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Traditional Healthcare Delivery Systems and Participation in Community Development Activities Among the Etche People of Rivers State

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ABSTRACT **Original Research Article**

The study explored how traditional healthcare practices are associated with community development participation among the Etche people of Rivers State. It was structured around three specific objectives, three research questions, and three null hypotheses. A correlational survey methodology was employed, drawing its theoretical foundation from Sherry Arnstein's Community Participation Theory, with additional perspectives provided by Social Capital Theory and Health Belief Theory. The research covered 602 individuals comprising traditional healthcare providers and members of Community Development Committees (CDCs) residing across communities in Etche and Omuma Local Government Areas. Since the number of respondents was considered sufficiently manageable, the researchers adopted a census procedure and involved the complete population rather than selecting a sample. Information was obtained through two researcher-developed questionnaires, namely the "Traditional Healthcare Delivery Systems Questionnaire" (THDSQ) and the "Participation in Community Development Activities Questionnaire" (PCDAQ). The instruments underwent validation by three specialists with expertise in Measurement and Evaluation and Community Development. Their reliability was subsequently examined through Cronbach's alpha, producing coefficients of 0.91 for traditional birth attendants, 0.82 for herbal healing, and 0.77 for divination/spiritual healing. Pearson Product-Moment Correlation (PPMC) was applied in determining answers to the research questions, whereas the hypotheses were evaluated using the t-test transformation of the PPMC at a 0.05 significance threshold. The analysis produced strong positive and statistically significant relationships for all three dimensions examined: traditional birth attendants and community development participation (r = 0.88), herbal healing and community development participation (r = 0.83), and divination/spiritual healing and community development participation (r = 0.85). In view of these outcomes, the study proposed that policymakers should give formal recognition to traditional birth attendants and involve them as partners in community development initiatives. It further recommended that government agencies and non-governmental organisations create programmes for preserving herbal-medicine knowledge while using such programmes to encourage community mobilisation, and that spiritual healers and diviners should be formally considered stakeholders in the formulation and implementation of community development plans.

Keywords: Traditional Healthcare Delivery, Traditional Birth Attendants, Herbal Healing, Divination/Spiritual Healing, Community Development, Participation.

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Introduction

In numerous rural African settings, indigenous healthcare practices remain an important component of community health provision and frequently operate in parallel with formal biomedical services. The World Health Organisation (2019) defines traditional medicine as the collective body of knowledge, abilities, and practices derived from culturally specific theories, beliefs, and experiences and applied to the preservation of health as well as the prevention, identification, and management of diseases. Thus, traditional healthcare should not be viewed solely as the use of medicinal plants or herbal preparations; rather, it represents a culturally embedded system of health practice shaped by shared beliefs, kinship structures, community relationships, and holistic interpretations of illness and wellbeing. Within the Nigerian context, Nwokocha (2008) identifies traditional birth attendance, herbal healing, and divination or spiritual healing as major specialised areas of traditional healthcare practice. In many communities, individual practitioners may perform more than one of these functions, reflecting the interconnected nature of traditional health practices and the broader social and cultural systems within which they operate.

Beyond their curative functions, traditional healthcare institutions serve important social functions that extend into the wider development life of the community. Traditional birth attendants (TBAs), for instance, are not merely providers of maternal care; Baisley, Doyle, Changalucha, Weiss, Todd and Ross (2007) describe them, from ethnographic fieldwork in rural Gambia, as the "social glue" that binds communities together through their involvement in social, political, cultural and health matters. Similarly, Amutah-Onukagha, Rodriguez, Opara, Gardner, Assan, Hammond, Plata, Pierre and Farag (2017) found that TBAs in Nigeria provide antenatal care, cultural guidance and community mobilisation, positioning them as catalysts of participation in community development processes. Evidence from Rivers State itself points the same way, since community education programmes directed at the reduction of maternal and child mortality in Emohua and Ikwerre Local Government Areas were built around pregnant women and the health care providers already serving them, which places the work of birth attendants squarely within the community education tradition rather than outside it (Chinna et al., 2024). Herbal healing occupies a similarly central place in community life. Ajibesin, Bala and Umoh (2012), in an ethnomedicinal survey of Rivers State, documented a robust and highly organised body of indigenous botanical medical knowledge, with strong communal consensus on the use and value of medicinal plants, indicating that herbal medicine is woven into the cultural and social organisation of communities rather than being a peripheral health practice. Indigenous knowledge of this kind carries practical authority in other spheres of community life in the state as well, as the study of indigenous adaptation strategies among the fisherfolks of Kalabari Kingdom demonstrated, where inherited local knowledge supplied the working rules by which a shared natural resource was used and conserved (Taylor et al., 2025). Divination and spiritual healing systems, for their part, engage diviners and spiritual healers who are recognised as custodians of community history, mediators in conflict resolution and promoters of social cohesion (Ajayi & Buhari, 2014).

