efforts, and implementing measures to mitigate the public health, economic, and social consequences of the outbreak (WHO, 2020).

COVID-19 as a Pandemic

COVID-19, caused by the novel coronavirus SARS-CoV-2, was officially declared a pandemic by the World Health Organization (WHO) on March 11, 2020. This designation was based on the virus's rapid and widespread transmission across nearly every country, coupled with its profound public health and socio-economic impacts (World Health Organization, 2020). The classification of a disease as a pandemic relies on its extensive geographic distribution and sustained human-to-human transmission. COVID-19 clearly met these criteria, spreading rapidly through respiratory droplets and demonstrating the capacity to cause severe illness. The pandemic resulted in high infection rates globally, and placed immense strain on healthcare systems, contributing to significant morbidity, mortality, and widespread disruptions to daily life and economic activity (Smith et al., 2022; Johns Hopkins University, 2021).

The designation of COVID-19 as a pandemic prompted a coordinated global response, encompassing the implementation of large-scale public health interventions, international collaboration in vaccine research and development, and widespread testing and treatment efforts. The crisis underscored the critical importance of global health preparedness, international cooperation, and resilient health systems in responding to future pandemics (CDCP, 2021; ECDC, 2020).

Pandemic Management Procedure

Despite increasing interest particularly during the COVID-19 pandemic, the field of Alternative Medicine remains a subject of considerable debate. Critics contend that many alternative therapies lack robust scientific evidence, while advocates emphasize their value as complementary interventions that address limitations within conventional healthcare systems (NCCIH, 2021). In rural communities, reliance on Alternative Medicine has grown significantly, driven by factors such as accessibility, affordability, and alignment with cultural beliefs (Banerjee & Rao, 2021). This dependence became even more evident during the COVID-19 pandemic, as overburdened healthcare systems limited access to conventional medical services, prompting individuals to turn to alternative methods for symptom management and immune support.

The effective management of a pandemic requires a comprehensive, multi-level approach aimed at containing disease transmission, reducing public health impacts, and facilitating long-term recovery. Pandemic management is typically coordinated across local, national, and international levels and involves several core components. One of the most critical is surveillance and monitoring, which enable early detection and continuous assessment of the disease. This includes tracking case numbers, analysing transmission patterns, and identifying emerging hotspots through robust surveillance systems and data analytics (WHO, 2021). Timely and accurate information is essential for informing public health decisions, deploying targeted interventions, and allocating resources effectively.

Another essential component of pandemic management is the implementation of public health interventions. These include strategies such as social distancing, quarantine and isolation of infected individuals, travel restrictions, and the promotion of hygiene practices (CDCP, 2021). Public health campaigns are crucial in raising awareness, educating the population on preventive measures, and promoting adherence to health guidelines. Equally important is healthcare system preparedness, which involves strengthening infrastructure and resources to meet the demands of a health crisis. This includes expanding hospital capacity, ensuring the availability of medical supplies and personal protective equipment (PPE), and training healthcare personnel to manage increased caseloads effectively (Ranney et al., 2020).

Efficient trial systems and treatment protocols are also established to optimise patient care, and prevent healthcare system collapse. The development and distribution of vaccines and therapeutic treatments represent another critical pillar of pandemic response. This process entails accelerated research and development, rigorous clinical trials, and the equitable distribution of vaccines and antiviral medications. Vaccination campaigns are designed to achieve herd immunity and reduce the incidence of severe illness (Smith et al., 2022). International collaboration plays a vital supportive role in pandemic management. Given the global nature of pandemics, coordinated efforts led by international organizations such as the World Health Organization (WHO) and other global health agencies are essential. These efforts include the sharing of information, technical expertise, and resources, as well as providing support to countries with limited capacities to ensure a cohesive and effective global response (ECDPC, 2020).

Post-pandemic recovery is another fundamental procedure that involves evaluating the overall impact of the pandemic, addressing long-term health, social, and economic consequences, and refining strategies to strengthen future preparedness. This includes systematic reviews of interventions, lessons learned, and the development of more resilient public health systems (Johns Hopkins University, 2021). Structurally, pandemic response in Nigeria is typically coordinated through a centralised management system. However, such centralised structures often face limitations in scope due to technical complexities, resource constraints, and a shortage of skilled professionals, which hinders effective implementation at the local rural level.

2.1 Theoretical Framework

The People-Centered Health Systems (PCHS) Theoretical Model

The People-Centered Health Systems (PCHS) framework provides a valuable analytical lens for examining the integration of Alternative Medicine into pandemic management in rural Nigeria. Grounded in health policy and systems research, PCHS conceptualises health systems as social institutions shaped by the dynamic interactions among a range of actors, including community members, informal providers, and formal healthcare institutions that are collaborating to address local health needs (Sheikh et al., 2014).

