



Investigating the use of Medicinal Plants in Traditional Birth Attendant Practices

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ABSTRACT

Despite advances in modern healthcare, traditional birth attendants (TBAs) continue to play a critical role in maternal and neonatal care, particularly in rural and underserved communities across Africa and Asia. This study explores the ethno-botanical knowledge and practices of TBAs, with a focus on their use of medicinal plants during pregnancy, labor, delivery, and postpartum care. Drawing on qualitative data from various regions, including Cameroon, Zimbabwe, and the Philippines, the study reveals the types of plants used, their perceived benefits, cultural significance, and associated rituals. The findings underscore the widespread yet undocumented reliance on herbal remedies by TBAs and the need to preserve this indigenous knowledge in the face of modernization. While many medicinal plants have demonstrated efficacy in managing maternal health issues, concerns remain regarding safety, dosage, and potential interactions. The paper advocates for further scientific validation, documentation, and integration of TBA knowledge into broader health systems to enhance maternal care outcomes and safeguard valuable botanical heritage.

Keywords: Traditional Birth Attendants (TBAs), medicinal plants, maternal health, ethnobotany, childbirth practices, indigenous knowledge, herbal medicine.

INTRODUCTION

Despite the advancement of modern medicine, a significant number of people in developing countries continue to rely on old and traditional medicine for the treatment of various diseases in settings where Western health care is either unavailable or unaffordable. Traditional Birth Attendants (TBA) have been described as people who assist in childbirth and who are not formally trained as skilled attendants, regardless of whether they are considered to be traditional healers. Using herbal preparations during pregnancy and childbirth practices is still common in many parts of the world. By the end of pregnancy, most women from rural areas will have used some herbs, prepared at least in part by themselves. In preparation for childbirth, many women eat heritage dishes or special foods. Many plants have also been described on the African continent for this purpose. Studies have also been carried out in Zimbabwe, and concepts identified for the use of herbal medicines in traditional birth attending practices. Use of alternative or herbal medicines during pregnancy is quite common in Zimbabwe. Several studies have reported on several plants used by TBAs (traditional birth attendants) and their clients to either hasten or slow down labor onset. Plants were mostly widely used, but with varying degrees of expertise. TBAs knowledgeable about a number of plants were identified in both site types. Herbal preparations for speeding up, augmenting, and slowing down labor had been reported. The information described constitutes an important knowledge set concerning obstetric botanical treatments employed around the time of childbirth [1, 2].

Historical Context of Traditional Birth Attendant Practices

The use of herbal medicine has been present in the Philippines since time immemorial. There are various native plants with medicinal values and important indigenous knowledge. Medicinal plants are used for the treatment of various ailments by people, especially in rural areas. The information about the use of plants is given orally in most cases. The use of P.A. plants and folk remedies persists in Gilongos despite the arrival of allopathic medicine. This study aims to investigate the continued use of traditional birth attendant practices through Philippine medicinal plants. To date, literature on the botanical knowledge of Traditional Birth Attendants is scant. However, studies on other folk healers, such as herbalists, are more widespread. Thus, before conducting the main research, an exploratory study was conducted first to investigate the Indigenous Plants used by the Folk Healers in Brgy. New Sibonga. This was done to develop a research strategy for the main study and to determine the extent of the T.B.A. practices. The data indicate a continuing use of the Philippine medicinal plants in the T.B. practice and a formidable knowledge of the nature, habitat, and economic importance. This knowledge, however, is gradually degenerating as it is being replaced by the modernization of the birth practice. The knowledge of the use of plants for the T.B.A. practice will be further investigated to conserve, preserve, and document this knowledge "kamangmangan" [3, 4].

Medicinal Plants: An Overview

The use of medicinal plants originated from intuition and chance, evolving through trial and error to develop a factual understanding of their therapeutic benefits. Nature has provided humans with shelter, food, and medicines essential for survival. The significance of plants for human health is immense, with various secondary metabolites and active ingredients contributing to their medicinal properties. Over time, many healing agents from different plant species have been recognized; while some became famous, others faded into obscurity. Globally, medicinal plants are crucial sources of pharmacological compounds, often selected based on their traditional applications. In many regions, they serve as the primary healthcare resource. Indigenous knowledge about these plants is transmitted orally across generations, reinforcing their role in modern medicine. Despite the ongoing challenge of antimicrobial resistance, over 20% of contemporary drugs stem from plants, with approximately 25% of allopathic drugs and more than 50% of inexpensive medications derived from them. Among millions of plant species, around 30,000-50,000 are utilized by indigenous peoples for various health-related purposes, yet only 1,500-2,500 are commercially exported. Medicinal plants provide essential nutrition, offering carbohydrates, proteins, fibers, vitamins, and minerals, in addition to antimicrobial, antioxidant, and cytotoxic properties. Indigenous communities have created systems to manage and sustain traditional medicine, heavily relying on plants. However, resources are increasingly threatened by ecosystem disruption due to population growth and human activities. High-value medicinal and ornamental plants are being overexploited, making essential herbs scarce and causing some species to disappear entirely. There is urgent pressure on managers and policymakers to conserve these plants and their associated knowledge before they are lost forever [5, 6].

