



ASSESSING THE DISTRIBUTION AND PATTERNS OF TRADITIONAL MEDICAL PRACTICES IN KOGI STATE, NIGERIA

¹*Silas Joshua

¹Department of Geography, Federal University Lokoja, Kogi State.

*Corresponding Author's email: silasjoshua196@gmail.com

<https://orcid.org/0009000171505714>

ABSTRACT

Traditional medicine constitutes an essential component of primary healthcare systems in many developing countries, providing culturally acceptable, accessible, and affordable health services. In Kogi State, Nigeria, diverse traditional medical practices including herbal medicine, bone setting, spiritual healing, and traditional birth attendance continue to play a prominent role in meeting community health needs. This study examined the distribution and patterns of traditional medical practices across Kogi State, exploring their spatial distribution, usage patterns, and socio-cultural drivers. A descriptive survey design was employed, incorporating geospatial mapping and structured questionnaires. Quantitative data were analyzed using descriptive statistics, while qualitative data underwent thematic analysis. The results revealed a high concentration of traditional medical practitioners in rural and peri-urban areas, with community patronage driven primarily by affordability, accessibility, and deep-rooted cultural beliefs. The study further highlighted a lack of structured collaboration between traditional and modern health systems, posing challenges for regulation and integration. These findings underscore the need for strengthened policy frameworks, public health education, and sustainable partnerships between traditional practitioners and modern healthcare providers. Such measures will enhance the safe, effective, and culturally appropriate delivery of healthcare services in Kogi State.

Keywords: *Traditional medicine, Healthcare utilization, Indigenous medical practices, Traditional healer, Health system integration.*

1. INTRODUCTION

Traditional medicine remains an essential component of healthcare systems in many parts of Nigeria, particularly within rural and underserved communities (Bamidele et al., 2023). In Kogi State, situated in the central region of the country, traditional medical practices are deeply embedded in the cultural heritage of its diverse ethnic groups, including the Igala, Ebira, and Okun peoples (Olatunde et al., 2022). These practices encompass a wide range of services, such as herbal medicine, bone setting, spiritual healing, and traditional midwifery (Onwuekwe & Onyemelukwe, 2023). Despite the expansion of modern healthcare services, traditional medicine continues to serve as the primary point of care for many residents due to its accessibility, affordability, and cultural acceptability (Adesanya et al., 2023).

Traditional medicine (TM) encompasses the cumulative knowledge, skills, and practices rooted in the theories, beliefs, and experiences indigenous to diverse cultures. Whether their explanations are scientifically validated or not, these practices are employed for maintaining

health, preventing illness, diagnosing conditions, and treating physical, mental, or social imbalances. Traditional medicine relies heavily on practical observation and experience transmitted across generations, either orally or in written form (World Health Organization, 2005; Joshua, 2010).

Globally, TM represents a dynamic fusion of ancestral healing knowledge and experience (Joshua, 2010). In Nigeria, herbal medicines refer to plant derived substances or preparations that provide therapeutic or health benefits, consisting of raw or processed materials from one or more plants. Some traditions also incorporate inorganic or animal based materials. These practices raise certain safety concerns, such as the lack of documentation of ingredients and preparation methods, and insufficient scientific validation for some therapeutic claims.

In Kogi State, many communities maintain a strong attachment to tradition. Prior to the introduction of orthodox medicine, local populations relied exclusively on traditional methods for their healthcare needs, utilizing herbs, animals, and mineral-based preparations often accompanied by spiritual practices like incantations (Joshua, 2010). However, despite its widespread usage, traditional medicine in many parts of the state remains largely undeveloped and unregulated. There is often poor communication between patients and traditional health practitioners, increasing the risks associated with its use. Therefore, it is crucial to establish appropriate frameworks to encourage the safe and effective use of traditional medicine.

Traditional medical systems hold significant potential to contribute to healthcare delivery in Nigeria and, specifically, in Kogi State. Nevertheless, these potentials have not been fully harnessed for the benefit of the population. Certain conditions such as bone fractures, sprains, and malaria are often better managed through traditional methods, but urban populations tend to discount these practices. For example, Ofabo, a rural community in Kogi East, is known for its strong tradition of healing, historically attracting visitors from neighboring areas seeking treatment. Yet, despite its healing expertise, Ofabo lacks basic infrastructure and amenities necessary for a decent quality of life.

Furthermore, scientific evidence indicates that orthodox medicine does not effectively treat every ailment, with some drugs causing side effects or fostering antibiotic resistance (WHO, 2008). Despite its demonstrated efficacy, traditional medicine is frequently considered a last resort when modern healthcare is inaccessible. Many people still perceive traditional medicine as unscientific or ineffective, a view especially prevalent among urban dwellers. According to Buor (2003), traditional healthcare systems are mainly utilized by rural populations, who form the majority of Nigeria's population. Although traditional healthcare systems have demonstrated effectiveness, they continue to struggle due to insufficient governmental support. At the same time, modern healthcare facilities face critical shortages of doctors, nurses, and other personnel, especially at the primary care level.

Factors such as inadequate infrastructure, poor remuneration of healthcare workers, and unreliable drug supplies continue to weaken the effectiveness of existing health facilities (Oluwasola et al., 2023). In rural areas, residents often travel considerable distances to access the nearest dispensary or pharmacy, incurring significant transportation costs, loss of productive work hours, and the high expenses associated with modern pharmaceuticals (WHO, 2022). These challenges underscore the urgent need to develop complementary healthcare delivery systems

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that integrate both traditional and orthodox medical practices, with the aim of improving the overall health and well-being of residents in Kogi State (Ademola & Musa, 2023).

This study seeks to investigate the distribution and patterns of traditional medical practices across Kogi State, exploring their spatial spread, socio-cultural drivers, and their interplay with modern health systems. Mapping these practices is essential for understanding their role in the broader healthcare landscape, as well as informing policies that aim to integrate and regulate traditional medicine for safe and effective healthcare delivery.