In rural Nigerian settings, traditional and Alternative Medicine frequently serve as the initial point of care due to factors such as affordability, accessibility, and cultural relevance (Fakeye et al., 2009). The PCHS framework facilitates an exploration of how these informal care systems can be acknowledged, regulated, and effectively integrated into pandemic response efforts, particularly in contexts such as the COVID-19 crisis, where formal health systems were severely strained. It promotes inclusive governance, community participation, and culturally attuned models of care, which are key elements for fostering trust and ensuring adherence to public health measures (Gilson et al., 2017).

Through the application of the PCHS framework, this paper investigates how collaborative networks involving traditional healers, local leaders, and formal health actors can enhance the responsiveness and resilience of health systems. Moreover, the framework underscores the importance of local knowledge and community agency, offering critical insights into the limitations of top-down biomedical approaches in rural pandemic contexts. Ultimately, PCHS focuses on a transition from narrowly disease-focused models to adaptive, people-centered systems that embrace the pluralistic nature of public healthcare delivery.

3. METHODOLOGY

The study adopts survey method, while the study area is Oke-Ogun region of Oyo State; considers having more rural towns and agrarian communities in Oyo State. The population consists of primary school teachers in 3 of the 10 Local governments in the region (they are literate and stable residents); Saki West, Saki East and Atisbo local governments. The sample; using random sampling is 262 respondents, the research instruments is Google form containing Likert format structured questionnaire (A- agree; UD-undecided; D- disagree), arranged in 6 sections, and each addresses different variables. The literatures and previous relevant questionnaires provide information for questionnaire validation, while Cronbach alpha reliability coefficient of each section ranges between 0.65-0.76, considers within acceptable region. The study administers the instruments through various WhatsApp platforms of the teachers. The respondents are 79 % of 333 sample of 2500 population (5% margin error) as recommended by Kriecie and Morgan (1971) Table. Descriptive and inferential statistical tools are used for data analysis; mean for weighted average and T-test for hypotheses.

4. RESULTS AND DISCUSSION

Results

Section A:

Table 1: Describing demographic information.

S/No	Variables	Frequency &		Category			
		1	Fy	2	Fy	3	Fy
1.	Gender	Male	154	Female	108	--	--
2.	Age	18-35	65	36-50	144	51-above	53
3.	Education	Below Uni	149	Graduate	86	Pg	27

Section B: Awareness and Knowledge

Table 2: Describing the nature of awareness

S/N	Nature of Awareness	A	UD	D	Total	Mean	Decision
1	You are familiar with Alternative Medicine	262	0	0	262	3.0	
2	You often use Alternative Medicine	186	0	76	262	2.42	
3	Alternative Medicine is effective in prevention/treatment	186	0	76	262	2.42	

Interpretation: The overall mean score is 2.61; therefore, there is positive perception in respect of awareness and knowledge of Alternative Medicine in rural areas.

Table 3: Indicating familiarity with the types of Alternative Medicine

S/N	Types of Alternative Medicine	A	UD	D	Total	Mean	Decision
1	Herbal medicine	238	0	24	262	2.82	Agree
2	Traditional bone setting	243	0	19	262	2.86	Agree
3	Spiritual healing	225	0	37	262	2.72	Agree
4	Acupuncture	0	0	262	262	1	Disagree

Interpretation: The overall mean score is 2.35; therefore, there is positive perception in terms of familiarity with different types of Alternative Medicine in rural areas

Section C: Access and Utilization

Table 4: Motivation to seek Alternative Medicine

S/N	Reasons	A	UD	D	Total	Mean	Decision
1	Lack of access to conventional healthcare	186	0	76	262	2.42	Agree
2	Cultural/Traditional beliefs	192	0	70	262	2.47	Agree
3	Perceived effectiveness	86	0	176	262	1.66	Disagree
4	Cost-effectiveness	191	0	71	262	2.46	Agree

Interpretation: The overall mean score is 2.25; therefore, there is positive perception in respect of the elements motivating the seeking of Alternative Medicine in rural areas.

Section D: Barriers

Table 5: Barriers limiting the patronizing of Alternative Medicine during pandemic

S/N	Factors Limiting Your Access To Alternative Medicine	A	UD	D	Total	Mean	Decision
1	Cost	42	0	220	262	1.32	Disagree
2	Lack of awareness/Knowledge	178	0	84	262	2.36	Agree
3	Regulatory issues	6	0	256	262	1.05	Disagree

Interpretation: The overall mean score is 1.58; therefore, there is negative perception on the elements limiting patronising of the Alternative Medicine in rural areas during pandemic.

