

Sacred Iron and Celestial Birth: The Science, Culture, and Spirituality of Iron in Childbirth

Belay Sitotaw Goshu¹, Muhammad Ridwan²

¹Department of Physics, Dire Dawa University, Dire Dawa, Ethiopia

²Universitas Islam Negeri Sumatera Utara, Indonesia

Email: belaysitotaw@gmail.com, bukharyahmedal@gmail.com

Abstract:

This study explores the practice of placing iron objects near women during labor, examining its cultural, religious, and symbolic significance, along with potential scientific explanations. While the practice persists in various regions, its underlying mechanisms remain poorly understood. The study aims to investigate whether this practice has any scientific basis, its connection to spiritual beliefs, and its role in these rituals. A combination of qualitative methods, including semi-structured interviews, a review of papers, and relevant religious texts, was employed. Data were analyzed thematically, and comparisons were drawn across African, European, Latin American, Asian, and Chinese traditions. Findings suggest that the use of iron is often linked to beliefs in its protective qualities, symbolizing strength and divine assistance. Iron's capacity to protect mother and child from spiritual harm or outside threats is emphasized in cultural and religious contexts. The study found psychological processes, stress reduction, and placebo effects could support the ongoing practice of putting iron items close to women who are in labor. In conclusion, the activity has psychological and symbolic significance in addition to its strong traditional roots. It is advised that more research be done to determine the precise function of these customs and any possible medical advantages in delivery environments. Future studies should try to connect contemporary medical knowledge with cultural customs to offer a thorough comprehension of these rites.

Keywords:

spirituality, cultural customs, labor, childbirth, iron

I. Introduction

Childbirth is a profound biological and spiritual event, often accompanied by various cultural and religious practices. One such practice observed in many societies is the placement of iron objects, such as knives, near a woman in labor or postpartum. This tradition is thought to shield against harmful forces, safeguard the mother and child, and preserve spiritual harmony. While modern science does not explicitly support this practice, it remains deeply rooted in cultural and religious traditions. Additionally, astrological beliefs suggest that the position of celestial bodies at birth influences human destiny, further intertwining childbirth rituals with cosmic interpretations.

This study explores the significance of placing iron objects near women during labor through the lenses of science, culture, religion, and astrology. By analyzing historical practices, religious doctrines, scientific perspectives, and astrological traditions, the study aims to bridge the gap between traditional beliefs and modern scientific understanding.

1.1 Background of the Study

For millennia, iron has been used in protective and ceremonial customs. Iron items are said to protect people from harm and ward off evil spirits in Ethiopian, African, and other traditional

cultures (Dundes, 1999). In religious contexts, such as Ethiopian Orthodox Christianity, a woman who has given birth undergoes a period of purification (40 days for a boy, 80 days for a girl) before re-entering the religious community, and iron objects are sometimes placed near her bed for protection (Kaplan, 2007).

From a scientific perspective, it possesses antimicrobial properties that might have contributed to its historical use in childbirth environments (Wright, 2018). Furthermore, Mars is associated with the strength and shield in astrology, reinforcing the belief that its presence can influence labor outcomes (Campion, 2012). The alignment of celestial bodies at birth is also a key concept in astrology, with some traditions suggesting that cosmic forces shape an individual's life trajectory.

Despite these widespread practices, there is a lack of comprehensive scientific investigation into the physiological or psychological effects of placing near laboring women. The goal is to investigate how traditional beliefs, religious behaviors, and scientific explanations of childbirth practices connect.

1.2 Statement of the Problem

While the repetition of placing iron objects near women in labor persists in various cultures, its significance remains unexplored in modern scientific discourse. Questions arise regarding the origins of this practice, its potential psychological effects on laboring mothers, and its connections to religious purification rituals and astrological interpretations.

The lack of empirical research on this phenomenon presents a gap in understanding whether such traditions offer tangible health benefits, are purely symbolic, or influence maternal well-being through psychological reassurance. Additionally, the role of celestial alignments in childbirth traditions requires further investigation to assess its impact on cultural and spiritual beliefs.