Kogi State is located between latitude 7°45'N-7°51'N and longitude 6°41'E-6°45'E Figure 1 and 2. The state is divided into three Senatorial districts largely differentiated by the three dominant ethnic groups; the Kogi East is occupied by the Igala people. The Ebira people predominantly occupied Kogi Central, while the Okun people were located in Kogi West. The State is centrally located in Nigeria's North Central geopolitical zone, widely known as the "Confluence State" due to the confluence of the Niger and Benue Rivers at its capital, Lokoja (Federal Republic of Nigeria, 2006; Olorunfemi, 2009). Created in 1991 from portions of Kwara and Benue States, Kogi covers an estimated land area of 29,833 square kilometers and shares boundaries with ten other states, positioning it strategically for trade, migration, and cultural interactions (NPC, 2006; Falola & Heaton, 2008). The state is characterized by a tropical climate with distinct wet and dry seasons and is largely dominated by Guinea savanna vegetation, though forested patches persist in the south (Ayoade, 2004). Its relief is generally low-lying along the valleys of the Niger and Benue Rivers, with rugged hills and inselbergs in parts of the eastern and northern regions (Ofomata, 1975). The population, projected to exceed 5.5 million today from the 2006 census figure of approximately 4.5 million, is ethnically diverse, including the Igala, Ebira, Okun (Yoruba), Bassa, Nupe, and other smaller groups (NPC, 2006). The economy of Kogi State is predominantly agrarian, with major crops including yam, cassava, maize, rice, and cashew, while mining activities are gradually emerging to exploit its mineral potential (Ogunleye et al., 2017). Furthermore, the state maintains vibrant traditional medical practices such as herbalism, bone-setting, midwifery, and spiritual healing which are deeply rooted in cultural beliefs and remain widely patronized due to their accessibility and community trust (Sofowora, 2008; Abdullahi, 2011).

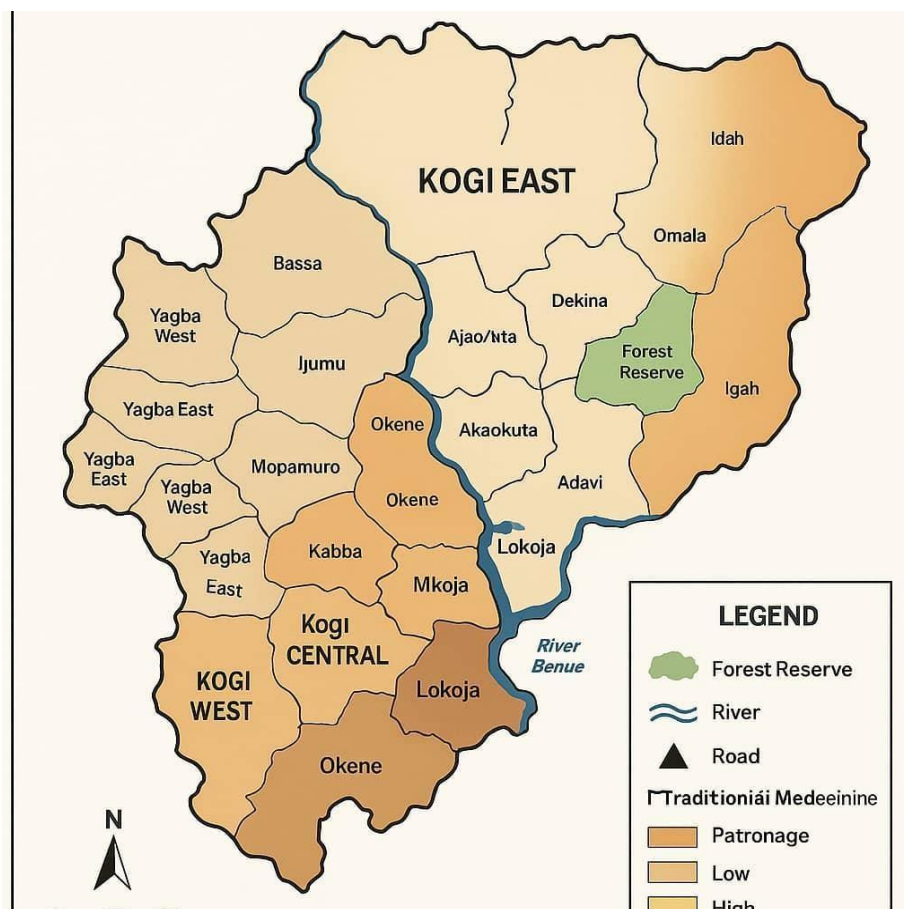
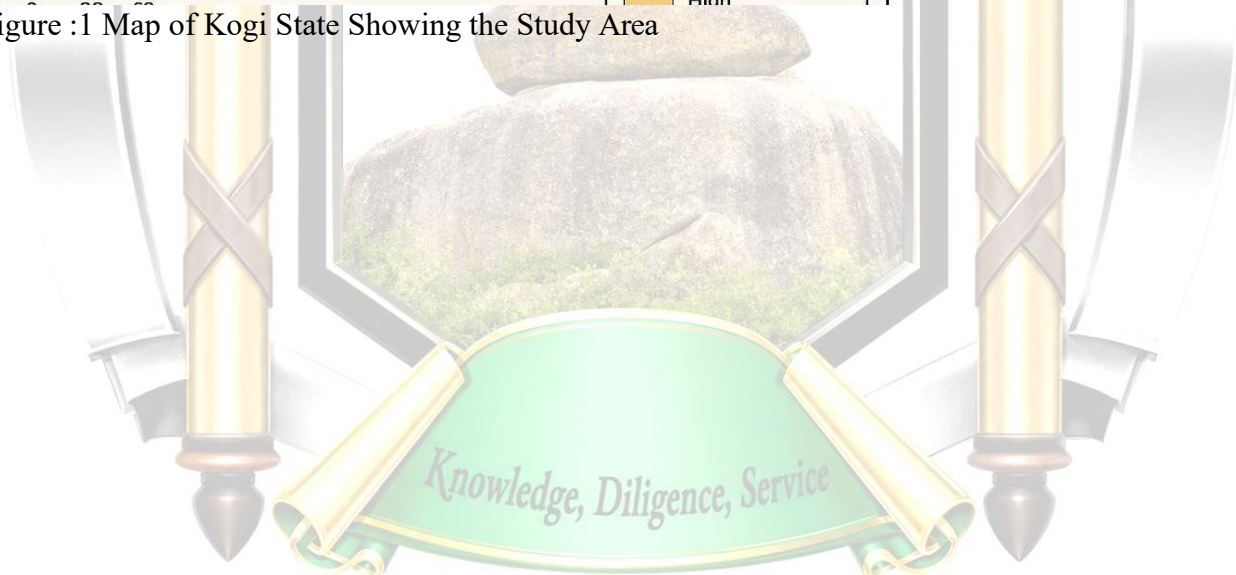