Cultural Significance of Medicinal Plants

The lived experiences and traditional practices of women have affected their health outcomes, especially among the marginalized tribal groups, and these contribute to how women engage with their surroundings, including the selection of medicinal plants used as traditional healing practices. The different engagement methods have been consolidated into certain themes to represent the diverse expressions among indigenous and tribal women on the health-seeking behavior, types of medicinal plants used, and health-outcomes challenges as a concern worldwide. Specific health issues among women in the pre- and postnatal periods are different based on community customs, rituals, and the types of medicinal plants used for healing. The influence of castes, religion, and socio-economic status on the cultural diversity of reproductive and maternal health. Women perform their roles in health service-seeking either through available health care or through their traditional health care. Efforts have been made to acknowledge and recognize tribal women's traditional knowledge-based reproductive health practices and how they affect health outcomes in their respective societies. There are years of service and the education levels of the TBA are significant with the use of plants such as *Cassia fistula*, *Azadirachta indica*, *Leucas aspera*, *Syzygium cumini*, and *Mukunuwenna* in confinement care, while the education level of relatives affects the use of *Anthocephalus cadamba*, *Calotropis gigantea*, and *Murraya koenigii*. The continued existence of the TBA among the different ethnic groups ensures plant usage, and some evidence is available on this aspect among different communities. The use of traditional medicine to treat

ailments depends upon a variety of factors, including socio-economic factors, knowledge among the people, availability of the medicinal plants, costs, and the severity of the ailments [7, 8].

Methodology

The study employed a qualitative, phenomenological approach, reflected by in-depth interviews in the local Arabic dialect, focused on collecting detailed descriptions of the experiences of TBA practices and the utilization of plant medications. The sample for the study consisted of twenty participants who were TBAs in Penja, the Littoral region of Cameroon. Purposive sampling was used to select participants born in Penja and with at least ten years of experience as TBAs. The sample was homogeneous to control for differences in experiences due to practices in different regions. All participants provided informed consent for the audio-recorded interviews. Ethical approval was obtained from the Institutional Human Research Ethics Committee. Data collection occurred between March and June 2021, using semi-structured interview guides. The interviews were conducted at the participants' homes and in secluded areas to ensure privacy. Each interview lasted between 45 and 60 minutes and was recorded with participants' consent. After the interviews, the participants received monetary compensation of 1000 FCFA to repay them for their time. The interviews were transcribed into audio recordings. Thematic analysis, using NVivo version 12 software, was chosen for data analysis. Transcripts were read multiple times for familiarization and comprehensive interpretation. The analysis process continued with the coding of themes and subthemes. After coding, emerging themes were written down and compared to ensure mutual exclusiveness. Analysis of within-case patterns and then cross-case patterns was performed to assess the robustness of the findings and shift the study to interpretation and reflection. Triangulation of methods and comparison with prior literature was ensured. Direct quotations from participants were used to exemplify findings, with participant identification numbers assigned to protect identities. Data confidentiality was ensured through careful handling, restricted access, and destruction of transcripts after publication [9, 10].