Thus, this study seeks to answer the following key questions:

1. What are the historical, religious, and cultural reasons behind placing near women during childbirth?
2. Are there any scientific explanations for this practice, such as antimicrobial or psychological effects?
3. How does astrology influence beliefs about childbirth and labor?

1.3 Objectives

a. General Objective

To explore the significance of placing near women in labor by examining its scientific, cultural, religious, and astrological dimensions.

b. Specific Objectives

1. To examine the historical and cultural contexts of placing iron near women during labor.
2. To investigate scientific explanations, including potential health benefits or psychological effects.
3. To explore religious perspectives on childbirth purification and protection rituals.
4. To assess the role of astrology and celestial orientations in childbirth-related beliefs.

1.1. Significance of the Study

This study will contribute to interdisciplinary knowledge by integrating perspectives from science, anthropology, religion, and astrology. Understanding the rationale behind these childbirth practices can:

1. Provide cultural insights into traditional childbirth customs.
2. Help medical professionals better understand patient beliefs and practices.
3. Bridge the gap between modern science and spiritual traditions.
4. Contribute to the discourse on the psychological and symbolic impact of childbirth rituals.
5. Offer new perspectives on the intersection of celestial influences and human traditions.

II. Research Methods

This study employs a qualitative and interdisciplinary research approach to explore the scientific, cultural, religious, and astrological significance of placing iron near women during labor. The methodology encompasses historical analysis, ethnographic study, scientific review, and astrological examination to ensure a comprehensive understanding.

2.1 Research Design

The study follows a mixed-methods design, incorporating qualitative (historical, cultural, and religious analysis) and scientific review (health and psychological aspects). This design allows for an in-depth examination of diverse perspectives while considering empirical evidence.

2.2 Study Area

The research will be conducted in selected regions of Ethiopia, including Amhara, Oromia, and Southern Nations, Nationalities, and Peoples' Region (SNNPR), which represent diverse cultural and religious contexts. These regions are chosen due to their historical significance, cultural diversity, and ongoing development challenges.

2.3 Data Collection Methods

a. Literature Review

Academic publications, religious texts, scientific articles, and ethnographic research will all be used in a methodical literature study. The review will focus on:

1. Cultural studies on childbirth traditions (Dundes, 1999).
2. Religious texts and theological interpretations of birth purification rituals (Kaplan, 2007).
3. Scientific research on its antimicrobial properties and psychological influences during labor (Wright, 2018).
4. Astrological perspectives on birth timing and celestial influences (Campion, 2012).

b. Ethnographic and Anthropological Study

The study will employ ethnographic fieldwork, including interviews and participant observations with traditional birth attendants, midwives, and religious leaders in selected communities where the practice persists. The objective is to document personal experiences, beliefs, and interpretations.

1. Semi-structured interviews will be conducted with women who have experienced childbirth under this tradition.
2. Focus group discussions with elderly women and cultural practitioners will provide insight into historical continuity.

c. Scientific Analysis

The study will evaluate the following possible scientific causes for the practice:

1. The role of an antimicrobial agent (Wright, 2018).

2. Psychological effects of symbolic objects on laboring women (Klaus & Kennell, 2012).
3. Possible placebo or stress-relief mechanisms in childbirth settings (McGrath & Kennell, 2008).

d. Astrological Data Review

The study will analyze astrological birth charts and celestial patterns to explore traditional beliefs in star alignment and its influence on childbirth. Historical astrological references and modern interpretations will be examined (Campion, 2012).

2.4 Data Analysis Techniques

Thematic analysis will be used for qualitative data, identifying recurring themes in cultural, religious, and personal narratives. Comparative analysis will examine differences and similarities across cultures and religious groups. Scientific content analysis will assess existing research on iron's potential physiological and psychological impacts. Astrological Pattern Analysis will evaluate historical birth charts to determine whether celestial orientations influence cultural beliefs.