Figure :1 Map of Kogi State Showing the Study Area



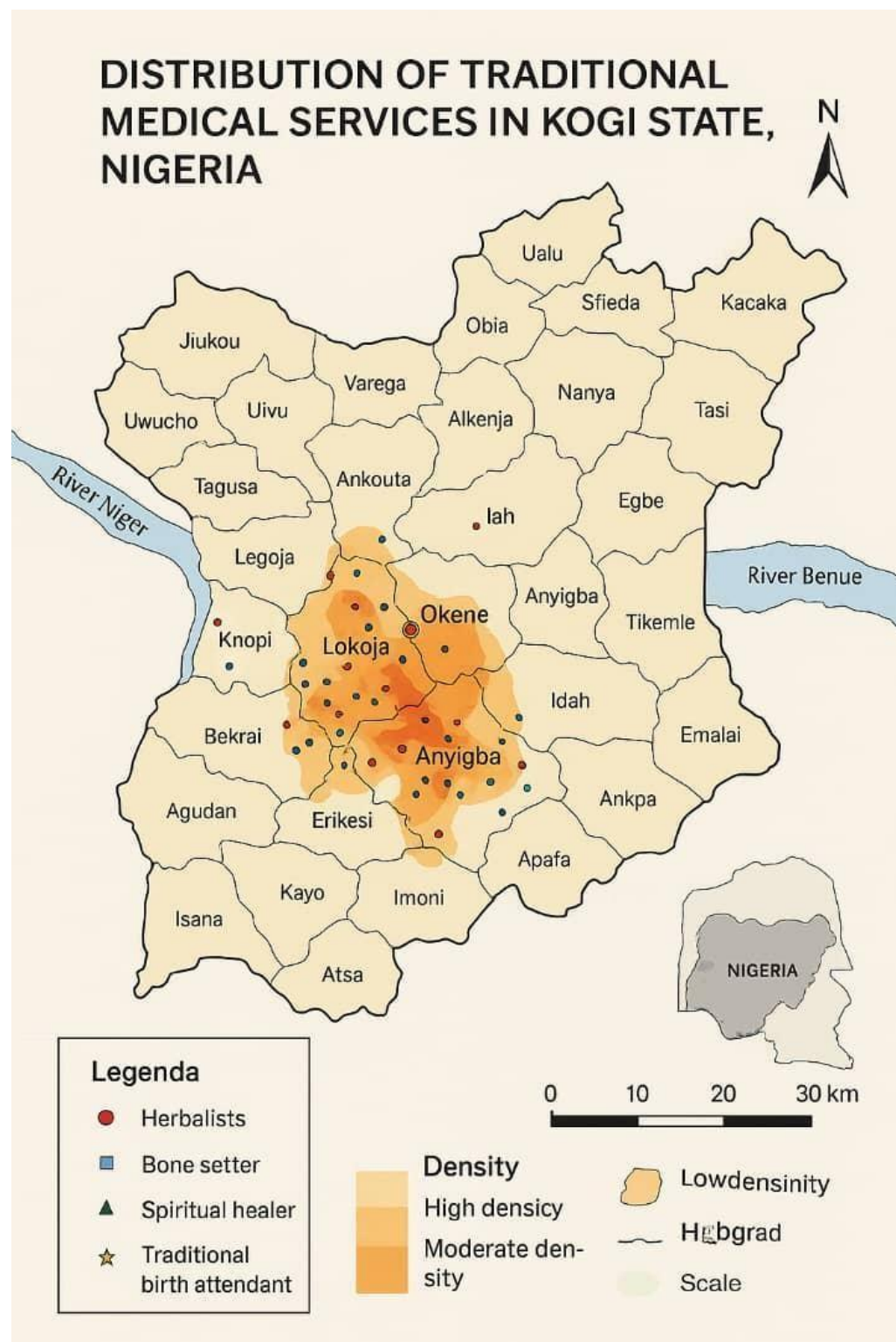


Figure 2: Study area Showing Different Traditional Medical Practices

2. MATERIAL AND METHODS

The study area was stratified into the three dominant ethnic groups and both quantitative and qualitative data was collected during the different phase of the study. The study involved the application of different techniques at different stages of the data collection process. Six communities were randomly selected for the study, two representing each senatorial district. A set of questionnaire was determined based on the population of the communities. The data generated was analysed using descriptive and inferential statistics and the findings were put in context, qualitative analysis was performed on the textual data. The essence of the data analysis was to identify the specific areas of intervention that promote alternative/traditional medical healthcare delivery system in the study area.

2.1 Sampling Techniques

The study adopted the purposive sampling technique due to the facts that it enables the researcher to identify suitable respondents required from whom to gather information towards achieving the set objectives of the study. This entails selecting persons who are knowledgeable on the subject matter and those that can clearly state their opinions. The purposive sampling technique is often richer to meet those with first-hand information on the set of variables used in the study and is willing to share their wealth of experiences which allowed a wider representation for extensive inquiry into the implementation of traditional medical services in Kogi state, Nigeria.

The study samples six local government areas in the state; Dekina and Idah local government areas representing Kogi East Senatorial district, Kabba-Bunu and Koton-Karfe local government areas representing Kogi West Senatorial district and Okene and Okehi local government areas representing Kogi Central Senatorial district. Furthermore, the chosen local governments' areas are numbered among the most populous in their Senatorial districts.

2.2 Sampling Size

The study used both qualitative and quantitative methods of data collection. The Table 1 and 2 shows the population of the area of study according to the last census conducted in Nigeria in 2006. It was arranged based on the senatorial district in the state. It is from this that the intended population size of the study was drawn to distribute questionnaires.

Table 1: Kogi's Population in each Senatorial District

Kogi East Senatorial District	Ankpa	266,176
	Bassa	139,687
	Dekina	260,968
	Ibaji	127,572
	Idah	79,755
	Igalamela/Odolu	147,048
	Ofu	191,480
	Olamaboro	158,490
	Omala	107,968
Total		1,479,144
Kogi West Senatorial District	Ijumu	118,593
	Kabba/Bunu	144,579
	Kogi	115,100
	Lokoja	196,643
	Mopa-Moru	437,600
	Yagba East	147,641
	Yagba West	139,928
Total		906,244
Kogi Central Senatorial District	Adavi	217,219
	Ajaokuta	122,432
	Ogori/Magongo	39,807
	Okehi	223,574
	Okene	325,623
Total		928,655
Grand Total		3,314,043

Source: 2006 National Population Census

The study intends to distribute 300 questionnaires in the selected local government areas of the study among selected beneficiaries of the patrons of traditional medicine. It adopts the sample size formula propounded by Yamane (1967) in determining sample size.