Section E: Pandemic Management

Table 6: Policy and Regulation

S/N		A	UD	D	TOTAL	MEAN	DECISION
1	You are aware of any national/state policies on Alternative Medicine	68	0	194	262	1.52	Disagree
2	Existing policies effectively regulate Alternative Medicine	46	0	216	262	1.35	Disagree
3	Existing policies accommodates all aspects of Alternative Medicine	46	0	216	262	1.35	Disagree

Interpretation: The overall mean score is 1.41; therefore, there is negative perception on the influence of policy and regulation on the integration of Alternative Medicine in managing of pandemic in the rural areas.

Table 7: Response to the last pandemic (COVID-19)

S/N	Nature of Response	A	UD	D	Total	Mean	Decision
1	Conventional Medicine	38	0	224	262	1.29	Disagree
2	Alternative Medicine	54	0	208	262	1.41	Disagree
3	Both	26	0	236	262	1.20	Disagree
4	Neither	170	0	92	262	2.30	Agree

Interpretation: The overall mean score is 2.07; therefore, there is positive perception on the parameters concerning nature of responses to covid-19 pandemic in the rural areas.

Table 8: Role alternative medicine can play in pandemic response

S/N	Roles	A	UD	D	Total	Mean	Decision
1	Prevention	241	0	21	262	2.84	Agree
2	Treatment	172	33	57	262	2.44	Agree
3	Community engagement by practitioners	192	28	37	262	2.55	Agree

Interpretation: The overall mean score is 2.61; therefore, there is positive perception on the elements describing the role of Alternative Medicine in management of pandemic in the rural areas.

Table 9: Challenges to effective integration of Alternative Medicine in pandemic management

S/N	Types	A	UD	D	Total	Mean	Decision
1	Regulatory issues	221	26	12	262	2.79	Agree
2	Lack of evidence	148	66	28	262	2.31	Agree
3	Limited resources	129	78	55	262	2.28	Agree
4	Stigma	136	62	64	262	2.27	Agree

Interpretation: The overall mean score is 2.41; therefore, there is positive perception confirming the elements describing the challenges to effective integration of Alternative Medicine in pandemic management in the rural areas.

5. FINDING AND DISCUSSION

The results shows that the overall weighted average in 7 of the 10 variables indicate agreement. They are; awareness and knowledge, familiarity with the types of Alternative Medicine, motivation to seek alternative medicine, response to last pandemic, role AM can play in pandemic management, and the challenges to the effective integration of AM in pandemic management. The 2 within disagreement region are; barriers to patronising AM, and effect of existing policy and regulation.

The result of the two t-test hypotheses testing also align with the above mean results, that; the existing public policy does not effectively integrate AM with conventional, and that Alternative Medicine can impact the management of pandemic in Nigeria's rural areas. The findings of related studies correlate. The study of Atekoja et al. (2025) to survey the factors influencing the choice and use of complementary and Alternative Medicine (CAM) for managing common childhood illnesses in Makun community, Sagamu, Ogun State, Nigeria, reveals the key drivers of CAM utilization as affordability (82.9%), accessibility (81.7%), perceived effectiveness (75.9%), and child tolerance (44.6%). In addition, commonly used CAM therapies included herbal medicine (36.7%), natural supplements (21.4%), dietary therapy (13.3%), and chiropractic care (10.2%). Reported benefits of CAM use were user satisfaction (71.1%), perceived effectiveness (45.8%), minimal side effects (46.7%), and safety (37.3%).

Furthermore, a multinational survey conducted within nine countries, namely; Germany, the United States, Japan, China, Malaysia, Vietnam, Russia, Kazakhstan, and the United Arab Emirates, examines individuals' experiences, attitudes, and promotional preferences related to traditional, complementary, and Alternative Medicine (TC&AM), indicate general positive attitudes toward TC&AM, with herbal medicine being more widely used than acupuncture. The therapies are primarily used to enhance metabolism rather than treating musculoskeletal conditions. The sample also supports recommending TC&AM in treating and managing infectious diseases, including COVID-19 (Bo-Youn et al, 2022).

Also, finding shows TM is increasingly gaining acceptance in Bangladesh. Investigating the TM use among adults with chronic conditions, Poli et al (2025) find that individuals residing in rural areas with lower incomes are more likely to rely on traditional remedies. Older adults also showed higher usage rates compared to younger individuals. The study further emphasized the perceived effectiveness of TM in managing chronic illnesses. In another study conducted between 2016 and 2018 in the Goulburn Valley region of rural Australia reveals that nearly one in three people in the area uses Complementary and Alternative Medicine (CAM) services, such as visits to osteopaths, chiropractors, or massage therapists (Hamilton et al, 2025). The findings are insights on the importance of integrating traditional and modern healthcare systems to meet the diverse health needs of the population more effectively. They also resonate with the theoretical framework of this study, underscoring the relevance of community practices, and collaboration for effective and result oriented grassroots public management based on resources.

