

Investigating The Intersection of Indigenous and Modern Culture and Social Determinants of Women's Health in Guatemala

ABSTRACT

This research explores the intersection of Indigenous and modern cultural practices in addressing women's reproductive health in Guatemala, with a specific focus on the role of Mayan traditional medicine. Through a review of existing literature while reinforced with a set of surveys, the study examines common reproductive health issues- menstrual health, fertility, pregnancy, childbirth, and postpartum care and how Mayan holistic practices contribute to their management among Indigenous women. Further, the research explores physical treatment, including herbal remedies, massages, and other traditional interventions, comparing how these practices align with or differ from contemporary medical practices. Additionally, the study considers the psychosocial support that Mayan medicine provides, analyzing the role of community and family in offering emotional and psychological assistance during reproductive health challenges. Cultural factors, such as beliefs about menstruation, fertility, and childbirth, are examined alongside environmental influences, such as family dynamics, education, and social stressors, which impact women's health decisions. Findings suggest that integrating Mayan traditional medicine with the modern healthcare system could offer a culturally respectful and comprehensive approach to addressing reproductive health disparities in Guatemala. This integration's implications for indigenous and contemporary healthcare practices might not be overlooked.

1. INTRODUCTION

Pregnancy-related complications are the leading cause of mortality and reproductive health issues among women globally, with an estimated 287,000 women dying each year due to cases associated with pregnancy and childbirth [1]. Progress in lowering maternal mortality ratios (MMR) has remained uneven both across and within countries, with significant socioeconomic disparities persisting. Although effective interventions have been understood for decades, they remain insufficiently accessible and available in many developing nations. This is due to various factors, such as high fertility rates and lack of access to quality healthcare among vulnerable communities [2]. The Mayan-Indigenous populations of Guatemala face some of the worst women's health compared to other parts of the world. Despite repeated assertions that reducing inequity and reaching Indigenous populations is a top government priority, and despite overall reductions in maternal mortality in Guatemala, MMRs remain very high in local populations, especially those living in poor, marginalized, and Indigenous regions [3].

In Guatemala, Indigenous women face significant health disparities, particularly in the area of reproductive health. The social determinants of health - encompassing cultural, environmental, and socioeconomic factors, are critical in shaping women's access to and experiences with healthcare [4]. For many Indigenous women, the cultural divide between modern healthcare systems and traditional practices, such as Mayan medicine, poses challenges to receiving effective and culturally sensitive care [5]. In a landscape marked by the coexistence of Indigenous and modern cultural practices, Mayan traditional medicine continues to play a central role in the health and well-being of many women, offering an alternative or complementary approach to treating reproductive health issues [6]. This research underscores the urgent need for

more accessible and culturally sensitive healthcare, and it explores how Mayan medicine contributes to the management of reproductive health issues among Indigenous women in Guatemala, with a particular focus on the physical, emotional, and community-based support it provides.

Despite decades of knowledge regarding effective health interventions, many Indigenous communities in Guatemala still lack access to essential healthcare services [7]. Reproductive health disparities are further influenced by socioeconomic factors, cultural beliefs, and environmental stressors that shape women's health decisions [8]. For Indigenous women, these challenges are compounded by the social and economic inequalities they face, as well as by the cultural inaccessibility of conventional healthcare systems [9]. Mayan medicine addresses these challenges by offering a holistic approach that is responsive to the unique psycho-social and environmental roots of women's reproductive health needs.

This study investigates prevalent reproductive health concerns among women in Guatemala, including issues related to menstrual health, fertility, pregnancy, childbirth, and postpartum care. Through interviews with 93 Indigenous women from the Mayan community in Guatemala and literature reviews, this research explores the current reproductive health situation of Indigenous women in addition to physical and psychosocial dimensions of Mayan healing practices, encompassing herbal remedies, massage therapies, and the vital role of family and community support. Additionally, the study aims to understand the cultural beliefs inherent in Mayan medicine- particularly those related to menstruation, fertility, and childbirth. These beliefs often

shape women's healthcare choices, influencing their decisions about seeking care, the types of treatments they prefer, and the role of family and community in their health journey.