$N =$ Sample size and e is the level of precision (0.05)

$$n = N / (1 + N (e)^2)$$

$$N = 1149599 / (1 + 1149599(0.05)^2) = 300$$

The 300 questionnaires to be distributed among the six local government areas were derived by calculating the proportion of each area to the total population:

$$\text{Dekina: } 260968 / (260968 + 79755 + 144579 + 115100 + 325623 + 223574) = 0.23 \times 400 = 92$$

$$\text{Idah: } 79755 / (260968 + 79755 + 144579 + 115100 + 325623 + 223574) = 0.07 \times 400 = 28$$

$$\text{Kabba/Bunu: } 144579 / (260968 + 79755 + 144579 + 115100 + 325623 + 223574) = 0.13 \times 400 = 52$$

Kogi (Koton-Karfe): $115100 / (260968+79755+144579+115100+325623+223574) = 0.10 \times 400 = 40$

Okene: $325623 / (172260968+79755+144579+115100+325623+223574) = 0.28 \times 400 = 112$

Okehi: $223574 / (260968+79755+144579+115100+325623+223574) = 0.19 \times 400 = 76$

Table 2: Showing Sampling Size Selected

Senatorial District	Population	Selected Local Government Areas for the study	Population of Selected Study Area(s)	Sampling size of selected study areas
Kogi East	1,479,144	Dekina	260,968	92
		Idah	79755	28
Kogi West	906,244	Kabba/Bunu	144,579	52
		Kogi KK	115100	40
Kogi Central	928,655	Okene	325,623	112
		Okehi	223574	76

Source: Field Survey, 2025

Table 2, clearly shows how the questionnaire for the study was distributed consciously among the responded Table 3. In the aspect of conducting interviews, respondents were persons knowledgeable about the issues being discussed and able to express their opinions in an articulated manner.

Table 3: Showing the Nature of the Respondents

	Number	Description of Respondents	Criteria for Selection
1	4	General respondents	Knowledge, Experience and Responsibility
2	6	Traditional healers in Dekina, Idah, Okene, Okehi, Kabba-Bunu and Kogi (KK) local government areas	Knowledge and Experience
3.	4	Specific Respondents	Expertise, Knowledge and Experience

Source: Field Survey, 2025

2.3 METHOD OF DATA COLLECTION

Qualitative and Quantitative methods of data collection were used in the research. Primary and secondary methods of collection of data were used. Questionnaires and Interviews were used as sources of primary data.

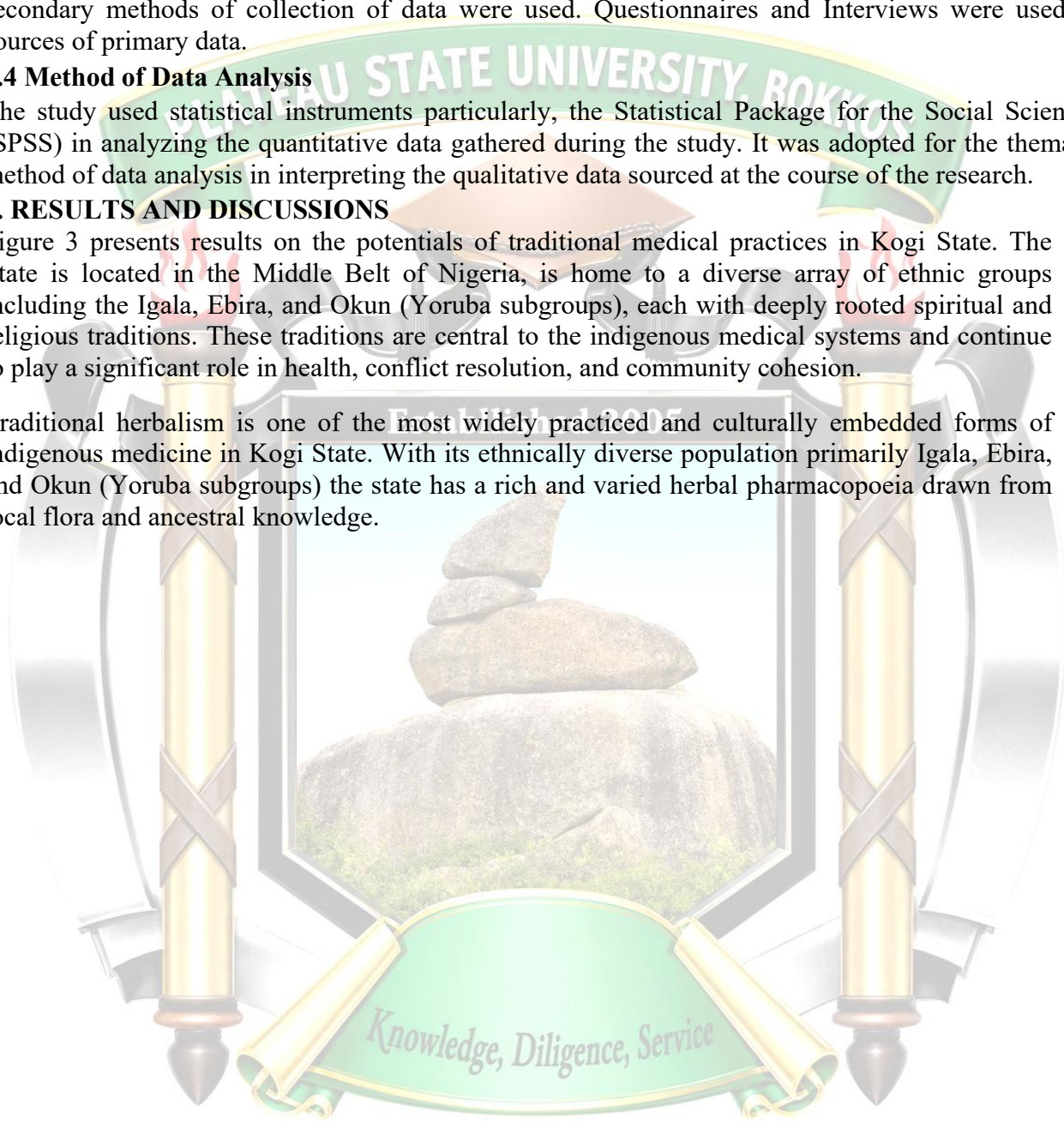
2.4 Method of Data Analysis

The study used statistical instruments particularly, the Statistical Package for the Social Sciences (SPSS) in analyzing the quantitative data gathered during the study. It was adopted for the thematic method of data analysis in interpreting the qualitative data sourced at the course of the research.

3. RESULTS AND DISCUSSIONS

Figure 3 presents results on the potentials of traditional medical practices in Kogi State. The State is located in the Middle Belt of Nigeria, is home to a diverse array of ethnic groups including the Igala, Ebira, and Okun (Yoruba subgroups), each with deeply rooted spiritual and religious traditions. These traditions are central to the indigenous medical systems and continue to play a significant role in health, conflict resolution, and community cohesion.

Traditional herbalism is one of the most widely practiced and culturally embedded forms of indigenous medicine in Kogi State. With its ethnically diverse population primarily Igala, Ebira, and Okun (Yoruba subgroups) the state has a rich and varied herbal pharmacopoeia drawn from local flora and ancestral knowledge.



