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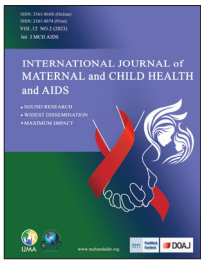
International Journal of Maternal and Child Health and AIDS



PUBLIC HEALTH PRACTICE *MATERNAL HEALTH*

Recommendations for Integrating Traditional Birth Attendants to Improve Maternal Health Outcomes in Low- and Middle-Income Countries

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Received: 25 March 2024

Accepted: 28 May 2024

Published: 13 September 2024

DOI: 10.25259/IJMA_16_2024

Quick Response Code

ABSTRACT

Adverse maternal health outcomes and high rates of maternal mortality continue to disproportionately affect low- and middle-income countries (LMICs). With limited access to health facility care, many women in LMICs rely on traditional birth attendants (TBAs) to meet their maternal health needs. While some studies consider the use of TBAs to be problematic, others suggest the integration of TBAs into maternal healthcare to improve health outcomes. The aim of this study is to utilize extant research to provide recommendations for optimizing the role of TBAs in maternal healthcare in Haiti, a LMIC. Each recommendation builds upon previous global health research, programmatic work, and a series of research studies conducted in Haiti to better understand and improve maternal healthcare in low-resource settings. Recommendations for integrating TBAs in maternal health include: (1) Integrate TBAs throughout prenatal, perinatal, and postpartum care to provide culturally relevant physical and emotional support to mothers; (2) Build capacity among TBAs to identify high-risk situations and link patients to care; (3) create TBA-led efforts to improve coordination and care; (4) Establish a collaborative pipeline from TBAs to facility-based care; and (5) create inclusive facility environments for TBAs to help reduce medical mistrust among patients. TBAs occupy an important role in the maternal health of women in LMICs and have the potential to contribute toward improved maternal health outcomes. The recommendations provided herein can be used to aid practitioners and researchers in reducing maternal morbidity and mortality globally.

Keywords: Maternal Health, Traditional Birth Attendants, Global Health, Low-and Middle- Income Countries, Birth Equity

INTRODUCTION

According to the World Health Organization (WHO), 94% of all maternal deaths occur in low- and middle-income countries (LMICs).[1] Notably, many of these deaths can be prevented with adequate care. To help meet the WHO's Sustainable Development Goal 3 to "ensure healthy lives and promote well-being for all," there is an urgent need for sustainable, scalable solutions that mitigate or remedy adverse maternal health outcomes, especially within LMICs. One possible solution may be a more universal engagement of and intentional collaboration with traditional birth attendants (TBAs).

The TBAs are generally considered people outside of the formal healthcare system who provide support, advice, and care for women during pregnancy and childbirth.[2] The history and impact

of TBAs are expansive and differ geographically and across cultures and contexts. In many LMICs, a substantial portion of women (particularly those in rural areas) give birth with TBAs.[2] In LMICs, many women rely on TBA assistance for several key reasons. Principally, TBAs tend to be more accessible than facility-based providers.[3] For women living in extremely rural areas, it can take an entire day or longer to reach the closest facility to receive care. This travel time along with other necessities (e.g., car, fuel, driver, etc.) are often limited and/or unattainable. Moreover, for women in labor or with urgent needs, lengthy travel times are often unrealistic, given the need for urgent care. As such, many women opt to utilize local TBAs. People living in LMICs also rely on TBAs because of shared cultural beliefs.[4,5] Indeed, previous research acknowledges TBAs as integral members of their communities, particularly regarding the role they play in upholding birth and newborn-related customs and cultural traditions.[6,7]

Due to challenges such as limited infrastructure, less developed healthcare systems, and a shortage of quality health facilities in many LMICs, TBAs have had to meet healthcare needs typically fulfilled by skilled birth attendants (SBAs), who are healthcare professionals that provide care during pregnancy, childbirth, and postpartum (e.g., midwife, physician, nurse, obstetrician, etc.).[8] Some researchers have emphasized the importance of establishing *partnerships* between TBAs and SBAs and drawing upon their collective talents to improve maternal health outcomes.[7,9] The purpose of this article is to lend additional support for engagement and better integration of TBAs in LMICs into the formal healthcare system. Based on extant research from other scholars who have done research with TBAs in LMICs, broader maternal health research, and our own programmatic work in rural Haiti, we provide five recommendations for integrating TBA into the formal healthcare system. The following section provides a brief overview of our team's work in Haiti.