By examining how Indigenous and modern practices intersect, this study contributes to the ongoing discussion about integrating traditional and modern healthcare systems to better serve women's reproductive health needs. Understanding the role of Mayan traditional medicine within a broader healthcare framework offers valuable insights into potential collaborations between traditional healers and modern healthcare providers, aiming to bridge cultural gaps and enhance the health outcomes for women in Guatemala.

2. METHODOLOGY & DATA COLLECTION

2.1 Geological Delineation of the Research Region

The data for this study was collected from rural communities in Guatemala, including Tikal, a significant archaeological and ceremonial site of the ancient Maya civilization. Tikal is located in the northern region of Guatemala, is the largest urban center in the southern Maya lowlands, and is approximately 19 miles north of Lake Petén Itzá, the northern part of Petén province, Guatemala [10]. This site of Mayan civilization was inhabited from the 6th century B.C. to the 10th century A.D. within a large Maya Forest region that extended to Mexico and Belize [11].

2.2 Data Sources and Literature Search

This study utilized a comprehensive literature review to gather and analyze existing knowledge on the role of Mayan traditional medicine in managing and treating reproductive health issues among Indigenous and non-Indigenous women in Guatemala. The initial search strategy

involved identifying key terms, including "Mayan medicine," "Indigenous women," "healthcare system," and "reproductive health," to retrieve relevant sources. The literature review was expanded to ensure a thorough understanding of Indigenous women's healthcare context and include studies examining Mayan traditional and herbal remedies.

This dual-focused review allowed a systemic and in-depth review of current literature, providing insights into how traditional medicine contributes to reproductive healthcare for Indigenous women in Guatemala. Through this literature review, the study aimed to provide an understanding of conventional medicine's contribution to managing and treating reproductive health issues among Indigenous and non-Indigenous women in Guatemala.

2.3 Survey Populations

The women came to our medical camp to have their health checked by our medical professionals, who included doctors of internal medicine, family medicine, and dental specialists. In total, 85 women were lined up, and we distributed the survey forms and encouraged them to answer to the best of their knowledge. Their names and identifications were left to be anonymous. An interpreter from English to Spanish was recruited there to ensure the answers were correct.

3. RESULTS

3.1 Current conditions of Indigenous women in Guatemala

The research collected data by interviewing 93 indigenous women in Guatemala. A pre-made questionnaire was used to assess women's reproductive health situations. The questionnaire contained five questions about family planning, childbirth, contraceptive use, sexual autonomy,

and access/barriers to reproductive healthcare. The survey questions were translated into Spanish to understand the participants better.

3.1.1 The Practice of Family Planning

Fig. 1 presents data from interviews of Indigenous women's utilization of family planning methods. This was designed to collect data on whether women actively manage their reproductive health and family planning. Among the participants, 51.7% (n = 48) reported currently utilizing family planning methods for their reproductive health, while 48.3% (n = 45) answered they were not. These results highlight an almost equal distribution between women who adopt family planning strategies and those who do not.



Fig. 1 presents the answer percentage to the family planning practice.

3.1.2. First Child Ages

Fig. 2 presents the findings from interviews conducted with Indigenous women regarding their experiences with childbirth. This question was designed to collect data on the relationship between childbirth age at first birth and the reproductive health of women based on age. The result indicates that 57% (n = 53) of women gave birth to their first child before the age of 19, while 33.3% (n = 31) of respondents gave birth between the ages of 20 and 40. Additionally, 9.7% (n = 9) of respondents reported not having given birth. The findings give an insight into the average age of childbirth among Indigenous women in Guatemala and its implications for reproductive health. The data supports the assertion that Indigenous women are facing greater challenges to their reproductive health compared to non-indigenous women as they give birth at an earlier age.