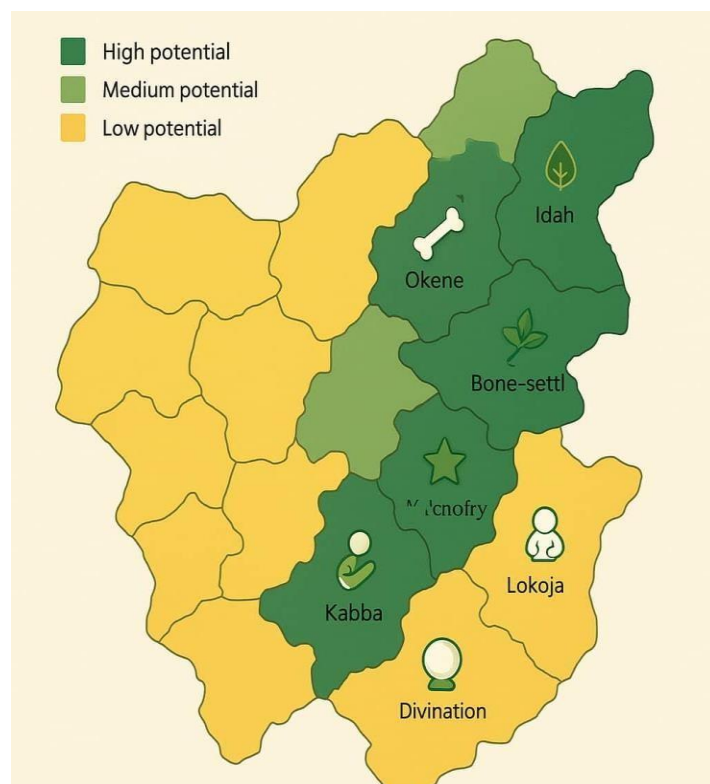


Figure 3: Distribution by Potentials of Traditional Medical Practices

Source: Field Survey, 2025

Figure 4 shows that traditional herbalists, also called “ogun” (Yoruba/Okun), “ozu” (Igala), or “ohizi” (Ebira), are practitioners who specialize in using natural plants and organic substances to treat illness and promote health. These healers often inherit their knowledge through family lineages, apprenticeships, or spiritual calling.

Common Herbal Practices: **Diagnosis:** Often done through physical observation, patient interviews, or spiritual consultation (some herbalists also double as diviners). **Preparation:** Remedies are derived from roots, bark, leaves, seeds, and sometimes animal parts, prepared as infusions, decoctions, pastes, or powders. **Administration:** Herbal medicine is taken orally, applied to the skin, inhaled, or used in steam baths or enemas. **Preservation:** Many herbalists dry and store herbs in gourds, pots, or leaves, maintaining sacred or ritualistic procedures for potency.

The spatial distribution of traditional medical practices in Kogi State, as depicted in the accompanying map, yields critical insights into indigenous healthcare systems and their contemporary relevance. The predominance of herbalism across Kogi East and parts of Kogi West, the localized nature of bone setting, the concentration of spiritual healing in Idah, and the notable practice of midwifery in Kabba reveal both functional and cultural dimensions of traditional medical systems.

These findings suggest that traditional medical practices remain deeply entrenched and play a vital role in meeting the health needs of communities, particularly in areas with limited access to

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formal healthcare services. Moreover, the integration of spiritual, physical, and maternal health practices reflects a holistic understanding of health that is characteristic of indigenous knowledge systems. The spatial variation also underscores the influence of ethnic, religious, and cultural diversity on the distribution and specialization of traditional medical practices within the state.