Traditional Birth Attendants: Roles and Responsibilities

Traditional Birth Attendants (TBAs) assist mothers during labour and delivery. They provide delivery services, home visits, prenatal and postnatal check-ups, newborn examinations, health education to clients and members of the community, and referral services to mothers and newborns when complications arise. TBAs are women, usually over 35 years of age, whose formal education ranged from no schooling to primary schooling. They have been trained on traditional birth at home by their mothers, neighbours, and other experienced TBAs. They have a good rapport with referral hospital staff and community members. TBAs speak the local languages and dialects. Although TBAs as informal care providers were banned from mothers and babies at the beginning of 2000, they have continued to attend most deliveries in rural areas. Community members trust TBAs because they believe they offer the most culturally appropriate and affordable maternity care. They justify this care by stating TBAs have lower morbidity and mortality rates than modern medicine does. TBAs are better than formal service providers in all aspects of service delivery. Although the traditional birth attendants can provide better care, they also have limitations. They cover services such as maternal care, child care, general health care, and community health education. TBAs incorporate herbal medicines into their practice. The ingredients used by TBAs ranged from roots, leaves, bark, and fruits to seeds. Some of the strenuous activities are being performed, mainly underground, by the women. Children are also being tied firmly and abducted to alleviate their itchiness. Taking slugs to the eyes, mustard to the nose, and other local items to open up paralytic limbs are common. Using cow dung to massage tubercular nodes is also noted. Hindering dancing or headshaking is common, too. The widely known herbs amongst TBAs and herbs in use were recorded. These reveal, for the first time, interesting findings on drug use and practices of TBAs. A diverse group of drugs is in TBA's practice. They incorporate herbal medicines into their practices. Despite the notable diversity in herbal practices, the TBA herbal practitioners ranged from uneducated to poorly educated. Among them, low literacy gives a strong reflection on the sustainability of such culturally preferable and economically affordable health care. At best, anecdotal knowledge from TBA practitioners can be arranged to form an index of herbal practice. Unless directed, scientifically similar studies of broader and deeper coverage could not disclose what exactly is being utilized. The local herbs are now vanishing as the relevant cultural recognitions fade away. Some of the ailments listed seem to be ill-defined. Further investigation into these ailments and the herbs in use may help upgrade the healthcare knowledge of society and disclose radically new bioactive species. Despite the great number and interest in the aspects of the use of

plants and plant products in health care, little work in this respect has been done in the country, including the practice of the largest non-physician health care givers of the society [11, 12].

Common Medicinal Plants Used in Birth Practices

Chicha de jora: A Plant used for overcoming weakness after birth. Its preparation to drink consists of cooking corn jora, pounding it, washing it, and letting it ferment. It is tasted, and if good, sugar is added. Sometimes the jora can also be used without fermenting. This drink is highly valued because the husband gives his wife abundant, cold, and sweet chicha. Guayaco: This is the second most used tree. Its use is associated with hastening the placement of the placenta. If the placenta does not come out after an hour, the placenta is boiled in water, with the mother drinking this. It can also be used in baths after childbirth, mixing leaves and flowers with lemon to avoid getting cold. Mudiguera (Iroko): This plant is used to extract the placenta after childbirth. The bark is placed on the root, whose tip is heated in the fire. Another way of using this is to boil the bark and drink the infusion. Orlacsama (Gringo palm): The stem and spiny bone of the principal flower of the palm are taken to crush and then boil, with the mother drinking both infusion and motivating the baby to suckle after childbirth. This remedy minimizes the chance of the umbilical cord getting rotten because the neck of the placenta closes. Rosada, or Santa Rosa (Rose): This plant is used to facilitate the first spasm of sudden childbirth. The plant is boiled in water with brown sugar, with the mother drinks it before childbirth. This remedy speeds up delivery during sudden childbirth. Calientera (Ginger): This plant is used for various illnesses during childbirth. The roots are crushed, with water added. It is drunk, rubbed, or boiled in baths due to it producing hot vapors. Other plants: In the study area, other medicinal plants can also be mentioned: Magnolia (for delaying labor), Trachysciadium (for cramping), Calca (for capturing the spirit of a person who died at childbirth), Muriowani (for getting rid of the shadows of evil), Piñuela (for cooling the umbilical cord that was burnt and separated), Quirogaliya (for making ointments for wounds on the umbilical cord). Ultimately, the use of medicinal plants cannot be replaced because they are imbued with culture and all the social interest around a living organism. All the preparations and mechanisms of these plants are guided by traditional uses, rituals, and beliefs in deities, spirits, and the creation of the ecosystem [13, 14].

Efficacy of Medicinal Plants in Maternal Health

The traditional healer's knowledge about the efficacy of 30 different species of medicinal plants for the alleviation of 54 different maternal health complications in three selected regions of Mali, based on the basis of these geographical and ecological zones. The study revealed that traditional healers used more plants species in Sikasso (16) than in Koulikoro (12), Kayes (8) and on average 10 species by TBA; meanwhile, the least complicated problems were in Sikasso (35), but the complex were in Kayes (49) and on average 43 problems by TBA in all localities. Medicinal plants were mostly used for pregnancy-related complications and 18 other complications. The importance of medicinal plants in alleviating maternal health complications was supported by nearby, among other authors, in terms of reducing and managing some problems; while it might be opposed, by the like recommendation of further studies due to toxicity and safety issues. These studies were more focused and conducted in other sections of the world, especially in Western countries. Also, the relatively low knowledge about using medicinal plants in postpartum traditional practices (1-10 plants by TBA) compared to pregnancy (1-43 plants) and labor (1-22 plants) was partly supported by the fact that there is few documented research on the matter in the country, despite of the common use of medicinal plants several weeks up to years after childbirth concerning breast care and provision of comfortable motherhood [15, 16].