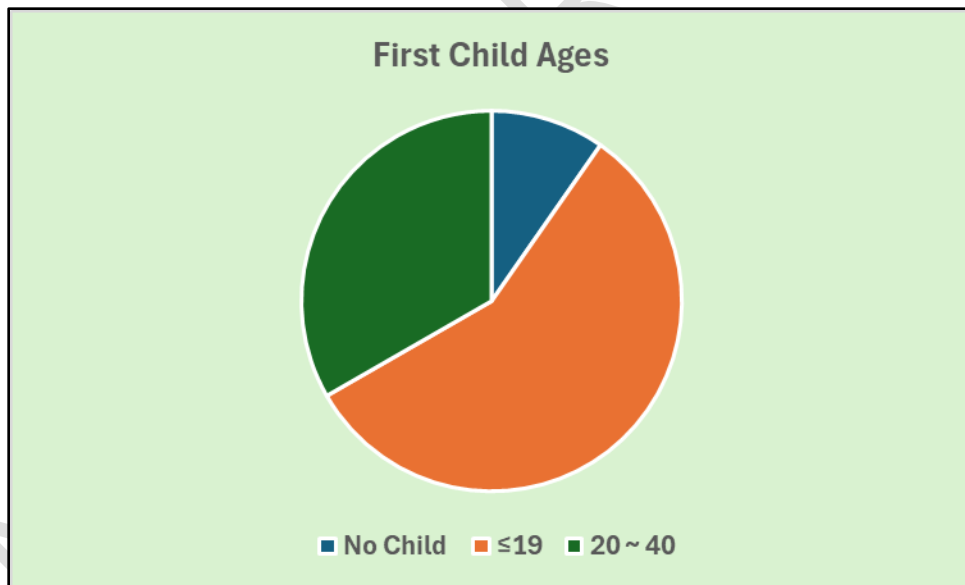


Fig. 2 presents the answers to the question of having first child ages.

3.1.3 Practice of Contraception

Fig. 3 provides data on the usage of contraceptive methods among Indigenous women. 39% (n

= 37) of women are using contraceptive methods for their pregnancy, while 71% (n = 56) are not. These findings suggest that most Indigenous women tend to avoid contraceptive methods, which might lead to an increase in the risk of unintended pregnancies. When asked about their reasons for not using contraception, responses highlighted two distinct answers: cultural beliefs and partner's opposition. Many Indigenous women believe childbirth is a blessing from God and using contraceptives is against God. Additionally, the husbands may oppose contraceptive methods that are under women's control for fear of infidelity, for religious reasons, or due to social stigma.

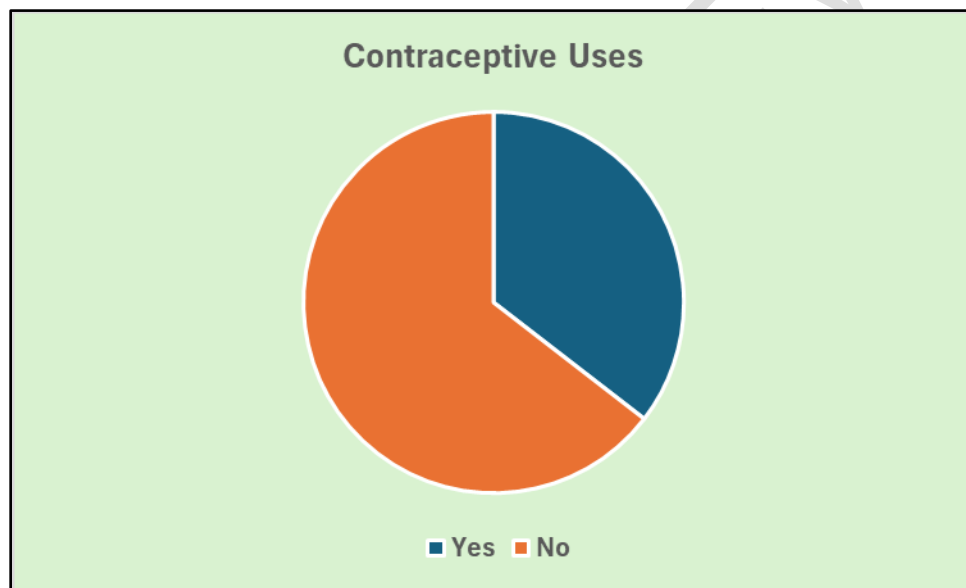


Fig.3 presents the answer ratio of the practice of the contraceptive method

3.1.4 Sexual Autonomy

Fig. 4 presents findings regarding the sexual autonomy of Indigenous women in Guatemala. This question was designed to assess whether women can exercise their rights beyond their pregnancy. The question regarding sexual autonomy causes discomfort for 78.4% (n = 73) of