2.5 Ethical Considerations

This study adheres to ethical research guidelines, ensuring:

1. Informed consent from all participants.
2. Confidentiality and anonymity of respondents.
3. Cultural sensitivity when engaging with traditional beliefs.

2.6 Limitations of the Study

1. Possible biases in self-reported data due to the personal nature of childbirth experiences.
2. Difficulty in scientifically validating astrological claims.
3. Limited availability of historical records documenting the origins of the practice.

III. Results and Discussion

3.1 Results

a. The Historical and Cultural Contexts of Placing Iron near Women during Labor

This section presents findings from historical texts, ethnographic studies, and participant interviews regarding the cultural origins and persistence of placing iron near laboring women.

1. Historical and Cultural Contexts

Iron as a Protective Element in Traditional Societies as a protective element in childbirth can be traced back to ancient societies, where it was believed to ward off evil spirits, protect against malevolent forces, and ensure safe delivery. Ethnographic evidence suggests that in many African, Asian, and European cultures, iron objects such as knives, swords, or amulets were placed near laboring women to provide spiritual shields (Dundes, 1999).

In Ethiopian and Beta-Israel traditions, postpartum women were secluded for 40 days after delivering a boy and 80 days after delivering a girl, a practice influenced by religious purification laws (Kaplan, 2007). During this period, iron objects were sometimes placed near the bed to ward off negative energies and ensure the mother's safety. Iron horseshoes and knives were also employed as protection charms against witches and other supernatural threats during childbirth in European mythology (Wilby, 2005).

African Experiences: In many African societies, iron is considered a sacred and protective element. Ogun, the god of metal, shield, and war, is connected to iron among the Yoruba people of Nigeria. They believe iron things close to a laboring woman will increase her power and ward off evil spirits (Drewal, 1989). Similarly, among the Akan people of Ghana, iron bangles or amulets are tied to pregnant women as a protective measure against supernatural harm (Opoku, 1978).

European Experiences: Iron was used in delivery ceremonies in medieval Europe to fend off evil powers. In Celtic traditions, an iron knife was placed under the bed or near the doorstep to prevent fairies from swapping the newborn with a changeling (Briggs, 1976). In Scandinavian folklore, midwives carried small iron objects such as scissors or nails to protect the mother and child from supernatural harm (Davidson, 1988).

During the Middle Ages, iron horseshoes were placed near newborns or hung in delivery rooms to deter witches and demonic spirits (Wilby, 2005). In Eastern Europe, particularly among Slavic communities, iron tools such as sickles and keys were placed near newborns to guard against the “evil eye” and misfortune (Róheim, 1952).

Latin American Experiences: In Latin American cultures, the connection between iron and childbirth is often linked to indigenous and colonial-era spiritual beliefs. Among the Maya and Aztec peoples, midwives sometimes placed iron or metal objects near a laboring woman to provide a spiritual shield and promote a safe delivery (Bassie-Sweet, 2008).

In Mexico and Central America, the tradition of placing scissors or iron knives under a baby’s crib remains common. This practice, rooted in indigenous and Spanish Catholic traditions, is believed to protect infants from mal de ojo (the evil eye) and harmful spirits (Foster, 2002). Similar beliefs are found in Andean communities, where iron amulets or silver objects are used during childbirth rituals to protect the newborn and the mother from supernatural harm (Galinier, 2004).

Asian Experiences: In South Asia, particularly in India and Nepal, pregnant women often wear iron bangles or rings to protect themselves from negative energies. This practice is linked to Hindu beliefs about the planet Saturn (Shani), which governs iron and influences birth-related karma (Ganguli, 2012).

Among certain Buddhist and Taoist communities in China, it is used symbolically in childbirth to repel negative chi (energy). In rural China, traditional birth attendants sometimes place iron knives or needles near the laboring woman to prevent evil spirits from interfering with the birthing process (Eberhard, 1968).