In addition, they highlight various perspectives and dimension of integrational issues between alternative and conventional medicine. AM is cultural and traditional, and the knowledge and familiarity are through socialisation process, which makes availability and accessibility easier. Alternative Medicine often passed down through generations, readily available and deeply rooted in cultural practices (WHO, 2021). The practice covers diagnosis, preventive, treatment, and health maintenance; hence, it is accepted and patronised all over Nigeria (Li, 2020). In the context of rural Nigeria, several factors contribute to the widespread reliance on Alternative Medicine. Foremost among these is the influence of cultural beliefs. Many rural inhabitants place considerable trust in traditional healers and remedies, perceiving them as more consistent with their personal values and worldviews.

This cultural affinity often leads to a greater dependence on alternative therapies, particularly for ailments believed to have spiritual or supernatural origins (Agbabiaka et al., 2020). Furthermore, during public health crises such as the COVID-19 pandemic, the strain on conventional healthcare systems compelled many individuals to resort to alternative treatments as interim solutions for symptom management and disease prevention (NCCIH, 2021). Affordability constitutes another critical factor influencing reliance. The prohibitive costs associated with modern healthcare services, including medications and hospital care; render them inaccessible to many rural populations. In contrast, herbal medicines and other alternative treatments are typically more affordable and thus, more attainable for these communities (Banerjee & Rao, 2021).

Related to this is the cost of healthcare, which remains a significant barrier to accessing conventional medical services. Although public healthcare is nominally subsidised, patients frequently incur substantial out-of-pocket expenses for consultations, medications, and diagnostic tests. Costs associated with diagnostic procedures, treatments, and preventive interventions often exceed the financial means of residents, contributing to underreporting of cases and non-compliance with public health directives. Economic constraints also impede the ability of local governments to invest adequately in healthcare infrastructure and essential resources. For many Nigerians, particularly those living in poverty, the financial burden associated with orthodox medical care is prohibitive, prompting a preference for alternative or traditional treatments perceived as more affordable (Ogunleye et al., 2021).

Accessibility also plays a significant role. Many rural areas in Nigeria suffer from inadequate healthcare infrastructure, which severely limits access to conventional medical services. The distribution of healthcare facilities across the country is uneven, with urban centres possessing a concentration of resources and rural areas facing considerable deficits. Numerous rural communities either lack hospitals and clinics altogether or have facilities that are poorly resourced and devoid of essential medical equipment (World Bank, 2022). This infrastructural disparity imposes substantial barriers to adequate healthcare access for millions of Nigerians residing in remote and underserved regions.

Compounding these challenges, inadequate transportation infrastructure in many regions further impedes access to healthcare. Poor road conditions and limited availability of public transport increase the effective distance to the nearest hospital or clinic, thereby constituting a substantial obstacle for rural populations seeking medical care (Adepoju, 2020). Moreover, Nigeria faces a persistent shortage of healthcare personnel. The country has one of the lowest doctor-to-patient ratios globally, a situation exacerbated by the emigration of medical professionals seeking improved remuneration and working conditions abroad. This brain drain has resulted in severe understaffing of healthcare facilities, especially in rural areas where the remaining healthcare workers are often overwhelmed by patient demand (Oleribe et al., 2020). Finally, frequent industrial actions by healthcare workers further impede access to medical care. Strikes, often triggered by grievances over inadequate remuneration and poor working conditions, are prevalent within Nigeria's healthcare sector, resulting in substantial disruptions to service delivery in public hospitals (Oleribe et al., 2020).

Collectively, these challenges significantly limit the accessibility of orthodox medical services, particularly for rural and low-income populations, thereby reinforcing reliance on AM across many regions of the country. Pandemic management in rural Nigerian communities is notably ineffective, owing to a confluence of infrastructural, socio-economic, and cultural factors. These multifaceted challenges complicate efforts to contain and control infectious diseases, undermining the overall efficacy of public health interventions in such settings. Cultural beliefs and practices play a significant role in shaping health behaviours within rural communities. There is frequently a pronounced reliance on traditional medicine and local healers, who may not conform to standardised medical protocols or fully comprehend the severity of pandemic diseases. Such dependence can impede the adoption of public health interventions and diminish the efficacy of conventional medical responses (Agbabiaka et al., 2020).

