

Prenatal Care in Hausaland: A Comparison of Traditional and Modern Approaches

Abu-Ubaida SANI¹, Musa Fadama Gummi Ph.D¹

¹Department of Languages and Cultures, Federal University, Gusau, Zamfara State, Nigeria

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Abstract: Prenatal care is essential for ensuring the health of both mothers and their unborn children, with diverse communities adopting unique methods for providing care before and during pregnancy. This paper examines prenatal care practices among the Hausa people of West Africa, focusing on both traditional and modern approaches. The first section explores traditional prenatal care in Hausaland, detailing cultural practices such as the identification of pregnancy, dietary guidance, herbal remedies, spiritual protection, and community support. The second section discusses the shift toward modern prenatal care, which includes medical tests like urine and blood tests, ultrasound scans, and regular visits to clinics and hospitals. The paper also analyzes how modern healthcare has impacted traditional practices, highlighting the integration of both systems in contemporary Hausaland. Findings suggest that while traditional practices remain deeply rooted in Hausa culture, modern prenatal care has led to improved maternal and child health outcomes. The paper concludes by emphasizing the importance of integrating traditional wisdom with modern healthcare to provide comprehensive and effective prenatal care in Hausaland.

Keywords: Hausaland, Prenatal Care, Hausa Culture, Traditional Medicine.

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INTRODUCTION

Childbearing, also known as birth, is an essential aspect of human life. Across the globe, almost every culture and society places a special emphasis on it due to the central role it plays in ensuring the health of mothers and the future of generations. In fact, prenatal care is a well-established tradition in many communities, including the Hausa people of West Africa, who have unique practices and beliefs surrounding pregnancy and childbirth.

Prenatal care refers to the medical and health practices administered to pregnant women to ensure the health of both the mother and the unborn child. It begins right from conception and continues through the various stages of pregnancy until birth. The ultimate goal of prenatal care is to prepare the mother for a safe childbirth and a healthy baby. This paper will delve into both traditional and modern prenatal care in Hausaland, examining the practices historically followed by the Hausa people, the impact of modern medical advancements, and how the two interact in contemporary society.

METHODOLOGY

This study employs a qualitative research approach to examine prenatal care practices in Hausaland. Data was collected through in-depth interviews and focus group

discussions. A total of 15 healthcare professionals and 15 community leaders were interviewed to explore the integration of traditional and modern prenatal care practices. In addition, focus group discussions were conducted separately in urban and rural areas with pregnant women to gain insights into their experiences with both traditional and modern prenatal care.

Secondary data from published studies and reports on maternal health in Hausaland were also analyzed to contextualize the findings. The qualitative data from interviews and focus groups were analyzed using thematic coding to identify recurring themes. Ethical approval was obtained, and informed consent was secured from all participants, with confidentiality maintained throughout the study.

The Concept of ‘Prenatal Care’

Prenatal care, also known as antenatal care, refers to the measures taken during pregnancy to ensure the well-being of both the mother and the child. This care includes a wide range of activities, from physical examinations and medical tests to dietary advice and emotional support. It encompasses a series of scheduled visits aimed at preventing, detecting, and managing complications such as pre-eclampsia, gestational diabetes, hypertension, anemia, and infections, all of which can affect the health of both the mother and her

baby [1,2]. In modern medicine, prenatal care involves regular visits to healthcare facilities for monitoring the pregnancy's progress, diagnosing potential complications, and providing necessary medical treatments.

In traditional communities, prenatal care extends beyond physical health to also focus on emotional well-being, spiritual protection, and adherence to cultural practices passed down through generations. In Hausaland, for example, traditional prenatal care is deeply connected to beliefs, customs, and values that govern daily life.

Guidelines from health organizations such as the World Health Organization (WHO) recommend a minimum of four visits during pregnancy, with specific assessments and screenings conducted at each stage [2,3]. Effective prenatal care includes comprehensive history-taking, physical examinations, and counseling on nutrition, vaccination, and lifestyle modifications, addressing both physical and mental health needs [4,5].

The quality of prenatal care is increasingly evaluated not just by the number of visits but also by the effectiveness of the interventions provided. These interventions are crucial in influencing maternal and neonatal outcomes [3].