These social functions of traditional healthcare institutions resonate strongly with theoretical accounts of community participation and social capital. Putnam (2000) argues that social networks, norms of reciprocity and trust embedded within communities facilitate collective action for mutual benefit, a proposition that applies directly to the trust-based relationships that traditional healers cultivate with the people they serve. Arnstein (1969), whose Ladder of Citizen Participation anchors the present study, contends that genuine community participation requires more than token consultation; it demands power-sharing, local ownership and respect for indigenous knowledge systems. Traditional healthcare institutions, being themselves forms of community-based organisation involving collective knowledge transmission and shared responsibility for health, may therefore constitute existing platforms through which participation in broader community development activities is generated and sustained. This possibility is supported by evidence from the Ikwerre people of Rivers State, where community-based organisations that drew on established local standing secured levels of citizen involvement in community development that arrangements introduced from outside could not match (Deekor et al., 2022).

The Etche people of Rivers State, Nigeria, like many indigenous communities, continue to rely substantially on traditional healthcare systems despite the expansion of modern health services. This continued reliance raises questions about how the different dimensions of traditional healthcare delivery relate to community members' participation in development activities such as communal labour, town-hall meetings, infrastructure projects and collective decision-making. While previous studies have examined traditional healthcare practices in isolation from community development outcomes, there is a dearth of empirical research that directly relates specific traditional healthcare delivery systems, particularly the traditional birth attendants system, the herbal healing system, and the divination/spiritual healing system, to participation in community development activities among the Etche people. What research there is points strongly to the influence of inherited practice on development work, since customs and traditions were found to shape how far rural communities would mobilise their own resources for community development programmes and, in some instances, to determine whether a programme was

accepted at all (Nwoye et al., 2021). It was against this gap that the present study was designed.

Statement of the Problem

The Etche people of Rivers State continue to depend on traditional healthcare providers such as traditional birth attendants, herbalists and spiritual healers/diviners for a substantial proportion of their healthcare needs. These practitioners are deeply embedded in the social fabric of their communities and are often called upon not only for health-related concerns but also for broader community functions, including dispute resolution, cultural preservation and social mobilisation. However, there is limited empirical evidence on whether, and to what extent, these specific traditional healthcare delivery dimensions relate to community members' actual participation in community development activities. Without such evidence, policymakers, development planners and adult educators working in Etche communities risk either overlooking the mobilising potential of these traditional institutions or misjudging the nature of their influence on participatory development. It was this gap in empirical knowledge that necessitated this study.

Purpose of the Study

The purpose of the study was to examine the relationship between traditional healthcare delivery systems and participation in community development activities among the Etche people of Rivers State. Specifically, the study sought to:

1. To examine the association between the traditional birth attendants' system and participation in community development activities among the Etche people of Rivers State.
2. To investigate the relationship between the herbal healing system and involvement in community development activities among the Etche people of Rivers State.
3. To determine the extent of the relationship between the divination/spiritual healing system and participation in community development activities among the Etche people of Rivers State.

Research Questions

The following research questions guided the study:

1. What association exists between the traditional birth attendants' system and participation in community development activities among the Etche people of Rivers State?
2. To what extent is the herbal healing system related to participation in community development activities among the Etche people of Rivers State?
3. What relationship exists between the divination/spiritual healing system and participation in community development activities among the Etche people of Rivers State?

Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

1. There is no statistically significant association between the traditional birth attendants' system and participation in community development activities among the Etche people of Rivers State.
2. No statistically significant relationship exists between the herbal healing system and participation in community development activities among the Etche people of Rivers State.
3. There is no statistically significant relationship between the divination/spiritual healing system and participation in community development activities among the Etche people of Rivers State.