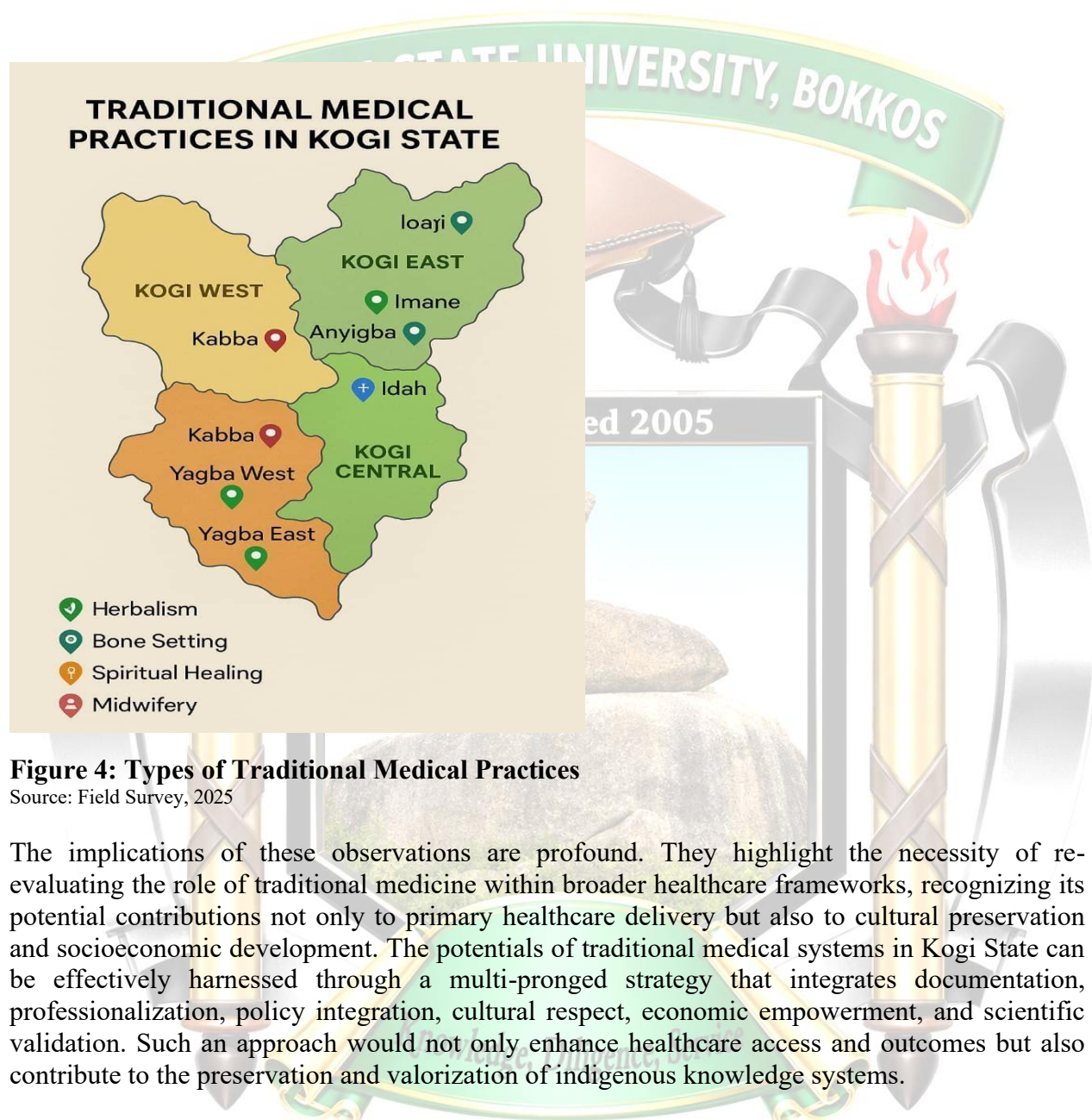


Figure 4: Types of Traditional Medical Practices

Source: Field Survey, 2025

The implications of these observations are profound. They highlight the necessity of re-evaluating the role of traditional medicine within broader healthcare frameworks, recognizing its potential contributions not only to primary healthcare delivery but also to cultural preservation and socioeconomic development. The potentials of traditional medical systems in Kogi State can be effectively harnessed through a multi-pronged strategy that integrates documentation, professionalization, policy integration, cultural respect, economic empowerment, and scientific validation. Such an approach would not only enhance healthcare access and outcomes but also contribute to the preservation and valorization of indigenous knowledge systems.

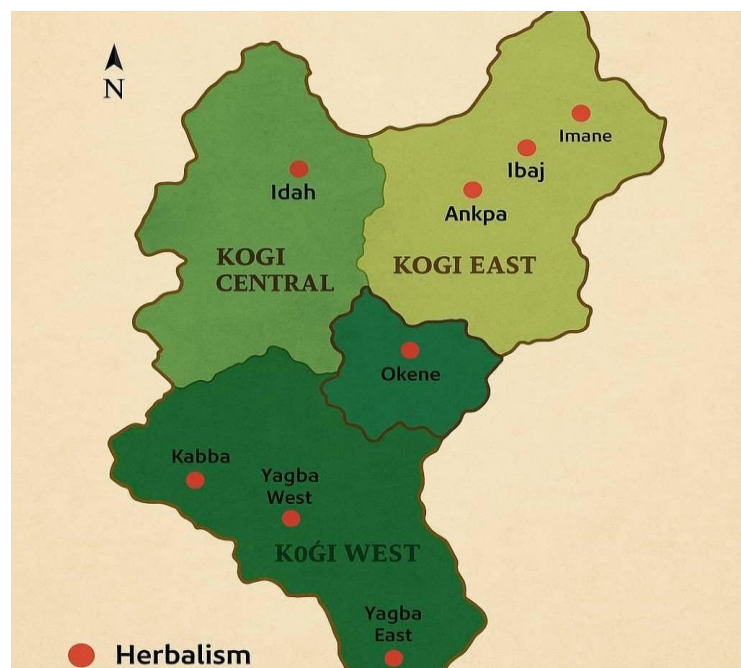
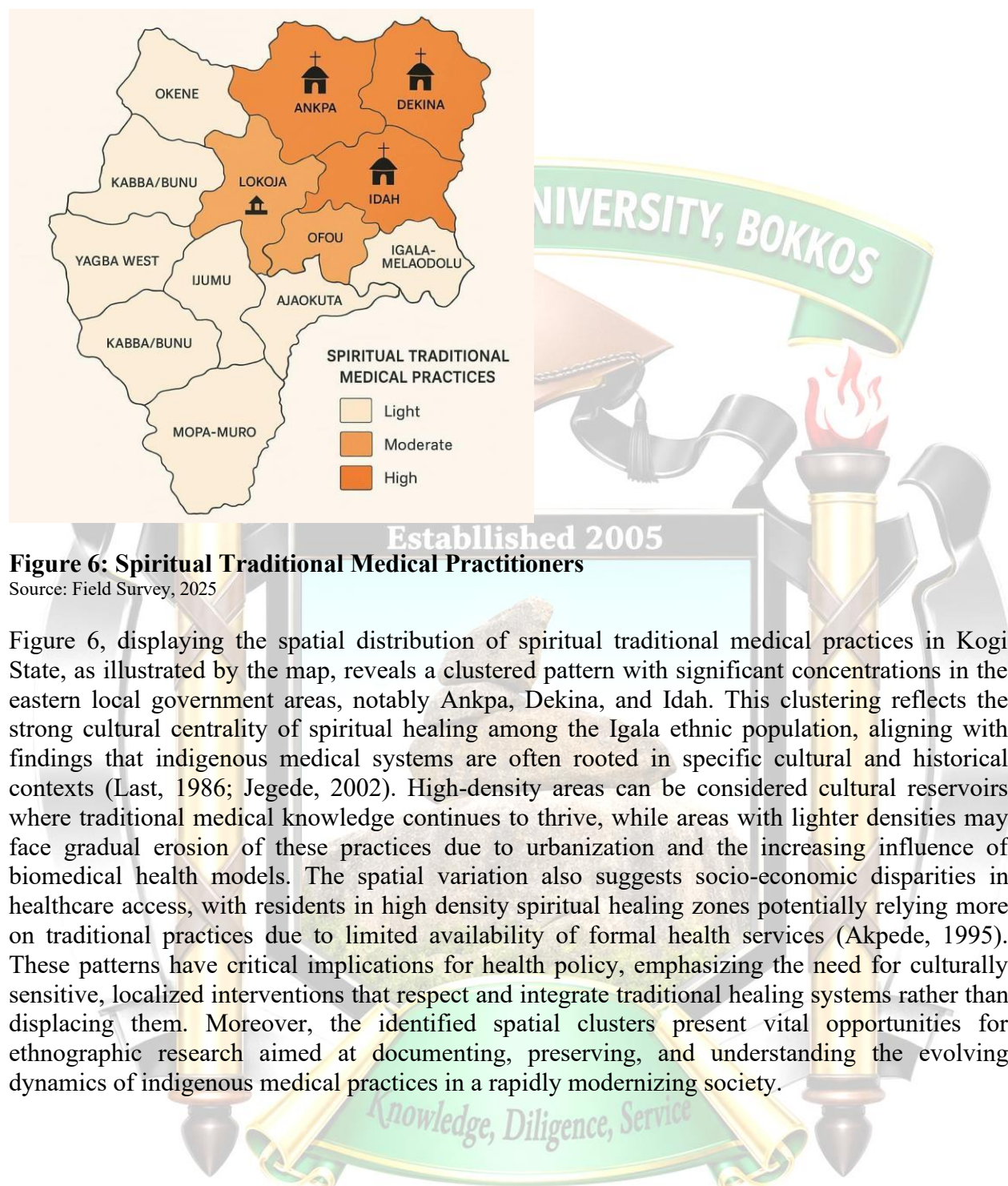