Effective communication during a pandemic is essential; however, rural areas often encounter substantial barriers in disseminating accurate and timely information. Limited access to media outlets and educational resources can obstruct the transmission of critical knowledge regarding preventive measures, symptom identification, and treatment options. Additionally, the presence of miscommunication or misinformation may further exacerbate disease propagation (NCCIH, 2021). Resource allocation during a pandemic presents significant challenges, particularly in low-resource settings. The distribution of resources tends to prioritise urban centres with higher population densities, frequently resulting in inadequate support for rural communities. This disparity can compromise response efforts and complicate overall pandemic management in these areas (Smith et al., 2022).

Throughout rural Nigeria, Alternative Medicine constitutes a fundamental aspect of healthcare delivery, particularly during pandemics when formal healthcare systems are under considerable strain. Despite widespread reliance on these practices, concerns persist regarding their safety and efficacy. The development of an inclusive public health management framework necessitates the integration of traditional and biomedical systems through targeted training, systematic documentation, regulatory oversight, and mutual respect in collaboration. Nigeria's regulatory framework for traditional medicine is evolving in response to the imperative of ensuring safety, efficacy, and ethical standards amid the prevalent use of herbal and alternative therapies. A notable example is the role of the National Agency for Food and Drug Administration and Control (NAFDAC) in regulating herbal medicines by enforcing rigorous standards related to production, labeling, and marketing. NAFDAC also undertakes quality control evaluations of phytomedicines and has played a pivotal role in the registration of herbal products such as Niprimune, developed as an adjunct therapy for COVID-19 (NAFDAC, n.d).

The National Institute for Pharmaceutical Research and Development (NIPRD) plays a leading role in the research and development of herbal medicines, working in collaboration with academic institutions and local communities to scientifically validate indigenous remedies (NIPRD, n.d). The Traditional Medicine Practice Council (TMPC) is established to oversee the licensing and regulation of traditional medicine practitioners. It is responsible for setting standards related to training, professional conduct, and ethical practice.

Although TMPC operations are currently concentrated in urban areas, efforts are on-going to expand its reach into rural communities (Eleci, 2025). The Traditional and Alternative Medicine Act provides the legal framework for licensing, practice standards, and the integration of traditional medicine into the broader public health system. However, enforcement remains inconsistent, particularly in rural areas where informal practices are more prevalent. Additionally, the regulation of Patent and Proprietary Medicine Vendors (PPMVs) has a direct impact on Alternative Medicine vendors, with regulatory measures aimed at ensuring proper licensing and maintaining product quality standards.

Additional evidence highlights the gradual transformation of Alternative Medicine practice in Nigeria. A notable example is the development of Niprimune by the National Institute for Pharmaceutical Research and Development (NIPRD). This phytomedicine, formulated from indigenous plant materials, to support immune function in patients with COVID-19. Following preclinical safety assessments and preliminary clinical observations, the National Agency for Food and Drug Administration and Control (NAFDAC) granted regulatory approval for its use. Niprimune was subsequently deployed in both rural and urban health centres to complement conventional COVID-19 treatments, particularly in managing early-stage symptoms. However, its reception was mixed. While some rural communities welcomed the intervention due to their cultural familiarity with herbal remedies, others remained skeptical of its efficacy and scientific validation (Onukansi, 2025).

Furthermore, efforts to integrate traditional healers into mental health services are gaining traction in rural Nigeria. These initiatives include the training of traditional practitioners, the establishment of collaborative networks between formal healthcare providers and traditional healers, and the promotion of joint care strategies. This integration contributes to improved early detection of mental health conditions, such as epilepsy and psychosis, and enhanced treatment adherence among affected patients (Anjorin, 2022). During COVID-19, Delta State leverage on traditional channels such as community elders and herbalist networks in disseminating information on preventive measures. (Umeluzor, 2024).

It is also important to note that Farmers in rural Southwest Nigeria (and other parts of Nigeria) employ herbal medicines not only for personal health but also as economic resources. Thus; public health initiatives are incorporating training in safe herbal preparation and usage, to reduce the risks of contamination and misuse (Mafimisebi, 2010). Notwithstanding the willing government efforts, there are evidences pointing to both structural and processes hindrance to the integration of Alternative Medicine to the orthodox medicine for the management of Covid 19 pandemic in rural areas. Skepticism among medical professionals remains a significant barrier to the integration of traditional medicine into formal healthcare systems. A medRxiv preprint reports that while patients and traditional practitioners show openness to digital integration of healthcare services, only approximately one-third of medical doctors support incorporating traditional medicine. This reluctance is primarily due to concerns surrounding the lack of standardisation and uncertain efficacy (Oluwafemi, 2025).