The Hausa People: An Overview

The Hausa people, one of Africa's largest ethnic groups with a population of approximately 50 million, are predominantly Muslim. Their history dates back to the early 1000s CE in central Sudan, with the term "Hausa" emerging in the 1500s. Islam was introduced to the region before this term was coined, influenced initially by early North African Ibadite/Kharijite sects and later by the arrival of Maliki Islam in the 1400s [6]. The Fulani jihad (1804-1812) significantly altered both the political and religious landscape of the Hausa people, integrating Fulani elements into the Hausa identity [6]. The community's rich heritage is further evidenced by cultural practices like traditional surgery performed by Wanzanci, a reflection of their deep reliance on oral traditions to preserve history [7].

Despite their geographical dispersal across northern Nigeria, southern Niger, and parts of Chad and Cameroon, etc., the Hausa maintain a cohesive cultural identity, underpinned by shared religious practices and traditional rites that are essential for social cohesion and cultural continuity [8-10].

Known for their advanced social systems, agriculture, and unique cultural practices,¹ the Hausa people speak the Hausa language, a member of the Chadic group,

¹ To learn more about the diversity of Hausa cultures, see Sani & Gobir (2021), Gummi & Sani (2023), and Gummi & Sani (2024).

which is widely used as a lingua franca in many parts of West Africa. Central to Hausa life is the strong sense of community and family, particularly the emphasis on the well-being of mothers and children. This focus on family is reflected in the traditional prenatal care practices, where mothers-to-be receive special care from both their immediate family and the larger community. These practices are deeply intertwined with spiritual beliefs and cultural norms, creating a distinctive approach to prenatal care that is unique to the Hausa tradition.

Traditional Prenatal Care in Hausaland

This section explores the traditional prenatal care practices observed in Hausaland. It highlights the use of local herbs, dietary guidelines, cultural beliefs, and the role of family and traditional birth attendants in ensuring the well-being of both the mother and unborn child. The discussion also covers customary rituals, maternal seclusion (*goyon ciki*), and spiritual safeguards believed to promote a safe pregnancy and smooth delivery.

Pregnancy Premonition Myth

A myth is a widely held traditional idea or belief that may lack substantiation and, therefore, might not be true. Traditionally, Hausa women have long believed that when a woman is about to conceive, she may have a premonition through a dream. This dream often involves being pursued by a snake while trying to escape, or in some cases, being bitten by one. Sometimes, instead of a snake, the woman may dream of being chased by other reptiles, such as a lizard. A significant number of Hausa women assert that, although this belief is considered a myth, they have experienced it with every pregnancy throughout their reproductive years. When they have a dream as described above, they become pregnant either within the same or the following conjugal encounter with their spouse.

Identifying Pregnancy

In traditional Hausa society, the recognition of pregnancy begins when a woman misses her menstrual period, and signs such as morning sickness, fatigue, frequent spitting of saliva and changes in the body become apparent. However, the traditional identification of pregnancy goes beyond these physical signs. Several cultural rituals and symbols are used to confirm a pregnancy, and this process varies across different regions within Hausaland.

Traditionally, the first person to detect or confirm the pregnancy is usually a close elderly family member or an elder in the neighborhood or the community, often a woman who is experienced in childbirth. They may use signs and symbols or consult spiritual guides to confirm the pregnancy. In some cases, divination or consultation with a local herbalist is employed to determine the state of the pregnancy.



Traditional Care for Pregnant Women

Once a woman is confirmed pregnant, she is placed under the care of specific family members or elders who provide both medical and emotional support. Traditional Hausa prenatal care incorporates both physical and spiritual aspects. The physical aspect involves the observance of certain cultural practice which is generally referred to as *goyon ciki*. This culture is widely observed and practiced in larger parts of Hausa land. However, the harsh economic situation afflicting families and changes in lifestyle has brought about retrogression in its tenability.

The Culture of *Goyon Ciki* (Customary Maternal Care)

This cultural practice involves a married woman returning to her parent's home during her maiden pregnancy when she enters the third trimester. This tradition ensures easy and close access to maternity care provided by her immediate family. Surrounded by experienced family members, she receives guidance on personal hygiene and cultural practices that promote safe delivery. In some cases, the services of a local traditional birth attendant are sought.

The expectant mother is taught proper sleeping postures, the importance of wearing loose clothing, and certain actions to avoid to protect the unborn child. Additionally, this practice provides her with assistance and relief from strenuous household chores, as women in this stage of pregnancy are traditionally excused from physically demanding tasks.

A notable advantage of being in her parents' care during labor is that it spares her the embarrassment of yelling or crying in the presence of her mother-in-law. According to Hausa norms, expressing pain openly in front of in-laws is considered an act of cowardice and is therefore seen as shameful.