women who did not answer the question. Among those who answered this question, 15.1% (n = 14) of women answered they could refuse their husbands for unwanted sexual interaction, and 6.5% (n = 6) answered they couldn't. These results highlight the current perception of the Indigenous community toward women's rights. It also asserts that such perceptions are caused by the husband's control of what is under the woman's control.

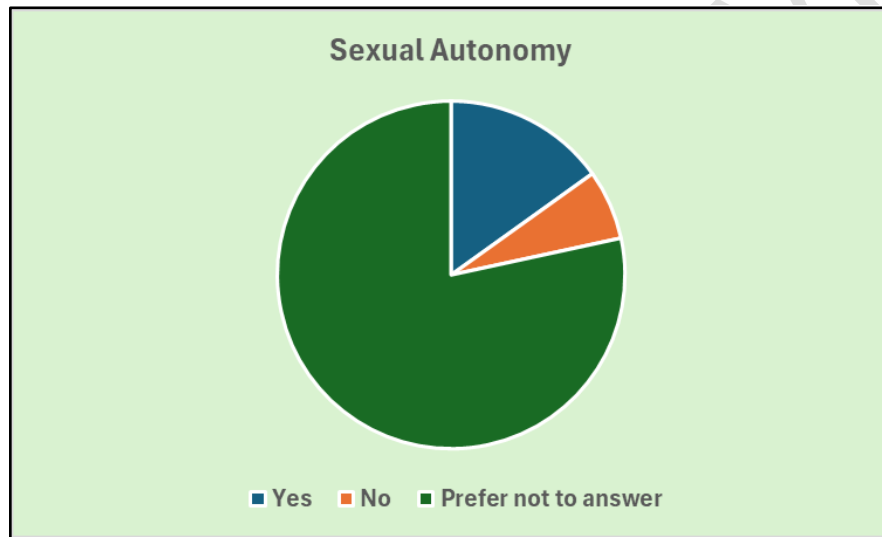


Fig. 4 presents the existence of sexual autonomy from their husband.

3.1.5. Accessibility of Reproductive Healthcare

Fig.5 presents the findings related to barriers to accessing reproductive healthcare. 56% (n = 52) of respondents indicated they have barriers to access to healthcare, while 44% (n = 41) indicated they don't have barriers. Among 56% of women who answered they have barriers to accessing healthcare, 19% (n = 10) women answered the distance from home, 67% (n = 35) women said financial issues and 14% (n = 7) are due to mistrust. The results highlight that financial issues

represent the most significant barrier, impacting over half of the women seeking reproductive healthcare.