FIELDWORK DESCRIPTION

Our team's work in Haiti consists of a series of community-based research projects in partnership with Midwives for Haiti (MfH) and Partners in Health. MfH is an organization committed to providing and increasing access to skilled maternity care.[10] Partners in Health, the largest nongovernmental healthcare organization in Haiti, exists to address the health needs in rural Haiti, specifically the Central Plateau and lower Artibonite.[11] Our team consists of behavioral research scientists, psychologists, social workers, obstetricians, midwives, nurses, and students in medicine, psychology, and public health from the United States and Haiti. In 2014, our team collaborated with MfH and consulted with the CenteringPregnancy Institute to design a culturally relevant prenatal health promotion curriculum, Fanm Pale (Women Speak).[12] Designed to promote improved pregnancy and birth outcomes among Haitian women in low-resource settings, Fanm Pale is a six-session intervention with 12 hours of content that covers pregnancy-related topics, including nutrition, maternal health danger signs, childbirth, newborn care, and postpartum care. Like Centering Pregnancy, Fanm Pale includes health assessments and group-based education activities. After developing the curriculum, the project team assessed the feasibility of implementation and appropriateness of the content among Haitian pregnant women. To improve intervention materials and promote sustainability, we partnered with Partners in Health to gather feedback from key stakeholders, including Haitian midwives, community leaders, and potential participants. Following the revisions to Fanm Pale based on participant responsiveness, the curriculum was integrated into the MfH training for SBAs.

In 2015, we qualitatively explored Haitian women's perspective of MfH's healthcare model which combines task-shifting and community-based care through trained SBAs at rotating mobile clinics. Findings revealed women perceived this model of service provision as positive, but that they also preferred to give birth at home and/or with TBAs.[13] In addition, study participants also suggested more stability in care. For example, they recommended establishing clinics in their communities versus having intermittent community-based care via once-monthly mobile clinics. Based on the above findings, MfH subsequently discontinued their mobile clinics and began establishing permanent prenatal clinics and birth centers in the communities. To date, Midwives for Health has established eight community clinics around Haiti's Central Plateau and one birth center in Cabestor, Haiti.[10]

In 2018 and 2019, we conducted formative research with pregnant women, TBAs (i.e., matrons), community leaders, and maternal health and HIV prevention/treatment clinicians to gather information about HIV and class stigma in the community and healthcare system as a barrier to maternal healthcare. We used this information to collaboratively develop a multilevel stigma reduction intervention. Our experiences working in Haiti over the past several years in combination with extant global health research have informed the recommendations below.

RESULTS-RECOMMENDATIONS

Research demonstrates that maternal health outcomes in LMICs can be improved through meaningful involvement of

TBAs during prenatal, perinatal, and postpartum care. To this end, we discuss five considerations for how to better integrate TBAs in LMICs to promote maternal health:

1. Integrate TBAs throughout prenatal, perinatal, and postpartum care to provide culturally relevant physical and emotional support to mothers;
2. Build capacity among TBAs to identify high-risk situations and link patients to care.
3. Create TBA-led efforts to improve coordination and care;
4. Establish a collaborative pipeline from TBAs to facility-based care; and
5. Create inclusive facility environments for TBAs to help reduce medical mistrust among patients.

An overview of the recommendations for leveraging TBAs to enhance maternal health outcomes in LMICs is provided in Table 1, substantiated by a wealth of published evidence. Each recommendation is aligned with existing research from numerous LMICs, thereby grounding our proposed strategies

Table 1: Summary of recommendations and evidence for leveraging traditional birth attendants (TBAs)