Challenges Faced by Traditional Birth Attendants

Traditional birth attendants (TBAs) are crucial in providing maternal health services across Africa, often being the primary or sole source of care during pregnancy, childbirth, and postpartum. Despite their significant contributions, TBAs encounter various challenges that hinder their ability to deliver effective services. A study involving focus groups and in-depth interviews revealed that while TBAs have immense potential, their empowerment requires multi-level actions. Conducted in Kafue District, the qualitative study included 22 women aged 20 to 64, with the largest group being 30-39 years old. The discussions encompassed pregnancy, childbirth, and postnatal care, guided by a systems perspective. Notably, TBAs often refrain from sharing health-related information, indicating a need for organizational support, reflecting their trauma and constraints. They possess knowledge of traditional medicine but fear disclosing it. Some TBAs are perceived as exploitative, while others face personal challenges, including

age-related issues. Highlighting the difficulties faced by TBAs in Kafue may transform these struggles into opportunities for improvement in maternal health services [17, 18].

Integration of Traditional and Modern Practices

The fabric of maternal healthcare in Zimbabwe intertwines Traditional Birth Attendant (TBA) and Western medical practices. Maternal mortality remains high, yet TBAs and modern healthcare practitioners are seen as complementary. In rural Zimbabwe, TBAs are the main birth attendants, and there's a lack of understanding of their perspectives on legally registered providers. It's important to gauge how modern attendants view traditional practices and collaborate to enhance maternal care. TBAs emphasize traditional beliefs in maternity care, which often complement modern healthcare. Both TBAs and midwives integrate postpartum and newborn care, focusing on the prevention of further health issues. However, gaps exist in the care provided by TBAs, influenced by misinterpreted natural flora, fauna, and supernatural beliefs, which should be addressed for better referrals. A mutual understanding between TBAs and midwives is lacking, with each holding biases against the other, despite both serving women in similar recovery scenarios. If traditional practices contribute to maternal mortality, interventions may prove ineffective. Integrating TBAs with modern midwives is both feasible and acceptable, necessitating a contextualized approach and a respectful atmosphere for success. Proper introduction of modern healthcare principles is vital for improving public health literacy, acknowledging local beliefs rather than dismissing them. External expertise is necessary to drive these grassroots processes, yet existing literature lacks clear guidance. Additionally, competition among traditional practitioners for patients can impede integration, while more anthropological research on cultural contexts could shed light on the social dynamics of blending traditional and modern healthcare [19, 20].

Case Studies

Plant medicinal preparations are commonly used in the health care systems of many communities, either as substitutes for or supplements to modern medicine. Evidence from developed and developing countries, including rural Zimbabwe, indicates that complementary medicines (often referred to as alternative and traditional medicines), though under-researched, are common. Herbal medicines are part of the cultural heritage of many communities and possess a wealth of knowledge which, if validated safely, could help improve primary health care in resource-poor countries. Research concerning the use of medicinal plants has been conducted across the globe. Previous studies examined the species of plants, method of preparation, route of administration, and the estimated dose employed. Their use alongside modern treatments and reasons for usage can shed light on the complex but poorly understood nature of medicinal plant use in traditional health care systems. In addition to the quantitative aspects of plant use, little emphasis has been given to the qualitative aspects of medicinal plant treatments, such as their perceived efficacy and practicability in the treatments available. This study aimed to (i) evaluate the usage of medicinal plants, focusing on the species used before and during labor, and on the method of preparation and administration; and (ii) determine the reasons for, benefits of, and problems associated with the use of plant medicines to women's health care during preparation for labor, labor itself, and after delivery. This study also sought the attitudes of Traditional Birth Attendant (TBA) practitioners with regard to the use of medicinal plants, targeting those with informal education. Further exploration examined participant use of topical herbal treatments between 2 weeks and 2 months after delivery. Responses from these TWP contribute to a wider body of knowledge and promote the study of aspects of medicinal plant use that are generally well understood in the academic literature, but little understood in Zimbabwe [21, 22].