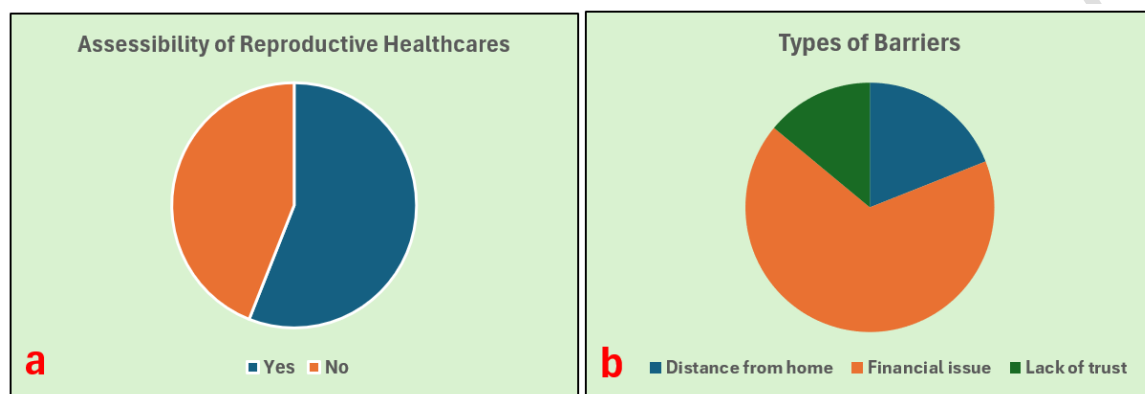


Fig.5 shows the barriers to reproductive healthcare

3.2 Healthcare issues among Indigenous women

In Guatemala, healthcare services are curative and based on prevalent necessities. The national budget for health is mainly allocated to implementing curative actions, paying little attention to health promotion activities [12]. The health services are primarily concentrated in the metropolitan region of Guatemala City, where private institutions also provide support for those with higher incomes [13]. In rural areas, where the majority of the Indigenous population lives and where the highest risk groups are concentrated, rural health technicians, community volunteers, and rural health workers serve the population [14].

Within these inferior situations, women are facing reproductive issues such as high maternal mortality rates, high rates of sexually transmitted infections, and limited access to reproductive health care and sexual education [15].

In response to those challenges, pregnant women often turn to traditional Indigenous midwives, *Comadronas*, who are hired by families to assist with pregnancy, labor, and the postpartum period in rural Maya communities [5].

3.3 Mayan Traditional Medicine Practices

The Maya utilized local plants to address health concerns. They talked with the plants and developed special bonds with some plants. Healers often interpreted the color of a plant, flower, or fruit as indicative of its potential medicinal value. Additionally, the temperature, whether hot or cold, plays a central role in selecting appropriate remedies. Many Mayan healers held that imbalance in bodily temperature was a primary cause of illness and thus prescribed plants with opposing temperature qualities to restore balance and promote healing [16].

Beyond herbal remedies, Mayan women receive treatment from traditional female healers known as *Curanderas*. These women are specialists in Mayan herbal medicine and spiritual traditions, providing holistic care that often includes massage techniques specifically aimed at addressing various reproductive health issues that are referred to as *infermas mujeres* (diseases of women) [17].

As mentioned above, besides *Curanderas*, local communities traditionally relied on *Comadronas* as the primary source of maternal healthcare, particularly for rural women, providing an essential first line of care. However, the presence of *Comadronas* has declined due to challenges in completing training and obtaining certification. This training is often conducted in Spanish rather than the community's Indigenous language and frequently conflicts with the *Comadronas'* own knowledge and beliefs [18].

3.4 Psychosocial Support

In Mayan culture, family and community play a crucial role in providing emotional and psychosocial support for women with reproductive health challenges. Indigenous women often turn to their mothers, sisters, aunts, and other female relatives for emotional support and guidance during pregnancy, childbirth, and postpartum periods, as the community has a firm reliance on family networks [19]. In addition to family support, numerous Mayan communities actively engage in shared rituals and practices designed to support women experiencing reproductive health challenges. These communal practices often include special prayers, the preparation and use of herbal remedies, and cleansing ceremonies to foster physical and emotional healing. Through rituals, communities provide women with a sense of belonging, reinforcing collective identity and resilience in the face of reproductive difficulties [20]. By participating in these shared practices, women and community members alike engage in the form of collective coping, which may alleviate stress and reinforce traditional beliefs and values surrounding reproductive health. This involvement not only aids individuals healing but also strengthens social bonds, reaffirming the interconnected roles of family, tradition, and community in health and well-being [21].

Moreover, traditional midwives are critical in supporting women through various stages of the reproductive process. Their contribution extends beyond medical care, as they provide essential emotional and psychological support that complements physical treatment. Throughout pregnancy, childbirth, and postpartum, they offer comfort, perform culturally significant rituals, and provide spiritual guidance tailored to the individual's needs. This holistic approach serves to alleviate the emotional burdens associated with reproductive health challenges. By integrating medical support with emotional and spiritual care, traditional midwives play an invaluable role in

enhancing maternal well-being and reinforcing the interconnectedness of physical, emotional, and spiritual health within the context of traditional reproductive care [22].

3.5 Cultural Beliefs and Healthcare Decision-Making

In Mayan culture, having children is often seen as a fundamental part of a woman's identity and role within the community, placing significant pressure on women to conceive and raise children [20].