Author, Year	Title	Country
Aziato L, Omenyo C, 2018	Initiation of traditional birth attendants and their traditional and spiritual practices during pregnancy and childbirth in Ghana	Ghana
Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A, 2017	Continuous support for women during childbirth	Multiple countries (systematic review)
Cidro J, Doenmez C, Sinclair S, Nychuk A, Wodtke L, Hayward A, 2021	Putting them on a strong spiritual path: Indigenous doulas responding to the needs of Indigenous mothers and communities	Canada
Kozhimannil KB, Attanasio LB, Hardeman RR, O'Brien M	Doula Care Supports Near-Universal Breastfeeding Initiation among Diverse, Low-Income Women	USA
Mottl-Santiago J, Walker C, Ewan J, Vragovic O, Winder S, Stubblefield P, 2008	A Hospital-Based Doula Program and Childbirth Outcomes in an Urban, Multicultural Setting	Boston
Say L, Chou D, Gemmill A, et al., 2014	Global causes of maternal death: A WHO systematic analysis	Multiple countries (systematic review)
Abrams JA, Forte J, Bettler C, Maxwell M, 2018	Considerations for Implementing Group-Level Prenatal Health Interventions in Low-Resource Communities: Lessons Learned from Haiti	Haiti
Chary A, Díaz AK, Henderson B, Rohloff P, 2013	The changing role of indigenous lay midwives in Guatemala: New frameworks for analysis	Guatemala
Dynes M, Buffington ST, Carpenter M, et al., 2013	Strengthening maternal and newborn health in rural Ethiopia: Early results from frontline health worker community maternal and newborn health training	Amhara and Oromiya districts of Ethiopia
Floyd BO, Brunk N, 2016	Utilizing Task Shifting to Increase Access to Maternal and Infant Health Interventions: A Case Study of Midwives for Haiti	Haiti
Garces A, McClure EM, Espinoza L, et al., 2019	Traditional Birth Attendants and Birth Outcomes in Low- and Middle-Income Countries: A Review	Multiple countries (literature review)
Hernandez S, Oliveira JB, Shirazian T, 2017	How a Training Program Is Transforming the Role of Traditional Birth Attendants from Cultural Practitioners to Unique Health-care Providers: A Community Case Study in Rural Guatemala	Guatemala
Thaddeus S, Maine D, 1994	Too far to walk: Maternal mortality in context	Multiple countries (multidisciplinary literature review)
Vieira C, Portela A, Miller T, Coast E, Leone T, Marston C, 2012	Increasing the Use of Skilled Health Personnel Where Traditional Birth Attendants Were Providers of Childbirth Care: A Systematic Review	Multiple countries (systematic review)

(*Continued...*)

Author, Year	Title	Country
MacDonald ME, 2022	The Place of Traditional Birth Attendants in Global Maternal Health: Policy Retreat, Ambivalence and Return	Multiple countries (anthropological paper)
Miller T, Smith H, 2017	Establishing partnership with traditional birth attendants for improved maternal and newborn health: A review of factors influencing implementation	Multiple countries (systematic review)
Vedam S, Leeman L, Cheyney M, et al., 2014	Transfer from Planned Home Birth to Hospital: Improving Interprofessional Collaboration	USA
Wallace J, Hoehn-Velasco L, Jolles D, et al., 2021	Assessment of interprofessional collaboration at free-standing birth centers: Does collaboration influence outcomes?	USA
Hosler JJF, Abrams JA, Godsay S., 2018	Combining task shifting and community-based care to improve maternal health: Practical approaches and patient perceptions	Haiti
Shaikh BT, Khan S, Maab A, Amjad S, 2014	Emerging role of traditional birth attendants in mountainous terrain: A qualitative exploratory study from Chitral District, Pakistan	Chitral District, Pakistan
Sialubanje C, Massar K, Hamer DH, Ruiter RA, 2015	Reasons for home delivery and use of traditional birth attendants in rural Zambia: A qualitative study	Zambia

in empirical research and enhancing the credibility and applicability of our recommendations.

1. **Integrate TBAs throughout prenatal, perinatal, and postpartum care to provide culturally relevant physical and emotional support to mothers**

   Including TBAs as members of the fundamental support system of new mothers during pregnancy, labor, delivery, and postpartum can foster strong relationships that facilitate uptake in maternal health services, which may then mitigate adverse maternal health outcomes.[14,15] At health facilities or hospitals, where many women report feelings of isolation, social rejection, and neglect, promoting mutual feelings of trust, respect, and understanding can make a difference.[16] As such, the presence and support of a TBA as a companion during childbirth could be a solution for bridging the gap between women and the formal health system.[7] In this sense, it may be beneficial to integrate TBAs in a manner similar to how doulas are utilized in the United States and other developed countries.