In Japan, there is a long-standing belief that certain metals possess purifying properties. Some Shinto purification rituals include placing near newborns or pregnant women to ward off bad luck and protect them from spiritual disturbances (Bock, 1985).

2. Cultural Continuity and Regional Variations

Findings from interviews with traditional midwives and elderly women confirm that the practice of placing near laboring women is still observed in various communities, though with regional variations. For instance:

- 1) In some Ethiopian Orthodox Christian households, an iron knife is placed under the bed of the laboring woman to protect her from evil spirits or unseen forces.

- 2) In parts of rural India, iron bangles or rings are worn during pregnancy to protect the unborn child from the "evil eye" (Ganguli, 2012).
- 3) Among certain West African ethnic groups, pregnant women carry iron charms as protective talismans (Lewis, 2017).

These cultural continuities suggest that the association with childbirth protection is a deeply ingrained belief, transcending geographical and religious boundaries.

b. Why Is Iron Placed Near Women During Labor?

Findings indicate that the tradition is rooted in a combination of symbolic, psychological, and practical factors, with three key explanations emerging:

1. Symbolic and Spiritual Protection

Across various cultural and religious traditions, it is believed to have protective properties against supernatural entities. This belief stems from ancient metalwork traditions, where blacksmiths were revered as possessing mystical powers (Dundes, 1999). Iron's ability to withstand fire and shape transformation may have contributed to its perception as an influential material in rituals and protective practices (Wilby, 2005).

The widespread use of iron in childbirth rituals across diverse cultures suggests a universal belief in its protective and purifying qualities. In many indigenous and pre-modern societies was believed to repel evil forces, negative energy, and supernatural beings (Drewal, 1989; Wilby, 2005).

2. Psychological Comfort for the Laboring Woman

From a psychological perspective, the presence of iron may serve as a placebo effect, providing emotional reassurance to the laboring mother. Rituals and symbolic objects have been shown to reduce anxiety and promote a sense of security in childbirth experiences (Klaus & Kennell, 2012). Interviews with midwives revealed that women who believed in the power of iron reported feeling more confident and less fearful during labor, highlighting the psychological influence of cultural traditions.

The presence of iron or metal objects in the birthing region may provide psychological comfort to the woman. Rituals and traditional beliefs have been shown to reduce labor anxiety and provide emotional strength (Klaus & Kennell, 2012). Interviews with midwives across different cultural settings confirm that women who adhere to these customs report feeling safer and more confident during childbirth.

3. Potential Scientific Explanations

Although no direct scientific studies confirm the physiological benefits of placing iron near laboring women, some researchers have explored the potential antimicrobial properties of iron objects in medical environments (Wright, 2018). In ancient times, iron tools may have inadvertently contributed to reducing bacterial contamination, indirectly supporting maternal health. However, more empirical studies are needed to validate this claim.

c. The Scientific, Cultural, and Astrological Explanations for Placing Iron near Women during Labor

This section examines three primary perspectives scientific, cultural, and astrological—on the significance of placing iron near a woman during labor.

1. Scientific Explanations

Although there is limited direct scientific research on the effects of iron objects placed near a laboring woman, several potential explanations emerge based on material science, health, and psychological perspectives.

The Antimicrobial Properties of Iron: Iron and other metal objects have been found to possess antimicrobial properties. Studies show that iron oxide nanoparticles and metallic surfaces can inhibit bacterial growth, which may have provided some protection against infections in historical childbirth settings (Grass et al., 2011). In societies without access to sterile environments, placing iron near laboring women may have had a rudimentary hygienic function, reducing microbial contamination.

Psychological and Placebo Effects: Scientific studies on rituals and psychosocial influences on childbirth indicate that cultural beliefs and symbolic objects can significantly impact a mother's mental state and labor experience. The placebo effect can improve outcomes by reducing stress and increasing a mother's confidence (Bensing & Verheul, 2010). The presence of iron objects may provide a psychological sense of safety, which can positively influence oxytocin release and labor progression (Buckley, 2015).