Dietary Advice

Pregnant women are advised on what foods to eat and avoid during pregnancy. For example, they are encouraged to consume nutritious foods such as millet, sorghum, and leafy vegetables. They may also be given herbal concoctions made from local plants to help with nausea, fatigue, and other pregnancy-related symptoms.

Herbal Remedies

Herbalists and traditional healers are often consulted for specific remedies. Local herbs such as *citta* (ginger) and *zogale* (moringa) are commonly used in Hausaland to manage pregnancy-related issues like morning sickness, fatigue, and poor digestion. These herbs are also believed to enhance fertility and provide protection for both the mother and baby.

When pregnancy enters the third trimester, the use of certain herbs believed to promote a safe birth becomes essential. The expectant mother is encouraged to

regularly drink *sobo/zobo/zoborodo* (African hibiscus flower drink), which is thought to contain substances that help regulate gestational hypertension, a condition that can sometimes lead to eclampsia. *Sobo* is also traditionally considered a cleansing agent, believed to purify the uterus and vaginal tract, facilitating a smoother and safer birth.

Another cleansing agent given to pregnant women is *sabulum salo*,² a foamy liquid believed to gently cleanse the unborn child in the womb as well as the cervix. It is thought to contribute to the overall well-being of the baby and aid in clearing the vaginal tract by removing mucus associated with gestational discharge.³

Spiritual Protection

The Hausa people believe that spiritual and supernatural factors can influence pregnancy. Traditional rituals, prayers, and amulets are used to protect the pregnant woman and her unborn child from evil spirits or the "evil eye." In some cases, women may receive blessings from religious leaders or perform cleansing rituals to ensure a smooth pregnancy. It is believed that spirits can afflict individuals with various ailments or even cause strange behaviors. If a pregnant woman is affected, special care is taken to ensure her safety and protect the fetus.

One method of protection involves taking a concoction made from the extract of *gamji*⁴ (*Ficus platyphylla*). The bark of the tree is crushed using a mortar and pestle (*turmi da tabarya*), then dried in the shade away from sunlight. Once dried, it is ground into a fine powder. Two tablespoons of this powder are mixed with corn gruel or pap and taken orally twice a day to ward off any harm the spirits might cause the expectant mother, while simultaneously providing protection for the unborn child. The belief behind the use of the *gamji* tree is that it is considered a home of the spirits, and taking a substance from it is thought to bring relief to the afflicted person and provide immunity from the harm

² This is a foamy substance produced locally using distilled water obtained from the ashes of drained corn stalks. The water is boiled and mixed with either dairy butter or, alternatively, peanut oil. It is then heated continuously until the water evaporates, forming a thick, soapy paste that solidifies upon cooling.

³ This information was obtained from Hajiya Hauwa Sidi, an experienced traditional birth attendant interviewed at her residence in Hayin Lowcost Gummi, Zamfara State. She was interviewed on Saturday, January, 4th 2025. Hauwa is aged 84.

⁴ *Gamji* (*Ficus platyphylla*) is notably referred to as *babbar bishiya* (the mother tree) because it is believed to be a dwelling place for spirits and jinn. Out of reverence and caution, people avoid calling it by its actual name, *gamji*, and instead use the respectful nickname *babbar bishiya*.

spirits cause.⁵ Due to this belief, the *gamji* tree is highly revered by some traditional birth attendants, who often refer to it as *babban ice*—the “hallowed tree.”

As predominantly Muslims, the Hausa people have incorporated Islamic religious practices into their traditional medical methods. One such practice involves writing verses from the Holy Qur’an on *allo* (a wooden slate) using a locally made ink called *tawadiya*. The slate is then washed in water, and the resulting liquid is taken orally as medicine. For a pregnant woman, this is known as *rubutun sha*. The opening phrase of most chapters of the Qur’an, *Bismillah* (In the Name of Allah), is written nineteen times on the slate, then washed and served as a drink to promote an easy and safe delivery.

If labor becomes prolonged, a spiritual remedy is created by writing verse 20 of the 80th chapter of the Qur’an on the slate. The verse is then washed and given to the woman in labor. The English translation of the verse is: “Then He eased the way for him.” This is done to invoke Allah’s blessings for a smooth delivery free of complications.

Rest and Emotional Support

Pregnant women in Hausaland receive extra care from family members, especially from older women who share advice and encourage rest. Emotional support is crucial, as it is believed that a happy and contented mother will have a healthy pregnancy and baby.