Among the Mayan population in Guatemala, childbearing is regarded as a physical process and a deeply sacred and spiritual experience. This perspective on childbirth is rooted in longstanding cultural beliefs that frame the act of bringing new life into the world as a significant connection between the individual, family, community, and the divine [23]. Due to this belief, Indigenous women with reproductive health challenges, such as infertility, can be stigmatized, leading women to remain silent about their issues in the Mayan community [24].

This stigmatization and belief have a significant impact on women's healthcare choices. Despite the rising use of modern biomedical reproductive services among the Ladino population, the Mayan community and Indigenous women continue to show significantly lower engagement with these services [23].

Attention must be given to the understanding of Maya's beliefs. To increase the overall reproductive health care in these Indigenous communities, which will enable quality care to be provided that is culturally acceptable.

3.6 Environmental and Social Factors

Environmental factors can significantly impact Indigenous women's reproductive health decisions, and a variety of factors can influence these decisions. The most critical environmental factor is their access to care. Inadequate education about human sexuality and limited access to quality medical facilities, medical staff, and reproductive health care services. All these factors put Indigenous women into disadvantageous situations that lead to inferior reproductive health outcomes [25]. Another factor that affects Indigenous women is their community preferences. Indigenous women may prefer to give birth in their communities or close to them, which can limit them from care. This preference is also impacted by characteristics of a family formation of an Indigenous community, a large family with many children that prevent women from leaving for a long time [26].

The most critical social factors that impact Indigenous women are their living conditions. By Guatemala providing universal healthcare to all citizens, all people in the country have the power to "receive quality health services that meet their needs without being exposed to financial hardship." [27] These should be guaranteed healthcare services for all Guatemalan people who need treatment. However, Indigenous women in Guatemala tend to believe reproductive health concerns, such as pregnancy and childbirth, are predetermined by God, and healthcare facilities' quality and care are not trusted by local Indigenous women [28][29].

Moreover, the family planning of Indigenous families also has a significant impact on Indigenous women's reproductive health. Within Indigenous communities, husbands often play a primary role in decisions about family planning, and their preference or opposition to specific contraceptive methods that are under the women's control impacts the use or unuse of fertility regulation [30].

3.7 Comparison of Traditional and Modern Practices

The effectiveness of traditional practices compared to modern healthcare practices in addressing reproductive health issues among Mayan and Indigenous communities in Guatemala presents a complex landscape shaped by cultural beliefs, accessibility, and perceived outcomes [5].

Traditional practices rooted in centuries-old Mayan healing knowledge emphasize holistic care that encompasses physical, emotional, and spiritual aspects of health. This approach is often delivered by *Curanderas* (traditional healers) and *Comadronas* (traditional midwives), addressing reproductive health through a blend of herbal remedies, massage techniques, and spiritual rituals tailored to individual needs [31][32]. These methods are especially effective in providing culturally relevant care that aligns with the community's values and beliefs, offering psychological comfort and a sense of continuity with ancestral practices [33].

In contrast, modern healthcare interventions provide biomedical approaches to reproductive health that can address acute medical needs more swiftly and manage complications that may not use traditional methods [34]. Hospital-based care, skilled medical professionals, and advanced technology are particularly effective in managing high-risk pregnancies, delivering emergency interventions, and addressing severe postpartum complications [35]. However, for many Mayan women, modern healthcare may feel alienated due to language barriers, lack of cultural sensitivity, and experience of marginalization or misunderstanding within healthcare facilities [36]. This often results in lower utilization rates of modern services unless the situation is urgent.

3.8 Implications for Healthcare Integration

Traditional practices are widely preferred within Mayan communities for routine reproductive health concerns, as they are perceived to be more accessible, culturally resonant, and emotionally

supportive. Modern healthcare interventions, however, offer critical advantages in life-threatening cases, although they may be less utilized due to cultural and logistical barriers. Integrating these approaches—by combining the preventive and supportive aspects of traditional care with the technological and emergency capabilities of modern medicine—could lead to improved health outcomes [23]. The potential for collaboration between traditional healers and healthcare providers could help bridge the gap, fostering trust and providing culturally sensitive care that respects Indigenous practices while leveraging the strengths of both systems in treating reproductive health issues [37][38].