   In the United States, doulas can advocate for women in healthcare settings and are able to provide physical, emotional, and informational support to women during labor, delivery, and postpartum. In addition, they can provide breastfeeding support, assist with recovery from birth, and make referrals to local resources.[17,18] Several studies have documented the advantages of doula support, including a decreased need for cesarean sections, shorter labors, decreased risk of low birth weight, and increased likelihood of breastfeeding initiation.[19–26] As such, it is plausible that similar support from TBAs in LMICs may help ameliorate poor maternal health outcomes such as negative experiences with health workers, financial barriers, and maternal mortality.[7,25] However, it is critical to note that successful integration of TBAs will require training in standardized medical protocols, prevention and promotion strategies, and patient confidentiality. Building their capacity to safely deliver low-risk pregnancies and identify risk factors for facility-based referrals will also be necessary to begin closing the gap in maternal morbidity and mortality disparities.

2. **Build capacity among TBAs to identify high-risk situations and link patients to care**

   Previous research highlights that TBAs can play an important role in the early identification of high-risk pregnancies.[2] In a review of the literature on TBAs and birth outcomes, Garces et al. identified several studies where TBAs increased their obstetric knowledge and were able to identify problems and make referrals.[2] Early identification of obstetric complications is often most adversely affected by delays in the decision to seek care, arrival to healthcare facilities, and the provision of care.[27] Each of these reasons for delaying care is intricately connected to infrastructural and contextual challenges such as physical inaccessibility to a health facility, costs, and/or shortage of healthcare personnel. In many LMICs, where infrastructure is a major challenge to accessing quality care, investing resources into TBA training may be a practical solution, as TBAs are more readily accessible. By leveraging the existing skills of TBAs and providing training and resources, LMICs may be able to better facilitate the identification of high-risk pregnancies and subsequent referrals and linkage to care.

   In addition, building the capacity of TBAs to safely deliver low-risk pregnancies and accurately assess and refer out

high-risk pregnancies would require the development and maintenance of systems to train and support TBAs on an ongoing basis. Several studies have evaluated the impact of TBA training programs on maternal health and birth outcomes and shown promising results.[28,29] For example, in their systematic review of the impact of TBA training on improving pregnancy outcomes, Sibley et al. found that TBA training may be beneficial for outcomes like perinatal death, stillbirth, and neonatal death.[30] However, as Chary et al. highlighted, it is critical that training programs be rooted within the sociocultural context of TBAs.[31] In their study, the authors observed racial, linguistic, and cultural bias toward TBAs in workshops and education sessions, which negatively impacted the effectiveness of the training program. Hernandez et al. found that "when training is successfully implemented in rural communities, TBAs increase their basic obstetric knowledge, are equipped for safe home deliveries, and are able to identify problems requiring referral; factors that markedly improve obstetrical outcomes."[32] According to their research, successful trainings were conducted with culturally appropriate curricula in the TBA's native language. In conducting group-level intervention training, Abrams et al. also echo the importance of conducting training in communities' native language and ensuring cultural congruence in training content and implementation.[33]

Building the capacity of TBAs requires training programs designed and implemented using culturally responsive approaches rooted within the sociocultural contexts that frame the TBAs work.[12] In addition, it is important for training to be geographically and financially accessible and use an appropriate pedagogical approach for the literacy level and educational background of TBAs. Partnered trainings that foster collaboration between TBAs and SBAs could also build capacity for better-coordinated responses to maternal health emergencies. By fusing aspects of traditional practices into facility-based care, TBAs and SBAs could draw from their unique skillsets and work interdependently to ensure safer deliveries. Several strategies can be used to encourage their dual presence and strengthen the birthing support team. For example, maternal clients of TBAs who were provided cash incentives for each maternal client who received postnatal care within 48 hours of delivery were 15% more likely to receive maternal care compared to TBAs who were not incentivized.[34] Such findings emphasize the need to further explore how to build the capacity of TBAs to work collaboratively with SBAs to refer high-risk situations.