Methodology

The research was designed to establish whether an association exists between traditional healthcare delivery practices and community development participation among the Etche people of Rivers State; accordingly, a correlational survey design was considered appropriate. The study covered Etche and Omuma Local Government Areas of Rivers State, Nigeria, and involved 602 respondents. These comprised 52 traditional healthcare providers and 550 members of Community Development Committees (CDCs) representing communities within the two Local Government Areas. Because the target population was sufficiently accessible and manageable, the researchers adopted a census procedure and included every member of the population rather than drawing a sample. Primary data were obtained with two researcher-designed questionnaires, identified as the "Traditional Healthcare Delivery Systems Questionnaire" (THDSQ) and the "Participation in Community Development Activities Questionnaire" (PCDAQ). Both instruments consisted of Sections A and B. While Section A collected respondents' demographic characteristics, Section B contained clusters developed in accordance with the research questions. Items were rated on a four-point response format, assigning 4 points to Strongly Agree, 3 points to Agree, 2 points to Disagree, and 1 point to Strongly Disagree.

Before the instruments were administered, their face and content validity were established through the assessment of the researcher's supervisor and two Rivers State University experts, one specialising in Measurement and Evaluation and the other in Community Development. The corrections and suggestions arising from this review were incorporated into the final versions. Instrument reliability was assessed by conducting a trial exercise with 10 traditional healthcare providers and 10 CDC members from Obio/Akpor Local Government Area, which was not included in the study location. Cronbach's alpha analysis produced coefficients of 0.91 for the traditional birth attendants cluster, 0.82 for herbal healing, and 0.77 for divination/spiritual healing, indicating

satisfactory internal consistency. The researcher conducted the questionnaire administration with the assistance of two trained research assistants who were CDC members in the study area, and the completed instruments were retrieved after one week. From the 602 questionnaires distributed, 590 were appropriately completed and retained for statistical analysis. Pearson Product-Moment Correlation Coefficient (PPMC), represented by "r," was used to address the research questions, with coefficients ranging from 0.1–0.4 regarded as low, 0.5 as moderate, and 0.6–1.0 as high correlation. For hypothesis testing, the PPMC t-test transformation was applied at the 0.05 significance level. A calculated r-value exceeding the critical value of 0.195 at 588 degrees of freedom constituted the criterion for rejecting the null hypothesis.

Results

Research Question 1: What is the relationship between traditional birth attendants system and participation in community development activities among the Etche people of Rivers State?

Table 1: PPMC Analysis on the Relationship between Traditional Birth Attendants System and Participation in Community Development Activities among the Etche People of Rivers State.

Variable	N	ΣX / ΣY	ΣX² / ΣY²	ΣXY	r-cal	Remark
Traditional Birth Attendants System (X)	590	882.14	2037.40			
Participation in Community Development Activities (Y)	590	987.10	3118.32	**2213.01**	**0.88**	**High Positive**

***. Correlation is significant at the 0.05 level (2-tailed).*

Table 1 indicates a strong positive correlation (r = 0.88) between the traditional birth attendants' system and participation in community development activities among the Etche people of Rivers State. The magnitude and direction of the coefficient suggest that greater adoption and utilisation of the traditional birth attendants' system are associated with higher levels of participation in community development activities among the Etche people of Rivers State. This result therefore demonstrates a strong positive association between the two variables, although it does not by itself establish a causal relationship.

Research Question 2: What is the relationship between herbal healing system and participation in community development activities among the Etche people of Rivers State?

Table 2: PPMC Analysis on the Relationship between Herbal Healing System and Participation in Community Development Activities among the Etche People of Rivers State.

Variable	N	ΣX / ΣY	ΣX² / ΣY²	ΣXY	r-cal	Remark
Herbal Healing System (X)	590	912.02	2822.03			
Participation in Community Development Activities (Y)	590	1201.03	3123.02	**2786.05**	**0.83**	**High Positive**

***. Correlation is significant at the 0.05 level (2-tailed).*

The correlation value (r) between herbal healing system and engagement in community development activities among the Etche people of Rivers State is 0.83 (Table 2). This score is high and positive. It means that the people of Etche in Rivers State participate more in community development activities when they accept the herbal healing system.