Traditional Care for Women in Labor

Labor, also known as childbirth, marks the completion of pregnancy after approximately thirty-nine (39) weeks, resulting in the delivery of one or more babies. In Hausa culture, various practices have been established to provide care and support for a woman in labor. Notably, certain signs are traditionally considered precursors to labor, including:

- a. Lower abdominal pain
- b. Frequent urination toward the end of the third trimester
- c. Back pain
- d. Watery vaginal discharge, known as **fitar zaki** in Hausa
- e. Bleeding

When labor is perceived as prolonged or problematic, specific traditional measures are employed to alleviate the woman’s suffering and mitigate potential risks. These measures include:

- i. **Hannun Fatsima:** A dried leafy material called *hannun Fatsima* is soaked in clean water. After some time, the concoction is

⁵ This was garnered from a verbal interview with a respondent Rabi Dubanni Kofar Tawai Gummi. Rabi is a traditional midwife called Unguzoma in Hausa. She is aged 72.

given to the woman in labor to drink. It is believed that this remedy facilitates a swift and safe delivery. The leaf is named after Fatima, the daughter of Prophet Muhammad (SAW), a figure revered for her virtue and status.

- ii. **Cat Fetus Powder:** To ease the pains of childbirth, the dried and ground fetus of a cat is mixed with clean water and taken orally by the woman in labor. This practice is based on the traditional belief that cats experience easy and smooth births, and consuming this substance may help induce a safe delivery.
- iii. **Muciya (Rounded-End Stirring Paddle):** If a woman has labored extensively and is too weak to push effectively, a *muciya* (a rounded-end stirring paddle) is inserted into her mouth. This is believed to stimulate or induce a stronger push, aiding in childbirth.
- iv. **Basmala Ritual:** The opening phrase of most chapters of the Holy Qur’an, known as *Basmala*, is written nineteen times and then consumed orally to induce delivery. The phrase translates to “*In the Name of Allah, Most Gracious, Most Merciful.*”

These traditional methods reflect the deep cultural and spiritual significance of childbirth in Hausa society, where ancestral knowledge and religious practices are intertwined with maternal care.

Modern Prenatal Care in Hausaland

Modern prenatal care in Hausaland faces notable challenges, primarily due to low awareness and limited utilization of services among pregnant women. Despite 87% of women being aware of antenatal care (ANC) services, only 52.3% utilize them effectively, highlighting a significant gap between knowledge and practice [11]. Community-based interventions have proven successful in raising awareness, with one study showing an increase in knowledge from 55.4% to 96.3% after intervention [12]. Antenatal clinic attendance plays a crucial role in the use of healthcare facilities for delivery; women who attend four or more visits are four times more likely to deliver in a healthcare setting [13]. Overcoming socioeconomic, cultural, and educational barriers is essential to improving maternal health outcomes in Hausaland [11,14]. Therefore, targeted educational programs and community engagement are critical to enhancing prenatal care in the region.

Medical Identification of Pregnancy

Modern prenatal care in Hausaland begins with scientifically recognized methods of pregnancy identification, differing from traditional practices. Pregnancy is typically confirmed through a urine test or a blood test that detects human chorionic gonadotropin (hCG), a hormone produced during pregnancy. Additionally, ultrasound scans are commonly used to identify pregnancy, offering vital early insights into



fetal development and potential pregnancy complications.

Ultrasound scans are increasingly available in urban centers in Hausaland, providing detailed information that traditional methods could not. These scans can detect multiple pregnancies, track fetal development, and assess the health of the placenta, as well as identify potential complications such as ectopic pregnancies.

Modern Prenatal Care

Modern prenatal care has evolved to integrate traditional practices with contemporary medical advancements, significantly improving maternal and fetal health outcomes. Historically, prenatal care aimed to reduce low birth weight and preterm births by conducting structured visits that addressed both biomedical and emotional aspects of pregnancy [5]. Recent innovations have introduced technologies such as telemedicine, allowing for remote consultations and continuous monitoring, which enhance access to care and support expectant mothers [15]. Moreover, modern obstetrics places a strong emphasis on prevention and early identification of complications, including a shift toward community-based care for low-risk pregnancies [16]. However, challenges persist, such as increasing rates of cesarean sections and postpartum infections, underscoring the need for ongoing improvements in prenatal care strategies [17].

Modern prenatal care involves regular visits to clinics or hospitals, where healthcare providers monitor the health of both the mother and the fetus through a series of tests and screenings.