Further insights are provided by Aderogba (2022a) in a study examining the role of local government administrations in managing the COVID-19 pandemic in Lagos State. The study reveals that among the three primary intervention activities; prevention, treatment, and maintenance, local governments were involved only in maintenance activities, primarily in the distribution of food palliatives. Key implementation efforts, including treatment and prevention, were highly centralised and coordinated at the state level, where treatment centres and other critical resources were located.

Similarly, Aderogba (2022b), in another study on the involvement of the Community Development Associations (CDAs) in Ogun State, in the management of Covid-19 pandemic, finds that CDAs played a limited role, confined to support and maintenance functions such as the distribution of palliatives and dissemination of public health information. These findings underscore a significant gap in healthcare access at the grassroots level. The centralisation of medical resources and the concentration of health professionals in urban areas contribute to limited treatment options in rural communities. As a result, alternative medicine continues to serve as a more accessible and culturally familiar healthcare option in these settings.

6. POLICY IMPLICATIONS AND RECOMMENDATIONS

Policy Implications

The following are observed:

- i. Alternative Medicine is traditional. It would be difficult to discourage the rural population from using it. Hence, there must be broad policy to integrate it with the orthodox in management of pandemic.
- ii. Centralising pandemic management is a motivator for Alternative Medicine in rural areas, hence; policy should provide for the decentralisation.
- iii. Rural dwellers cannot do without alternatives during pandemic because of conventional medicine access challenge; hence, there is need for policy directives on prompts coordination and friendly non-technical guidelines to enhance usage and documentation of Alternative Medicine during pandemic.

Recommendation

For effective future pandemic preparedness in rural Nigeria, stakeholders should pursue the following recommendations:

- i. Strengthening the capacity of TMPC to operate in rural areas, supported by digital tools to document practitioners and practices.
- ii. Enhanced collaboration between NAFDAC and community leaders for grassroots monitoring and education.
- iii. Promotion of community-based participatory research to build local evidence bases for commonly used herbal remedies.
- iv. Development of training curricula incorporating both biomedical and traditional knowledge for practitioners.

- v. Conventional practitioners should collaborate with the traditionalists in educating them on the nature of the outbreak, disease recognition, infection control, referral networks, and basic public health messaging, to avoid wrong herbal treatment
- vi. Creating digital platforms that can support documentation, patient registries, practitioner directories, and remote consultation capabilities.

7. CONCLUSION

Alternative Medicine, particularly traditional herbal therapies and traditional healing practices, remains a cornerstone of healthcare in rural Nigeria, even during pandemics. Understanding its role within inclusive public health management is vital for designing effective, culturally sensitive responses in underserved communities. The study therefore, examines the integration and usage of Alternative Medicine during the Covid-19 pandemic in the Nigeria rural areas. The result of the T-test aligns with the null hypothesis that the existing public policy does not effectively integrate Alternative Medicine in pandemic management. Also, the second result aligns with the second alternative hypothesis that integrating Alternative Medicine in future can impact pandemic management in the rural communities. Developing inclusive public health management requires bridging traditional and biomedical systems through training, documentation, regulation, and respectful collaboration. Therefore, implementing the recommendation can reduce the potential vulnerability of the rural population.

REFERENCES

- Abodunrin, O.L., Omajasola, T. & Rojugboka, O.O. (2011). Utilization of alternative medical services by people of a north central city of Nigeria. *East African Journal of Public Health*, 8(2), 82-87.
- Adepoju, P. (2020). COVID-19 and Nigeria: Implications for healthcare access. *The Lancet Global Health*, 8(7), e880. [https://doi.org/10.1016/S2214-109X\(20\)30272-4](https://doi.org/10.1016/S2214-109X(20)30272-4)
- Aderogba, A.A. (2022b). Assessment of the Participation of Community Development Associations in the Management of Covid-19 Pandemic in Ogun State, Nigeria. *Social Informatics, Business, Politics, Law, Environmental Sciences & Technology Journal, USA*, 8(3), 47-62. www.isteams/socialinformaticsjournal
- Aderogba, A.A. (2022a). Local Governments and Management of Covid-19 in Lagos State, Nigeria. *Proceedings of the 31st Accra Bespoke Multidisciplinary Innovations Conference*. University of Ghana & Academic City University College, Ghana. 1st – 3rd June, 2022. Pp 189-204. www.isteams.net/ghanabespoke2022
- Agbabiaka, T. B., Spencer, N. H., & Khanom, S. (2020). Use of traditional medicine in Nigeria: Influencing factors and prevalence. *Complementary Therapies in Medicine*, 53(102508). <https://doi.org/10.1016/j.ctim.2020.102508>
- Anjorin, S.O. & HassanWada, Y. (2022). Impact of traditional healers in the provision of mental health services in Nigeria. *Ann Med Surg (London)*, 82(104755). <https://ncbi.nlm.nih.gov/pmc/articles/PMC9539773>
- Atekoja, O. E., Salako, O. F., Oluseye, O. & Okanlawon, F. (2025). Factors influencing the utilization, and perceived benefits of complementary and alternative medicine in the