Figure 5: Herbal Medical Practitioners

Source: Field Survey, 2025

Figure 5, indicated that the spatial distribution of herbalism practices across Kogi State exhibits a widespread but regionally differentiated pattern, with notable concentrations around urban centers such as Idah, Ankpa, Okene, Kabba, and Yagba West. This pattern reflects the persistence of traditional healthcare systems, particularly in areas where access to orthodox medical services may be limited. The denser clustering in Kogi West suggests regional variations in the cultural resilience of indigenous medicine. Furthermore, the peripheral siting of some centers indicates possible cross-border flows of traditional knowledge. Interpreted through the lens of Cultural Ecology, these patterns demonstrate adaptive strategies shaped by environmental and socio-economic conditions. Health Geography perspectives further illuminates how urban centers facilitate the commercialization of herbalism while rural communities sustain its knowledge base. These findings underscore the importance of spatially nuanced policies aimed at integrating traditional medicine into the broader healthcare framework in Kogi State.



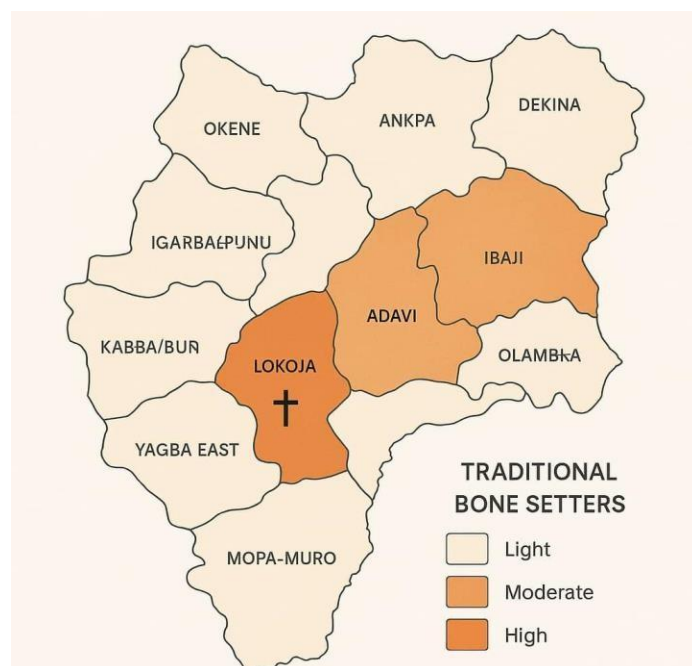


Figure 7: Traditional Bone Setters Practitioners

Source: Field Survey, 2025

Figure 7 shows the spatial distribution of traditional bone setters (TBS) across Kogi State reveals notable regional variations in practice intensity. From the map, Lokoja demonstrates a high concentration of traditional bone setters, while Adavi and Ibaji exhibit moderate presence, and other LGAs such as Okene, Ankpa, Dekina, Igarra/Epunu, Kabba/Bun, Yagba East, Mopa-Muro, and Olamabaka show light densities. This pattern suggests that proximity to urban centers (such as Lokoja) and historical cultural heritage significantly influence the concentration of traditional medical practitioners. Lokoja's strategic location as the confluence of the Niger and Benue rivers and its status as the state capital likely enhance both the demand for and recognition of traditional bone setters (Adefolaju, 2014). In contrast, less urbanized or economically peripheral regions exhibit lighter densities, potentially due to either reliance on biomedical healthcare or limited transmission of traditional skills. The moderate densities in Adavi and Ibaji could be attributed to strong ethnic traditions, particularly among the Ebira and Igala ethnic groups, where traditional healing, including bone setting, remains highly esteemed (Oluwatayo & Ojo, 2018).

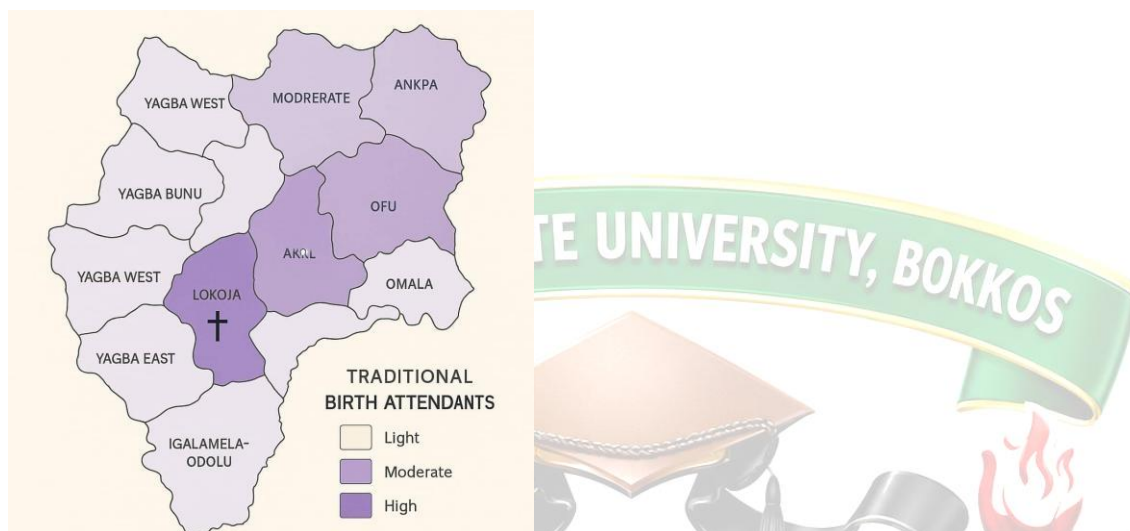


Figure 8: Traditional Birth Attendants Practitioners

Source: Field Survey, 2025

Figure 8 indicated that the spatial distribution of Traditional Birth Attendants (TBAs) across Kogi State, as reflected in the map, illustrates a classic example of spatial clustering and cultural resilience in health-seeking behavior. Lokoja, the state capital, shows a high concentration of TBAs despite its urban status, suggesting that cultural practices around childbirth have not diffused uniformly with urbanization, consistent with models of spatial diffusion and health transition theory (Lawal & Adesina, 2020; Izugbara, 2004). Moderate densities in Akol and Ofu reflect transitional zones where traditional and biomedical health systems coexist, often leading to hybrid health-seeking strategies (Okafor et al., 2018). In contrast, areas with light TBA densities, such as Yagba East and Igalamela-Odolu, may either have stronger penetration of formal health services or alternative traditional structures not captured in TBA statistics (Onyencho, 2015). The resilience of TBAs even within urban corridors challenges assumptions about linear modernization in healthcare and underscores the need for spatially nuanced health policies. Following the World Health Organization's integrative health promotion frameworks (WHO, 2010), targeted engagement and capacity building among TBAs, especially in high-density zones, are crucial for achieving improved maternal and newborn health outcomes without disrupting embedded cultural systems.