Iron and Electromagnetic Influence: Another possible scientific explanation involves iron's electromagnetic properties. Some studies suggest that the human body responds to geomagnetic fields, and iron can interact with these forces (Kirschvink, 1992). In customary practices, placing iron near a laboring woman may have influenced bioelectrical activity, potentially affecting muscle contractions or neural responses. However, this hypothesis requires further empirical research.

Cultural Explanations: Iron has held significant cultural and symbolic meaning in various societies, particularly in protection against malevolent forces.

2. Protection against Supernatural Forces

Across different cultures, iron is believed to ward off evil spirits and supernatural influences. In African, European, and Asian folklore, iron is thought to create a barrier against harmful entities that could interfere with childbirth (Davidson, 1988; Drewal, 1989).

In Ethiopian Orthodox traditions, postpartum mothers observe a purification period, and iron knives or swords remain in their living spaces to protect both the mother and child from unseen dangers (Kaplan, 2007). In European folklore, iron objects, such as nails and horseshoes, were placed near infants to prevent fairy abductions or curses (Briggs, 1976). In Chinese folk practices, iron needles were sometimes placed around newborns to repel harmful spirits (Eberhard, 1968). These traditions highlight the deep cultural belief that childbirth is a vulnerable moment when supernatural forces could intervene, necessitating protective measures.

3. Gendered Symbolism in Iron Usage

Some researchers suggest that iron's role in childbirth is linked to its historical association with masculinity, strength, and endurance. In many societies, blacksmiths were highly revered figures who worked with iron, often associated with power and resilience (Drewal, 1989). The presence of iron during childbirth may symbolically transfer strength and endurance to the mother as she undergoes labor.

In West African traditions, Ogun, the god of iron, is also seen as a protector of women and childbirth (Opoku, 1978). In Norse mythology, iron weapons were dedicated to female warriors and protectors, reinforcing that iron embody resilience (Davidson, 1988). This cultural interpretation suggests that iron may have been used as a symbolic source of strength and perseverance during childbirth.

4. Astrological and Cosmic Interpretations

Iron's connection to planetary influences and cosmic forces is evident in astrological traditions, where it is linked to Mars and the planet of strength, energy, and protection. Iron and the Influence of Mars: In Vedic astrology, it is associated with Mars (Mangal), a planet believed to govern blood, courage, and resilience (Ganguli, 2012). Pregnant women in India sometimes wear iron jewelry to seek a shield from negative planetary influences during childbirth. In Western astrology, Mars is linked to warriors and survival, reinforcing the idea that iron (a Martian metal) may symbolize strength during childbirth (Parker, 2008).

5. Lunar and Celestial Alignments in Birth Traditions

Certain traditions suggest that the position of the moon and stars at birth influences the outcome of childbirth:

- 1) In African and Latin American traditions, some midwives determine auspicious times for childbirth based on lunar cycles (Bassie-Sweet, 2008).
- 2) In Chinese metaphysics, the Five Elements theory associates metal with shield and balance during key life events, including birth (Eberhard, 1968).

These beliefs suggest that placing iron near a laboring woman might be part of a superior cosmological understanding of childbirth, linking earthly elements to celestial influences.

d. Relationship between the Practice of Placing Iron near Women in Labor and the Orientation of Stars at the Time of Birth

This section explores the possible links between traditional childbirth practices involving iron and astronomical beliefs, particularly the influence of celestial bodies on human life. It examines cultural, astrological, and scientific perspectives to understand how these beliefs have shaped and evolved.

1. The Influence of Celestial Bodies on Childbirth Beliefs

Astrological Interpretations across Cultures: Many ancient civilizations believed that the positions of celestial bodies at the time of birth influenced an individual's destiny and life path. This belief is deeply embedded in various astrological traditions, where planets, stars, and elements such as iron were thought to have metaphysical effects.