- management of common childhood diseases among residents of Makun community, Sagamu, Ogun State Nigeria. *Journal of Pediatric Nursing*, 81, 118-125. <https://doi.org/10.1016/j.pedn.2025.01.016>
- Awodele, O., Amagon, K.I., Wannang, N.W. & Aguiyi J.C. (2014). Traditional medicine policy and regulation in Nigeria: an index of herbal medicine safety. *Curr Drug Safety*, 9(1), 16-22.
- Biglan, A. Johansson, M., Van Ryzin, M. & Dennis E. (2020). Scaling up and scaling out: Consilience and the evolution of more nurturing societies. *Clinical Psychology Review*, 81(101893). <https://doi.org/10.1016/j.cpr.2020.101893>
- Banerjee, D. & Rao, T. S. (2021). COVID-19 pandemic and the surge of alternative medicine in rural communities: An evolving narrative. *Journal of Public Health Research*, 10(4), 371-375. <https://doi.org/10.4081/jphr.2021.2039>
- Centers for Disease Control and Prevention. (2021). Pandemic versus epidemic: Understanding the difference. <https://www.cdc.gov/flu/pandemic-resources/pandemic-vs-epidemic.html>
- Chitindingu, E., George, G. & Gow, J. (2014). A review of the integration of traditional, complementary and alternative medicine into the curriculum of South African medical schools. *BMC Med Educ.*, 28(14), 40.
- Ekor, M. (2014). The growing use of herbal medicines: Issues relating to adverse reactions and challenges in monitoring safety. *Frontiers in Pharmacology*, 4, 177.
- Elechi, K.W., Inuayan, J.U., Samba, A.M., Okoli, C.G., Ezinwanne, T.H., Adediji, S.J. & Lawal, O.P. (2025). Evidence-based integration of traditional medicine in Nigeria: Translational impacts on healthcare access, quality, and resilience. *Path of Science*, 11(5). 10001-10010. <http://dx.doi.org/10.22178/pos.117-32>
- Ernst, E. (2020). Alternative medicine: A critical assessment of efficacy and safety. *The Lancet*, 395(10236), 567-574. [https://doi.org/10.1016/S0140-6736\(20\)30229-7](https://doi.org/10.1016/S0140-6736(20)30229-7)
- European Centre for Disease Prevention and Control. (2020). COVID-19 pandemic. <https://www.ecdc.europa.eu/en/covid-19-pandemic>
- Fakeye, T. O., Adisa, R., & Musa, I. E. (2009). Attitude and use of herbal medicines among pregnant women in Nigeria. *BMC Complementary and Alternative Medicine*, 9(1), 53.
- Gilson, L., Hanson, K., Sheikh, K., Agyepong, I.A., Ssengooba, F., & Bennett, S. (2017). Building the field of health policy and systems research: Social science matters. *PLOS Medicine*, 14(8), e1002409.
- Hamilton, A.J., Bourke, L., Ranmuthugala, G. et al. (2025). Factors associated with the use of complementary and alternative medicine in rural Northern Victoria, Australia. *Health Care Anal.* <https://doi.org/10.1007/s10728-024-00508-9>
- Johns Hopkins University. (2021). COVID-19 dashboard by the Center for Systems Science and Engineering (CSSE). <https://coronavirus.jhu.edu/map.html>
- Li, S., Odedina, S., Agwai, I., Ojengbede, O., Huo, D. & Olopade, O.I. (2020). Traditional medicine usage among adult women in Ibadan, Nigeria: a cross-sectional study. *BMC Complement Med Ther*, 20(1), 93.
- Mafimisebi, T.E. & Oguntade, A.E. (2010). Preparation and use of plant medicines for farmers' health in Southwest Nigeria: Socio-cultural, magico-religious and economic aspects. *J Ethnobiol Ethnomed*, 6(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821299>