Research Question 3: What is the relationship between divination/spiritual healing system and participation in community development activities among the Etche people of Rivers State?

Table 3: PPMC Analysis on the Relationship between Divination/Spiritual Healing System and Participation in Community Development Activities among the Etche People of Rivers State.

Variable	N	ΣX / ΣY	ΣX² / ΣY²	ΣXY	r-cal	Remark
Divination/Spiritual Healing System (X)	590	850.05	2542.10			
Participation in Community Development Activities (Y)	590	1058.11	3318.04	**2466.10**	**0.85**	**High Positive**

***. Correlation is significant at the 0.05 level (2-tailed).*

The value of correlation (r) between the divination/spiritual healing system and engagement in community development activities among the Etche people of Rivers State is 0.85 (Table 3). This value is high and positive signalling that the adoption of the divination/spiritual healing system leads to growth in the engagement in community development activities among the Etche people of Rivers State.

Test of Hypotheses

Ho1: There is no significant relationship between traditional birth attendant system and participation in community development activities among the Etche people of Rivers State.

Table 4: PPMC Analysis of the Relationship between Traditional Birth Attendant System and Participation in Community Development Activities.

Variable	N	ΣX/ΣY	ΣX²/ΣY²	ΣXY	df	α	r-cal	r-crit	Decision
Traditional Birth Attendants System (X)	590	882.14	2037.40						
Participation in Community Development Activities (Y)	590	987.10	3118.32	2213.01	588	0.05	0.88	0.195	Sig. Reject Ho

Table 4 shows that the computed r-value of 0.88 is greater than the threshold r-value of 0.195 with 588 degrees of freedom at 0.05 level of significance. Therefore, it can be deduced that there is a significant relationship between traditional birth attendant system and participation in community development activities among the Etche people of Rivers State. The null hypothesis of no significant association between traditional birth attendant system and engagement in community development activities among the Etche people of Rivers State is thus rejected. Thus, traditional system of birth attendant has a significant positive relationship with engagement in community development activities among the Etche people of Rivers State.

Ho2: There is no significant relationship between herbal healing system and participation in community development activities among the Etche people of Rivers State.

Table 5: PPMC Analysis of the Relationship between Herbal Healing System and Participation in Community Development Activities.

Variable	N	ΣX/ΣY	ΣX²/ΣY²	ΣXY	df	α	r-cal	r-crit	Decision
Herbal Healing System (X)	590	912.02	2822.03						
Participation in Community Development Activities (Y)	590	1201.03	3123.02	2786.05	588	0.05	0.83	0.195	Sig. Reject Ho

The result reported in Table 5 indicates that the obtained correlation coefficient (r = 0.83) exceeds the critical value of 0.195 at 588 degrees of freedom and the 0.05 significance level. The null hypothesis proposing the absence of a significant association between the herbal healing system and participation in community development activities among the Etche people of Rivers State is consequently rejected. The result establishes that the herbal healing system has a statistically significant and positive association with participation in community development activities, indicating that higher levels of engagement with herbal healing practices correspond with greater participation in community development activities among the Etche people of Rivers State.

Ho3: There is no significant relationship between divination/spiritual healing system and participation in community development activities among the Etche people of Rivers State.

Table 6: PPMC Analysis of the Relationship between Divination/Spiritual Healing System and Participation in Community Development Activities.

Variable	N	ΣX/ΣY	ΣX²/ΣY²	ΣXY	df	α	r-cal	r-crit	Decision
Divination/Spiritual Healing System (X)	590	850.05	2542.10						
Participation in Community Development Activities (Y)	590	1058.11	3318.04	2466.10	588	0.05	0.85	0.195	Sig. Reject Ho

The evidence presented in Table 6 reveals that the computed correlation coefficient (r = 0.85) is substantially above the critical value of 0.195 at 588 degrees of freedom and the 0.05 significance level. Accordingly, the null hypothesis asserting that no significant association exists between the divination/spiritual healing system and participation in community development activities among the Etche

people of Rivers State is rejected. The finding demonstrates a statistically significant positive correlation between the two variables, suggesting that greater involvement in divination and spiritual healing practices is associated with increased participation in community development activities among the Etche people of Rivers State.