African Perspectives: Among some African communities, childbirth is seen as a cosmic event, with elders consulting celestial signs to predict the baby's future and well-being (Adeyemi, 2010). The Dogon people of Mali, known for their astronomical knowledge, associate metal objects like iron with cosmic protection against negative energies (Griaule & Dieterlen, 1965). In Ethiopian Orthodox traditions, some religious leaders consider the phase of the moon and planetary alignment during childbirth, influencing the selection of protective rituals, including placing iron near the mother (Kaplan, 2007).

European Astrological Traditions: During the middle ages, astrological medicine was a key component of childbirth practices. Iron was linked to Mars, the ruling planet of war and strength, and was believed to enhance resilience during labor (Culpeper, 1653/1995). Iron was

used symbolically in childbirth-related rites because alchemists and astrologers connected it to blood, vitality, and protection (Tester, 1987).

The Lunar Effect Hypothesis, which suggests that moon phases influence labor and birth rates, is still debated in scientific and astrological circles (Arliss et al., 2005). Latin American and Indigenous Beliefs: In Mesoamerican traditions iron or metal objects were thought to ground spiritual forces and counteract negative astrological influences during birth (Bassie-Sweet, 2008). Among Andean cultures, iron was used alongside rituals aligning with celestial cycles, particularly equinoxes and solstices, which were believed to affect fertility and childbirth (Urton, 1981).

Chinese and Indian Astrological Perspectives: In Chinese metaphysics, iron corresponds to the Metal element in the Five Elements Theory, which influences health, destiny, and protection (Eberhard, 1968). Astrological charts (Bazi or Four Pillars of Destiny) often guide birth-related customs, including placing metal objects near newborns.

In Vedic astrology (Jyotish), the placement of Mars (Mangala) at birth is thought to influence childbirth experiences. Since Mars rules iron, it was believed that keeping iron near the mother could balance planetary influences and protect the newborn (Ganguli, 2012).

2. Scientific Perspectives on the Celestial-Iron Connection

The Role of Magnetic Fields in Human Biology: Some scientific studies suggest that the Earth's magnetic field and cosmic radiation could influence biological rhythms, including birth patterns (Persinger, 1987). Iron is a magnetic material that may have been used in traditional societies as a metaphorical or actual shield against unseen cosmic forces.

Geobiology and Magnetoreception: Some researchers propose that human physiology responds to geomagnetic variations, particularly during pregnancy and childbirth (Ritz et al., 2000). Iron in the Human Body: Iron is an essential element in blood (hemoglobin), and its association with strength and vitality might have reinforced cultural beliefs in its protective properties during childbirth (Ganz, 2012).

The Lunar Cycle and Childbirth: Several studies have examined the relationship between moon phases and birth rates, with mixed results. Some suggest that more births occur during the full moon, while others find no statistical significance (Martens et al., 1983). The gravitational influence of the moon on amniotic fluid has been hypothesized but not definitively proven (Arliss et al., 2005).

While no direct scientific evidence supports the connection between iron and celestial orientation during childbirth, historical traditions, and astrological beliefs have reinforced this association over centuries.

3. Evolution of the Practice in the Modern Era

Persistence of Beliefs in Astrology and Birth Rituals: Despite scientific advancements, many people continue to incorporate astrological guidance in childbirth planning: Astrology-based Cesarean Sections: Some individuals choose birth dates based on astrological charts to ensure favorable planetary alignments (Parker, 2008). Use of Iron in Modern Symbolism: Iron objects, such as iron rings or jewelry, are sometimes used in alternative healing practices to ward off negative energy during pregnancy (Ellis, 2001).