3. **Create TBA-led efforts to improve coordination and care**

Past attempts to integrate TBAs into the formal maternal healthcare system have largely been considered ineffective.[7] For example, when the WHO attempted to train TBAs and include them in the Safe Motherhood Initiative (a WHO campaign aimed at reducing maternal mortality globally), TBAs were seen as obstacles to improvement because they would not conform to culturally incongruent guidelines set before them by the WHO (e.g., requiring TBAs in Malawi to distribute condoms).[6] Efforts that have been successful at training TBAs and integrating them into the formal healthcare system include incentivizing TBAs and creating a bidirectional relationship with SBAs.[15] Moving forward, it is important to consider ways to take a more collaborative approach, inviting TBAs to colead program development and implementation. A literature review on TBA use in maternal and child health in Nigeria indicated nine areas, in addition to identifying high-risk situations, in which TBAs can be trained and leveraged. The areas include maternal nutrition, antenatal care/referral, immunization referral, safe and sanitary delivery practices, HIV/AIDS awareness and prevention, breastfeeding, postnatal care, and family planning and contraception.[3]

It is critical for formal healthcare systems to recognize that addressing global maternal health disparities will require more than obstetric medicine. Achieving optimal maternal health outcomes also requires consideration of social and cultural phenomena. Formal healthcare systems may benefit from inviting TBAs to lead efforts on improving patients' relational (e.g., communication, informed consent, individual preferences), social, and cultural experiences of pregnancy, birth, and postpartum—all of which influence maternal health outcomes.[35,36] Furthermore, allowing TBAs to lead certain efforts can be helpful in establishing a horizontal model of care that places the same level of value on the medical, relational, and cultural aspects of maternal health. One way to do this is by offering workshops or training in formal settings where TBAs share their knowledge and offer strategies for SBAs to improve their skillset in the relational, social, and cultural aspects of maternal health. Research suggests that interprofessional collaboration, such as healthy working relationships between TBAs and SBAs, can be useful for improving patient experience and outcomes.[37,38]

4. **Establish a collaborative pipeline from TBAs to facility-based care**

Developing the appropriate channels to transition pregnant people from TBA care to facility-based care is critical to maximizing resources in LMICs and achieving optimal maternal health outcomes. Previous research on establishing partnerships and task shifting with TBAs offers insight as to how they should be meaningfully engaged (e.g., referral chains; training that emphasizes relationship building between TBAs and SBAs; and inviting

TBAs to prenatal clinics with their patients).[7,29,39] From these studies and our own maternal health programmatic work and research in Haiti, we have gleaned that if efforts are not designed in partnership with TBAs, there are risks of (1) low compliance, (2) barriers to collaboration between SBAs and TBAs, and (3) damaged relationships between TBAs and the healthcare system— all of which uphold a tiered hierarchical system in which some TBAs are integrated while others remain on the fringes.[12,13] This could further increase the risk of exposing patients to unsafe conditions.

Therefore, it is important that attempts to incorporate TBAs into facility care are collaborative and complementary to the existing skillsets of TBAs. For example, the TBA may serve as the first point of contact for many pregnant and laboring people and through culturally appropriate means can gather critical patient data to facilitate hospital referrals and transfers. This data could be leveraged to provide a more complete picture of maternal health outcomes in LMICs. Since TBAs consistently interface with women, creating more cohesion between TBAs and providers in healthcare settings, and providing TBAs with basic equipment that would allow for accurate assessment and reporting of birth outcomes (e.g., gestational age, birth weight, and obstetric outcomes) would allow a more robust understanding of maternal health outcomes of various regions.

TBAs could also be designated as the "go-to" person for emergency situations. They could aid with emergency transport or help patients develop contingency plans. In cases where pregnant people present at the health facility first, the facility could assign each woman a partnering TBA. This could be especially beneficial, as TBAs can offer patients labor and delivery support at the bedside or while waiting if no beds are readily available, which is a common occurrence in many LMICs.[40–42] Similar to doulas, TBAs can offer encouragement and coaching, for which many SBAs often do not have time, given staffing shortages. This support and linkage can also continue into the postpartum period, a time during which many women are at increased risk for morbidity and mortality. Implementing mechanisms, such as those described above, to develop a pipeline that moves pregnant people from TBA care to facility-based care could be a successful approach for improving maternal health outcomes.