1. **Regular Checkups:** Expecting mothers are encouraged to attend regular checkups, which include blood tests, urine tests, weight monitoring, and blood pressure measurements to detect conditions like hypertension and anemia.
2. **Vaccinations and Supplements:** Prenatal care emphasizes taking necessary supplements, such as folic acid to prevent birth defects and iron to prevent anemia. Pregnant women are also encouraged to receive vaccinations, such as tetanus, to protect both the mother and child.
3. **Ultrasound and Monitoring:** Ultrasound scans are used to monitor fetal development, assess the health of the placenta, and measure amniotic fluid levels. While gender determination is sometimes part of the ultrasound process, the primary focus remains on the health and safety of the mother and baby.
4. **Medical Intervention:** When complications arise, modern prenatal care offers medical interventions, including medications to manage conditions such as gestational diabetes or high blood pressure. In more severe cases,

cesarean sections or other surgical interventions may be required to ensure the health and safety of the mother and child.

The Impact of Modern Prenatal Care on Traditional Practices

The introduction of modern prenatal care has brought about significant changes in the healthcare landscape in Hausaland. While traditional practices are still important and respected, modern medical care has become increasingly accessible, especially in urban centers.

In many rural areas, traditional care is still the norm due to limited access to hospitals or clinics. However, modern health campaigns and government programs have worked to integrate traditional and modern practices, offering pregnant women the benefits of both approaches. For example, many clinics now include advice on nutrition and herbal remedies alongside medical treatments, allowing pregnant women to choose what best suits their needs.

Despite the advantages of modern care, traditional methods have not been completely replaced. The cultural significance of traditional care, particularly the spiritual and emotional support it offers, remains a core part of pregnancy in Hausaland.

FINDINGS

The study revealed significant gaps between awareness and utilization of modern prenatal care in Hausaland. While 87% of women were aware of antenatal care (ANC) services, only 52.3% actively attended regular prenatal visits, highlighting a disconnect between knowledge and practice. Socioeconomic barriers, such as lack of financial resources and limited access to healthcare facilities, were identified as key factors hindering utilization, particularly in rural areas. Cultural factors also played a crucial role, as some women preferred traditional care practices over medical consultations due to cultural beliefs and a lack of trust in modern healthcare services.

The data further indicated that women who attended more than four ANC visits were significantly more likely to deliver in healthcare settings, suggesting that antenatal clinic attendance positively influences the likelihood of institutional delivery. Additionally, modern diagnostic tools such as ultrasound scans were more commonly available in urban centers, where they were used to monitor fetal development and detect complications early. However, traditional practices, including herbal remedies and midwifery care, continued to play an integral role, particularly in rural communities where modern medical services were less accessible.

The focus group discussions underscored the importance of community involvement and support in prenatal care. Women expressed a strong preference for



prenatal care that integrated both modern and traditional practices, emphasizing the need for culturally sensitive healthcare delivery that respects local customs while providing evidence-based medical care.

Recommendations

Based on the findings, several recommendations were made to improve prenatal care in Hausaland. First, there is a need for targeted educational programs that raise awareness about the importance of regular prenatal visits and the benefits of modern prenatal care, especially in rural areas. These programs should emphasize the critical role of early detection and treatment in preventing maternal and fetal complications.

Second, the government and healthcare providers should focus on improving access to healthcare facilities by addressing logistical barriers, such as transportation, and reducing the cost of services. Financial assistance, such as subsidized healthcare, could make prenatal care more accessible to low-income women.

Third, integrating traditional practices with modern healthcare could enhance the acceptance and effectiveness of prenatal care. Healthcare providers should be trained to engage with community leaders and traditional birth attendants to create a more

inclusive and culturally respectful healthcare environment.

Finally, there should be an expansion of healthcare infrastructure, particularly in rural areas, to ensure that all pregnant women have access to essential prenatal services, including ultrasound scans and routine medical check-ups. The use of telemedicine and mobile health technologies could also be explored to improve healthcare delivery, especially in remote regions.

CONCLUSION

Prenatal care in Hausaland reflects a fascinating intersection of tradition and modernity. The traditional practices of the Hausa people, with their emphasis on spirituality, herbal remedies, and familial support, continue to play a crucial role in the health and well-being of pregnant women. However, the growing presence of modern medical care, including regular checkups, ultrasounds, and the use of vaccines and supplements, has undoubtedly improved maternal and child health in the region. While both systems have their merits, the integration of traditional and modern prenatal care offers a more comprehensive approach to ensuring the health of mothers and children in Hausaland. By combining the wisdom of cultural practices with the advancements of modern medicine, pregnant women in Hausaland can receive the best care possible, leading to healthier pregnancies and a brighter future for the next generation.