4. DISCUSSION

The interview reveals critical insights into the current situation of the reproductive health of Indigenous women in Guatemala. While 51.7% of women reported using family planning methods, an almost equal percentage did not, suggesting mixed adoption of family planning practices. Contraceptive use was notably low as 39% of women indicated they use contraception, which might be due to cultural beliefs and partner opposition being significant barriers. Regarding the birth age of Indigenous women, 57% gave birth before 19, which indicates significant reproductive health risks. Additionally, only 15.1% of women reported that they can refuse sexual relations with their husbands. This proves the limited sexual autonomy among the Indigenous women population. Regarding access to reproductive healthcare, the interview shows that it is hindered by various barriers, as 56% of women answered they have barriers, with 67% having financial issues. Other barriers include distance from healthcare facilities and mistrust of providers.

The literature reviews emphasize the significant role of Mayan traditional medicine in addressing reproductive health issues among Indigenous and non-Indigenous women in Guatemala. Mayan healing practices, deeply rooted in cultural traditions and Indigenous knowledge, offer a holistic and community-centered approach that modern healthcare systems frequently overlook.

Traditional medicine in Mayan communities serves not only as a source of physical treatment but also as a means of psychosocial support, providing women with a sense of belonging and emotional resilience during reproductive health challenges.

In terms of physical interventions, traditional Mayan medicine has shown effectiveness in managing various reproductive health issues through methods such as herbal remedies, massage, and therapeutic rituals. These practices are tailored to the unique needs of the individual and resonate with cultural understandings of health. The data collected reveals that these treatments are offered by traditional healers like *Curanderas* and *Comadronas* and are accessible and trusted within the community. These healers treat physically and provide spiritual guidance and emotional comfort, positioning them as integral parts of the healthcare landscape in Indigenous regions.

Compared to modern healthcare interventions, traditional practices are beneficial in terms of cultural acceptability and accessibility. Many Mayan women prefer traditional practices as they align with their beliefs. However, unlike traditional practices, modern medical interventions remain crucial in managing high-risk pregnancies and emergency situations. The study finds that despite the benefits of modern healthcare, Mayan women often encounter cultural and language barriers in clinical settings that might lead to feelings of mistrust.

An important implication of these findings is the potential for a collaborative healthcare model that integrates traditional Mayan medicine with modern medical practices. The integrative

approach could improve maternal and reproductive health outcomes among Indigenous women in Guatemala.

The data also highlights the essential role of family and community in Mayan medicine.

Emotional and social support are crucial to a woman's reproductive health journey, which leads Mayan medicine to integrate family and community into the healing process. This psychosocial aspect is not only vital for individual well-being. Recognizing the role of family support in healthcare could enhance the responsiveness of modern practices to Indigenous women's needs.

5. CONCLUSION

The research provides critical insights into the reproductive health challenges Indigenous women face in Guatemala, emphasizing the role of traditional Mayan medicine in addressing these issues.

Findings reveal that Indigenous women commonly experience health concerns related to fertility, pregnancy, childbirth, and postpartum care beyond access to healthcare and sexual autonomy.

Traditional practices, such as herbal remedies, massage, and spiritual support, provide significant physical and psychosocial relief. However, these health challenges are compounded by barriers to modern healthcare, including language and cultural obstacles, limited healthcare resources in rural areas, and socio-economic factors like poverty and limited access to education.

The study emphasizes the need for healthcare models that integrate traditional Mayan practices with modern medical interventions to create a culturally sensitive and accessible approach for indigenous women. This integration could enhance trust, provide holistic support, and meet urgent medical needs. Furthermore, it is crucial to develop policies that recognize and incorporate the value of Indigenous medicine within the broader healthcare system, potentially through partnerships between traditional healers and healthcare providers.

Future research should evaluate the outcomes of integrated healthcare approaches over time and further investigate the intersection of cultural, environmental, and socio-economic factors in Indigenous women's health.

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