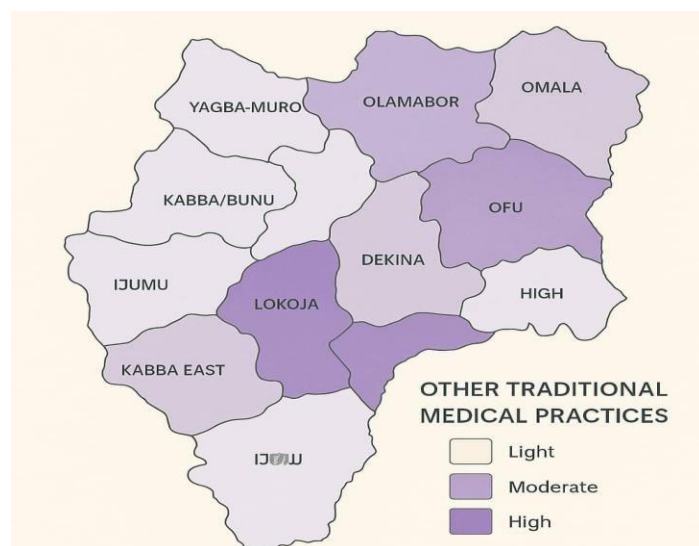


Figure 9: Other Traditional Medical Practices

Source: Field Survey, 2025

Figure 9 shows the spatial distribution of "Other Traditional Medical Practices" in Kogi State reveals a center-periphery pattern, with high concentrations around Lokoja and moderate densities in Dekina, Ofu, and Olamabor. Peripheral areas such as Ijumu and Kabba/Bunu show lighter traditional practice activity. This pattern supports Friedmann's (1966) center-periphery model and suggests that modernization processes may be reducing traditional practice reliance on outer LGAs (Last, 1988). The observed variation also implies that accessibility to formal healthcare impacts traditional practice densities (Abimbola et al., 2015). Finally, the clustering indicates migration driven cultural transmission of traditional medical knowledge (Adepoju, 1995), highlighting the need for geographically tailored health policies.

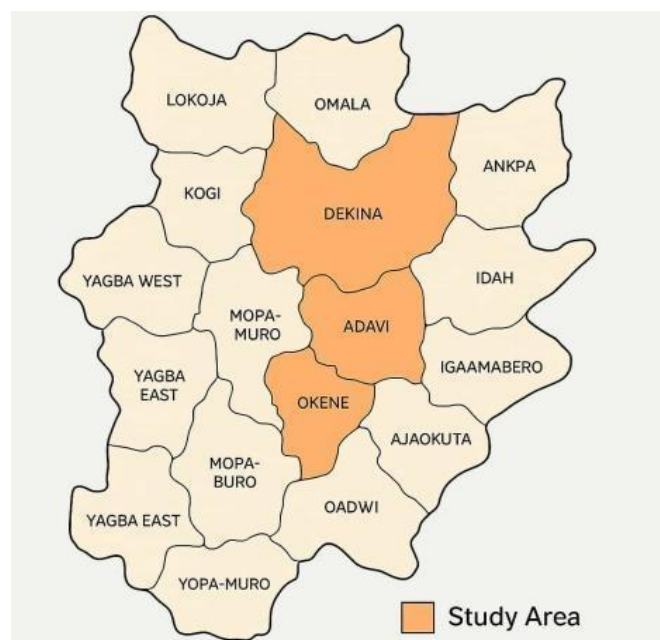


Figure 10: Potentials of Traditional Medical Practices

Source: Field Survey, 2025

Figure 10 displays the spatial distribution of traditional medical practices in Kogi State and reveals important insights into the cultural and health geography of the region. The map demonstrates that herbalism and bone setting practices are predominantly concentrated in Kogi East, particularly in Anyigba, Imane, and Ioaji, while midwifery dominates parts of Kogi West, such as Kabba and Yagba West. Spiritual healing appears limited to Idah in Kogi Central, suggesting a localized spiritual tradition, likely influenced by the historical significance of the Igala kingdom (Onwuejeogwu, 1981). This pattern supports the argument that traditional medical systems are intimately linked to ethnic and cultural identities, as observed in studies by Last and Chavunduka (1986). Moreover, the relatively dense distribution of herbalism practices in Yagba East and West suggests that these communities may rely more heavily on traditional healthcare due to limited access to modern medical infrastructure, aligning with broader observations made by the World Health Organization (WHO, 2002). The spatial gaps in parts of Kogi Central may reflect either under-documentation or a higher penetration of modern health services. Academically, these findings underscore the need for public health policies that integrate traditional practices into formal healthcare delivery, particularly in ethnically and culturally distinct regions (Bodeker & Kronenberg, 2002). Furthermore, the clear regional specialization of traditional medical knowledge calls for urgent measures to safeguard and document these practices before they are eroded by modernization and migration trends (UNESCO, 2017). Economically, the strong presence of herbalism and bone setting presents opportunities for formalization and commercialization, which could contribute to both healthcare improvement and local economic development.

4. CONCLUSION

The study concludes that traditional medicine plays a significant and irreplaceable role in the healthcare delivery system of Kogi State. Its widespread use is rooted in deep seated cultural beliefs, economic considerations, and accessibility challenges related to modern healthcare. However, the lack of proper integration, documentation, and regulation poses challenges to ensuring the safety and effectiveness of traditional medical practices.

Mapping the distribution and understanding the patterns of traditional medical practices in Kogi State provides valuable insight that can support public health policy, protect indigenous knowledge, and encourage safer, more effective collaboration between traditional and modern systems of care.

5. RECOMMENDATIONS

Based on the findings, the following recommendations are offered: Strengthen Policy Frameworks. Government and regulatory bodies should improve the registration and monitoring of traditional medical practitioners to ensure safety and quality of services. Promote Collaboration. Develop a collaborative framework between traditional practitioners and modern healthcare providers, including referral systems and joint training opportunities. Community Awareness. Conduct health education campaigns to help communities better understand the limitations and risks of some traditional practices, and to encourage safe practices. Support Research and Documentation. Invest in systematic research and documentation of traditional medical knowledge to preserve indigenous practices while subjecting them to scientific validation. Enhance Accessibility to Modern Healthcare. Improve rural access to affordable and quality modern healthcare to reduce overdependence on traditional medicine where modern alternatives are needed. GIS-Based Monitoring. Establish a geospatial database to continuously monitor the spread and evolution of traditional medical practitioners, to support health planning and regulation.

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