REFERENCES

1. Itismita, B. (2023). Midwifery-led approaches in antenatal care & management. <https://doi.org/10.58532/v2bs23p1ch19>
2. Boureka, E., Tsakiridis, I., Kostakis, N., Giouleka, S., Mamopoulos, A., Kalogiannidis, I., Athanasiadis, A., & Dagklis, T. (2024). Antenatal care: A comparative review of guidelines. *Obstetrical & Gynecological Survey*. <https://doi.org/10.1097/ogx.0000000000001261>
3. Ejaz, L. (2023). Antenatal care - How to ensure quality! *Journal of Rawalpindi Medical College (Print)*. <https://doi.org/10.37939/jrmc.v27i3.2370>
4. Alves, D., Cavalcanti, C., Fonseca, D. de L., Melo, G. D., Suassuna, H. V., Freire, L., & Chaves Deininger, L. de S. (2023). Prenatal care in primary care: An experience report. <https://doi.org/10.56238/seviiiimulti2023-249>
5. Naumburg, E., & Morrow, C. (2010). *Prenatal care: Women-centered care in pregnancy and childbirth* (1st ed.). Routledge. <https://doi.org/10.4324/9780429272219-50>
6. Saunders, M. (2023). *Hausa*. Oxford Bibliographies Online. <https://doi.org/10.1093/obo/9780195390155-0305>
7. Nkwap, J. P. (2022). An overview of Wanzanchi: The traditional surgeons of the Hausas, a cultural historic perspective of Jos North Plateau State, Nigeria. DOI: 10.58489/2836-2284/005
8. Sani, A.-U., & Umar, M. M. (2018). Global growing impact of Hausa and the need for its documentation. *Contemporary Journal of Language and Literature*, 1(1), 16–34. <http://sgpicanada.com/index.php/CJLL/issue/download/1/Abu-Ubaida%20Sani%20and%20Muhammad%20Mustapha%20Umar>
9. Chang, H. T. (2023). A study on the cultural characteristics and mission of the Niger Hausa people. *Seon'gyo wa Sinhag*. <https://doi.org/10.17778/mat.2023.02.59.493>
10. Ahmad, A. A., Atuwu, D., & Bunza, B. B. (2022). Seeing is believing: Identifying a true Hausa man. *East African Scholars Journal of Education, Humanities and Literature*, <https://doi.org/10.36349/easjehl.2022.v05i03.004>
11. Uche, D., & Fujiwara, T. (2024). Awareness and utilization of antenatal care services among women in Northern Nigeria. *Scholars Journal of Applied Medical Sciences*. <https://doi.org/10.36347/sjams.2024.v12i03.001>
12. Salmanu, R. A., Odetola, T. D., & Dorothy, T. (2024). A community-based intervention study for enhancing Hausa women's knowledge about maternal healthcare services. *International Journal of Africa Nursing Sciences*, 100669. <https://doi.org/10.1016/j.ijans.2024.100669>
13. Fasina, F., Fagbeminini, G., & Oni, A. G. (2017). Is antenatal clinic attendance a proximate



- determinant of use of modern healthcare facility for delivery by Nigerian women? IJASOS - International E-journal of Advances in Social Sciences. <https://doi.org/10.18769/IJASOS.336588>
14. Viegas, A. O., Singh, K. S., & Ratnam, S. (1987). Antenatal care: When, where, how, and how much.
 15. Ushaa, E., Eswaran, V., Murali, K., & Eswaran, V. (2024). Revolutionizing prenatal care. In *Advances in medical technologies and clinical practice book series* (Chapter 14). <https://doi.org/10.4018/979-8-3693-3711-0.ch014>
 16. Konje, J. C., & Konje, J. C. (2018). Antenatal and prepregnancy care: Prevention of perinatal morbidity and mortality. *Journal of Perinatal Medicine*. <https://doi.org/10.1515/JPM-2018-0275>
 17. Serov, V. N., Serov, N., Nesterova, L. Yu., & Nesterova. (2022). Features of modern obstetrics. *Akusherstvo i Ginekologija*, 3, 5-11. <https://doi.org/10.18565/aig.2022.3.5-11>