-
- NAFDAC role in regulating herbal medicines. n.d. <https://www.nafdac.gov.ng>
- National Center for Complementary and Integrative Health. (2021). The science of alternative medicine: Evidence, effectiveness, and safety. <https://www.nccih.nih.gov/research/the-science-of-alternative-medicine>
- National Institute for Pharmaceutical Research and Development. n.d. https://en.wikipedia.org/wiki/National_Institute_for_Pharmaceutical_Research_and_Development
- Ogunleye, O. O., Basu, D., Mueller, D., et al. (2021). Addressing the challenges of access to medicines for non-communicable diseases in Nigeria: Insights from the COVID-19 pandemic. *Globalization and Health*, 17(1), 118. <https://doi.org/10.1186/s12992-021-00763-7>
- Okoronkwo, I. L., Onyia-Pat, J. L., Okpala, P. U., Agbo, M. A., & Ndu, A. C. (2014). Patterns of complementary and alternative medicine use, perceived benefits, and adverse effects among adult users in Enugu urban, Southeast Nigeria. *Evidence-Based Complementary and Alternative Medicine*.
- Oleribe, O. O., Ezechi, O., Osita-Oleribe, P., et al. (2020). Industrial action by healthcare workers in Nigeria in 2017-2018: Implications for access to healthcare and health system performance. *Human Resources for Health*, 18(1), 41. <https://doi.org/10.1186/s12960-020-00495-x>
- Oluwafemi, S.B. (2025). Bridging traditional and modern health systems: The role of digital health in traditional medicine integration in Nigeria. *medRxiv*. <https://doi.org/10.1101/2025.04.29.25326680>
- Onukansi, F.O., Anokwuru, C.C., Eneh, S.C. et al (2025). Investing in traditional medicine: Leveraging evidence and innovative research to strengthen the fight against malaria in Nigeria. *Malaria J.*, 24(232). <https://malariajournal.biomedcentral.com/articles/10.1186/s12936-025-05359-w>
- Oyeleye, T.M. & Okafor, I.P. (2022). Use of herbal medicine by rural residents in Lagos, Nigeria. *West Afr J Med*, 39(5), 508-515.
- Poli, M.A., Hossain, M.J., Kholil, I., Yasmin, S., Bhowmick, B. & Kundu, L.R. (2025). Traditional medicine use and associated factors in chronic patients in Jamalpur, Bangladesh: a cross-sectional study. *Front. Public Health*, 13(1548728), 1-10. doi: 10.3389/fpubh.2025.1548728.
- Ranney, M. L., Griffith, V., & Jha, A. K. (2020). Critical supply shortages—the need for ventilators and personal protective equipment during the COVID-19 pandemic. *New England Journal of Medicine*, 382(18), 1701-1703. <https://doi.org/10.1056/NEJMp2006141>
- Sheikh, K., Gilson, L., Agyepong, I.A., Hanson, K., Ssengooba, F., & Bennett, S. (2014). Building the field of health policy and systems research: Framing the questions. *Health Policy and Planning*, 29(suppl. 1), 11–17.
- Smith, R. D., Keogh-Brown, M. R., Barnett, T., & Tait, J. (2022). The economic impact of pandemics on the global economy: Case studies and analysis. *Global Health Economics*, 9(1), 12-27. <https://doi.org/10.1016/j.ghe.2022.04.003>
- Umeluzor, S.U. & Alarape, A.A. (2024). Post-COVID-19 evaluation of information systems used in rural health facilities in Delta State. *Journal of Health Information and Librarianship*, 7(1&2), 1-14. <https://johil.org/index.php/johil/article/view/65>

- Willacy E. & Bratton S. (2015). On Management Matters: Why We Must Improve Public Health Management Through Action: Comment on “Management Matters: A Leverage Point for Health Systems Strengthening in Global Health”. *Int J Health Policy Manag.* 5(1), 63-5. doi: 10.15171/ijhpm.2015.174.
- World Bank. (2022). Healthcare access and challenges in rural Nigeria. <https://www.worldbank.org/nigeria-healthcare-report>
- World Health Organization. (2013). WHO traditional medicine strategy: 2014–2023. Geneva: WHO.
- World Health Organization. (2020). Pandemic influenza preparedness and response: A WHO guidance document. <https://www.who.int/publications/i/item/9789241547680>
- World Health Organization. (2021). Traditional, complementary, and integrative medicine: Progress report. <https://www.who.int/publications/i/item/9789240027091>
- Xu, M., Zhang, Q., & Cao, H. (2021). The role of acupuncture in the management of chronic diseases: Evidence and challenges. *Journal of Integrative Medicine*, 19(2), 85-89. <https://doi.org/10.1016/j.joim.2021.03.001>
- Youn, B., Moon, S., Mok, K., Cheon, C., Ko, Y., Park, S., Jang, B., Shin, Y. & Ko, S. (2022). Use of traditional, complementary and alternative medicine in nine countries: A cross-sectional multinational survey. *Complementary Therapies in Medicine*, 71(102889). <https://doi.org/10.1016/j.ctim.2022.102889>