5. **Create inclusive environments for TBAs to reduce medical mistrust**

There is a prevalent sentiment of medical mistrust toward healthcare providers due to experiences of being mistreated, neglected, stigmatized, or berated at health-based facilities.[40,43] As a result, women in LMICs often prefer to use TBAs for their maternal health needs because TBAs are generally local to the mothers' community, which can foster a sense of familiarity and trust.[7,44,45] Creating environments inclusive of TBAs in facility-based healthcare settings could improve the accessibility of care for more women as they may feel more supported by TBAs. This could include having interprofessional development trainings with SBAs and TBAs, giving TBAs badges and permitting them access to certain hospital facilitates and spaces where needed and appropriate, having TBAs represented in facility leadership boards, and allowing TBAs to facilitate culturally relevant activities for patients (e.g., prayers, songs, rituals, etc.). It may also be important for facility-based health settings to establish policies that clearly outline and recognize the role of TBAs in the facilities.

This strategy may ease pervasive feelings of medical mistrust because some women trust TBAs more than hospital staff.[39] We recommend that health systems establish collaborative partnerships where TBAs are trained to facilitate patient engagement. If properly trained, TBAs can have the potential to resolve conflicts or misunderstandings between patients and facility-based providers. Essentially, TBAs could serve as a bridge between patients and facility-based providers that can help engender trust and inclusive environments can nurture that possibility. It may also be important for health systems to regularly offer TBAs financial resources and training, as this would help them better do their jobs and create an environment more inclusive of them.

CONCLUSION AND GLOBAL HEALTH IMPLICATIONS

Maternal health outcomes, lack of infrastructure, and healthcare workforce shortages in LMICs point to the need for drastic changes in the current provision of maternal care. Given the historical presence of TBAs, their ease of access, the trust they have worked to garner, and their breadth of cultural knowledge, there are several opportunities to strategically leverage TBAs to improve maternal health outcomes. Given that TBAs may be the only care option for millions of women in LMICs, it is critical for formal health systems to consider how to integrate and collaborate with them to ensure quality, safe, and comprehensive care. It may also be important to consider how the language of traditional versus SBA is very value laden and downplays the expertise of TBAs. As evidenced by previous research, collaborations between TBAs and facility-based providers could maximize the use of extant resources in LMICs and reduce adverse maternal health outcomes. While the considerations offered here may

come with their challenges, it is evident that engaging TBAs is a necessary strategy for improving maternal health outcomes in LMICs.

Key Messages

- Many mothers in low- and middle-income countries (LMICs) rely on traditional birth attendants (TBAs) for an array of reasons, including accessibility and shared cultural ideals. Despite this, they are underutilized in formal healthcare settings.
- Recommendations for more effectively using TBAs include integrating TBAs to provide comprehensive support to mothers throughout pregnancy, childbirth, and the postpartum period, training TBAs on how to identify high-risk situations, increasing collaboration between TBAs and formal healthcare systems, and creating inclusive facility environments where TBAs can assist.
- These suggestions can help quickly address immediate needs that are driving maternal mortality in LMICs, thus reducing maternal morbidity and mortality globally.

Acknowledgments

The authors would like to acknowledge the Midwives for Haiti Organization and Zanmi Lasante (Partners in Health) for their assistance in the research reported in this publication.

COMPLIANCE WITH ETHICAL STANDARDS

Conflicts of Interest

The authors declare no competing interests.

Financial Disclosure

Nothing to declare.

Funding/Support

This work was supported by the National Institute of Mental Health of the National Institutes of Health under Award Number R25MH087217 and National Institutes of Health, Fogarty International Center Award Number R21TW011078.

Ethics Approval

Not applicable.

Declaration of Patient Consent

Patient's consent not required as there are no patients in this study.

Use of Artificial Intelligence (AI)-Assisted Technology for Manuscript Preparation

The authors confirm that there was no use of AI-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

Disclaimer

None.

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How to cite this article: Rutledge JD, Kiyanda A, Jean-Louis C, Raskin E, Gaillard J, Maxwell M, et al. Recommendations for integrating traditional birth attendants to improve maternal health outcomes in low- and middle-income countries. Int J MCH AIDS. 2024;13:e019. doi: 10.25259/IJMA_16_2024