Discussion of Findings

The analysis relating to Research Question One and Hypothesis One established a strong, positive, and statistically significant association between the traditional birth attendants' system and participation in community development activities among the Etche people of Rivers State. Responses indicated that traditional birth attendants (TBAs) enjoy considerable trust and respect within the communities and are involved not only in maternal healthcare but also in health-related decision-making, community sensitisation, and the dissemination of health information. This result is consistent with Baisley et al. (2007), who reported that traditional birth attendants in rural Gambia perform important functions across the social, political, cultural, and health spheres of community life and may serve as a unifying force within their communities. Similarly, Amutah-Onukagha et al. (2017) observed that TBAs in Nigeria contribute through antenatal services, culturally informed guidance, and community mobilisation, thereby supporting broader community participation and development processes. The strong accessibility and cultural integration of TBAs within Etche communities may therefore provide an established channel through which residents can be mobilised for collective activities. This interpretation is also supported by Putnam's (2000) social capital theory, which emphasises that trust, social networks, and relationships embedded within community institutions can strengthen cooperation and facilitate collective action.

The finding on research question two and hypothesis two showed a high, positive and statistically significant relationship between the herbal healing system and participation in community development activities among the Etche people. Respondents affirmed that herbal healing practices are widely used, culturally valued and deeply embedded in Etche community life. This is consistent with Ajibesin et al. (2012), whose ethnomedicinal survey of Rivers State established a robust and highly organised body of indigenous botanical medical knowledge, with a high informant consensus factor reflecting strong communal agreement on the use and utility of medicinal plants. Herbal medicine in this sense holds a central place in the cultural and social organisation of Etche communities, fostering a sense of belonging and collective responsibility for community health and well-being, an outcome that resonates with Arnstein's (1969) community participation theory, which holds that communities with strong indigenous institutions exhibit higher levels of participatory engagement in development activities.

The finding on research question three and hypothesis three revealed a high, positive and statistically significant relationship between the divination/spiritual healing system and participation in community development activities among the Etche people. Respondents agreed that spiritual healers and diviners are trusted community figures who participate actively in conflict resolution, social governance and the promotion of community well-being. This is in line with Ajayi and Buhari (2014), who established that traditional conflict resolution mechanisms grounded in spiritual authority promote consensus building and social cohesion, offering strong prospects for peaceful co-existence. The finding further aligns with the broader recognition of diviners as custodians of community history, culture and identity, whose roles extend beyond health service delivery into the wider governance and development of their communities, thereby lending further support to the community participation theory that anchors this study.

Taken together, these findings indicate that, contrary to any presumption that traditional healthcare practices are a barrier to modern development, the traditional birth attendants system, the herbal healing system and the divination/spiritual healing system function as important social platforms through which trust, solidarity and collective agency are built and sustained among the Etche people. Each of these traditional healthcare institutions relies on and reinforces the very social capital that participation in community development activities requires. Recognising this points towards placing genuine responsibility with those closest to the community, an approach already applied elsewhere in the state through school-based management committees, where decision-making authority was deliberately shared with parents, community members and local administrators (Nwanguma & Nwuke, 2024). Such recognition also carries a question of fairness, since arrangements that advance social justice are what prepare people to take a productive and participatory place in the life of their society (Alikor & Okachiku-Agbaraeke, 2025).

Conclusion

Based on the findings of the study, it was concluded that the traditional birth attendants system, the herbal healing system, and the divination/spiritual healing system are each significantly and positively related to participation in community development activities among the Etche people of Rivers State. This implies that these traditional healthcare institutions function not merely as health-providing systems but as social organisations that generate the trust, solidarity and collective agency upon which participation in community development activities depends. The study therefore concludes that traditional healthcare delivery systems in Etche communities are deeply embedded in community life