Ethical Considerations

The study was designed to respect participants and their knowledge. By exploring traditional medicine use, the researchers aimed to promote dialogue on practices that contribute to health and well-being. A gatekeeper letter was sent to seek permission for participant engagement. Researchers attended a community meeting, fostering acceptance and building relationships that enabled knowledge sharing. International collaborations also supported this process. Written consent was acquired to record discussions, using pseudonyms to protect identities. The interaction revealed the limits of the researchers' knowledge, as they had limited medical training compared to the extensive experience of traditional birth attendants (TBAs). Trust was essential; TBAs shared insights when they felt acknowledged. The knowledge exchanged was practical for addressing community needs. Researchers aimed to support the transmission of knowledge rather than limit it. Contextualizing findings for local communities was crucial, such as discussing cord placement relevant to previously reviewed literature. It was important to

recognize emotional responses; discussions about place names evoked strong feelings, causing participants to shut down or disengage. When emotional stability waned, breaks were encouraged. Personal discussions should be limited to smaller groups or one-on-one settings. Shared knowledge and experiences were beneficial, with shared dance used to ease painful narratives. Questions were crafted delicately, focusing on core issues without causing distress. It was necessary to plan how research outputs would be shared, considering appropriate language and avoiding labeling [23, 24].

Policy Implications

Evidence-based information on the safety, efficacy, and quality of CVMPs should underpin a clear policy for their use during pregnancy and breastfeeding. Currently, EU regulation lacks this information, as the marketing of these products often falls outside prescription and OTC medicine legislation. Nonetheless, industry must ensure these products are of sufficient quality for safe use, providing necessary information to authorities and consumers. Authorities were asked to clarify their stance on the quality of CVMPs during pregnancy and lactation and any relevant local regulations. It was found that EU legislation does not specifically exclude CVMPs from regulation. The herbal directive could apply to CVMPs marketed for relevant indications. CVMPs are regulated as medicinal products only if their claims align with such classifications. Further, the current regulatory approach does not exclude safe or effective products due to differing distribution methods. Once forms like creams or capsules were accepted, challenging their quality became difficult. Enhancing scientific and technical knowledge about complementary and herbal remedies is essential, leveraging expertise from the Commission and authorities. Concerns arose around non-medicinal products marketed as remedies for self-limiting conditions, such as capsules and teas available in supermarkets. There is a need to consider prohibiting these products [25, 26].

Future Directions for Research

A great deal of research remains to be undertaken surrounding the role of medicinal plants in maternal care and community health. More extensive transnational research could yield insights into a practice that is common across the developing world but underreported in the literature. Traditionally, herbal medicine was underrepresented in the global health arena and relegated to the fringe of biomedical communities as folklore, bogus, or 'bush tucker' remedies. In countries where commercial agriculture, pesticide use, and habitat loss have negatively affected wild flora, it may be that local knowledge systems and species are lost permanently. Local research is often better equipped to counter health emergencies that diminish system responsiveness or species diversity. As such, indigenous medical systems could figure prominently in the effort to improve gynaecological and obstetric health in developing countries. Contextually important characteristics such as belief, habits of nature, or language can be lost as practitioners of more formal disciplines act in a top-down manner. Perceptions of health, infection, status, and the equivalent conditions for dramatic reduction in child mortality in puppeteered health programmes may not necessarily apply to indigenous belief systems, which are grounded in historical relationships with country and divine beings. Innovative treatment practices and their accompanying ecological knowledge are commonly characteristic indigenous characteristics. The smooth transition between traditional healing and herbal medicine makes the latter a great area of interest in therapeutic research. Grounded in an environmental context, the laws of nature usually govern behaviour and condition therapeutic and health-seeking practices. Following community-driven science, it is hoped that indigenous tuberculosis treatment can be explored to improve the feasibility of control measures among healthy indigenous societies [27, 28].

CONCLUSION

The use of medicinal plants by Traditional Birth Attendants reflects a deeply rooted, culturally significant practice that continues to serve as an essential form of maternal healthcare in many parts of the world. These practices not only provide affordable and accessible health solutions but also offer insight into generations of indigenous knowledge passed down orally. However, as modernization and health system integration expand, this valuable knowledge is at risk of erosion. It is critical to document, scientifically evaluate, and integrate the beneficial aspects of these practices into contemporary healthcare models. Doing so not only honors cultural heritage but also enhances maternal and child health outcomes in underserved communities. Bridging the gap between traditional and modern systems through collaboration, training, and research could ensure a more inclusive, effective, and sustainable approach to global maternal health.

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