and serve as important, though often overlooked, platforms for social mobilisation, indigenous knowledge transmission and community governance. Any effort to enhance participation in community development activities among the Etche people must recognise and strategically engage with these traditional healthcare institutions rather than treat them as peripheral to the development process.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Policymakers at the state and local government levels should develop formal frameworks that recognise traditional birth attendants as community development partners. Training programmes that build on TBAs' existing community roles and social capital should be designed collaboratively with TBAs themselves, to enhance maternal health outcomes while strengthening community participation in health and development activities.
2. The Rivers State Government and relevant non-governmental organisations should establish community-based herbal medicine knowledge-preservation programmes that simultaneously serve as platforms for community development mobilisation. Such programmes should engage herbal healers as community educators, knowledge custodians and development facilitators, drawing on their existing social authority within Etche communities.
3. Development planners and community development practitioners working in Etche communities should formally engage spiritual healers and diviners as community stakeholders in development planning processes. Recognising their roles in conflict resolution, social governance and community well-being will enhance the inclusiveness and cultural legitimacy of community development initiatives.

References

1. Ajayi, A. T., & Buhari, L. O. (2014). Methods of conflict resolution in African traditional society. *African Research Review, 8*(1), 138–157.
2. Ajibesin, K. K., Bala, D. N., & Umoh, U. F. (2012). Ethnomedicinal survey of plants used by the indigenes of Rivers State of Nigeria. *Pharmaceutical Biology, 50*(9), 1123–1143. https://doi.org/10.3109/13880209.2012.661740
3. Alikor, O., & Okachiku-Agbaraeke, O. (2025). Education for a productive society in the 21st century Nigeria: The relevance of social justice. *International Journal of Research and Innovation in Social Science, 9*(3S).
4. Amutah-Onukagha, N., Rodriguez, M., Opara, I., Gardner, M., Assan, M. A., Hammond, R., Plata, J., Pierre, K., & Farag, E. (2017). Progresses and challenges of utilizing traditional birth attendants in maternal and child health in Nigeria. *International Journal of MCH and AIDS, 6*(2), 130–138. https://doi.org/10.21106/ijma.216
5. Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Planning Association, 35*(4), 216–224. https://doi.org/10.1080/01944366908977225
6. Baisley, K., Doyle, A. M., Changalucha, J., Weiss, H. A., Todd, J., & Ross, D. A. (2007). Traditional birth attendants in rural Gambia: Beyond health to social cohesion. *Social Science & Medicine.*
7. Chinna, A. W., Dokubo, C., Taylor, D. I., & LongJohn, G. P. (2024). Community education programmes for the reduction of maternal and child mortality in Emohua and Ikwerre Local Government Areas of Rivers State. *International Journal of Social Science and Management Studies, 3*(3).
8. Deekor, H. L., Taylor, D. I., & Alikor, F. K. (2022). Role of community based organizations in mobilization of citizens for participation in community development among the Ikwerre people of Rivers State. *International Journal of Social Science and Management Studies, 1*(3).
9. Nwanguma, T. K., & Nwuke, T. J. (2024). School based management committee for enhanced governance of public senior secondary schools in Rivers State. *Advance Journal of Education and Social Sciences, 9*(4).
10. Nwoye, C. E., Deekor, H. L., & Taylor, I. D. (2021). Influence of customs and traditions on resource mobilization for community development programmes in rural communities in Enugu State. *International Journal of Modern Innovations and Knowledge, 2*(1).
11. Nwokocha, E. E. (2008). Traditional healthcare delivery systems in the 21st century Nigeria: Moving beyond misconceptions. *World Health & Population, 10*(1), 23–33. https://doi.org/10.12927/whp.2008.19730
12. Opara, K. N., Asor, J. E., & Okon, O. E. (2019). Traditional medicine practices among the people of Etche ethnic nationality of Rivers State, Nigeria. *Journal of Ethnopharmacology, 234*, 120–127.
13. Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community.* Simon & Schuster.
14. Taylor, D. I., Waribo, T. M., & Ogwo, P. N. (2025). Indigenous adaptation strategies for promoting sustainable fishing practices among fisherfolks in Kalabari Kingdom of Rivers State. *Irish Journal of Educational Practice, 8*(5).
15. Varwell, S. (2022). A literature review of Arnstein's ladder of citizen participation: Lessons for contemporary student engagement. *Exchanges: The Interdisciplinary Research Journal, 10*(1), 108–144. https://doi.org/10.31273/eirj.v10i1.1026
16. World Health Organization. (2019). *WHO global report on traditional and complementary medicine.* World Health Organization.