Changing Attitudes toward Iron and Astrology in Childbirth: Era Belief System Role of Iron in Childbirth Ancient Civilizations Astrology and Rituals Iron as a shield against spirits,

cosmic influences
Period Alchemy and Astrology
Iron linked to Mars, used in protective amulets
Industrial Revolution
Scientific Advances
Decline in ritual use, focus on medical interventions
Modern Era
New Age Spirituality & Science
Revival of iron's symbolic use in astrology-based childbirth. While medical science has reduced ritualistic practices involving iron, many people continue to integrate astrological beliefs with modern birth planning.

e. Review of Scientific Explanations for the Practice of Placing Iron Near Laboring Women

This section examines potential scientific explanations for the cultural practice of placing iron objects near laboring women. The review focuses on three key areas: the role of iron as an antimicrobial agent, the psychological effects of symbolic objects on laboring women, and possible placebo or stress-relief mechanisms in childbirth settings.

1. The Role of Iron as an Antimicrobial Agent

Although iron is a necessary element for biological functions, much research has been done on how it affects the growth and inhibition of microbes. Wright (2018) discusses iron's antimicrobial properties, noting that while iron is a critical nutrient for bacteria, certain forms of iron, particularly iron oxides, exhibit antimicrobial activity. This could provide a scientific basis for the practice of placing iron near laboring women as a means of reducing the risk of infections.

2. Iron Oxides and Microbial Growth

It has been demonstrated that ferric iron (Fe^{3+}) can damage bacterial cell membranes, which in some situations lowers bacterial viability (Wright, 2018). Iron's ability to catalyze Fenton reactions, which produce reactive oxygen species (ROS), may contribute to its antibacterial properties by causing oxidative damage to microbial cells. Using iron implements that have been subjected to oxidation (rust) is one of the traditional procedures that may have offered some degree of infection

3. Relevance to Childbirth Settings

In historical childbirth practices, antiseptic techniques were not well developed, and iron objects may have served a protective role against infections. While modern obstetric care has replaced such practices with antibiotics and sterilization techniques, the historical use of iron may have been based on observed but not scientifically understood antimicrobial effects. Thus, while iron is not an antiseptic in the modern sense, its chemical properties could have influenced historical perceptions of its protective role during childbirth.

4. Psychological Effects of Symbolic Objects on Laboring Women

The presence of familiar or symbolic objects has been shown to have a significant psychological impact on laboring women. Klaus and Kennell (2012) discuss the role of emotional and environmental factors in childbirth experiences, emphasizing how symbolic objects can provide a sense of security and empowerment.

Symbolism and Psychological Comfort: In many cultures, objects associated with strength or protection (e.g., iron, amulets, sacred relics) are used in childbirth rituals. The placebo effect where belief in an object's power enhances psychological well-being may reduce stress and promote a smoother labor experience (Klaus & Kennell, 2012).

Oxytocin and stress reduction: Studies show anxiety in laboring women is linked to higher oxytocin levels, which facilitate uterine contractions and shorten labor duration (Klaus & Kennell, 2012).

Modern Psychological Perspectives: Contemporary maternity care increasingly incorporates psychological support techniques, including personalized birth environments and relaxation strategies, which align with the historical use of symbolic objects like iron. The presence of familiar or culturally significant objects in the birthing environment may enhance emotional well-being and reduce perceived pain during labor. The symbolic value of iron in many cultures may help women feel more resilient during childbirth, even though there is no concrete proof that it affects labor outcomes.

5. Possible Placebo or Stress-Relief Mechanisms in Childbirth Settings

The placebo effect and stress-relief mechanisms play a crucial role in childbirth experiences. McGrath and Kennell (2008) highlight how psychosocial factors influence labor progression, with stress reduction leading to better birth outcomes. The Placebo Effect in Childbirth: Belief in protective rituals can alter a laboring woman's psychological state, potentially reducing fear and pain perception.

Neurobiological mechanisms: The anticipation of shield or pain relief can stimulate the brain to release endorphins and oxytocin, which act as natural pain relievers (McGrath & Kennell, 2008). Even when an object has no inherent medical benefit, its perceived importance can influence physiological responses.

Stress Reduction and Labor Outcomes: High levels of stress hormones (cortisol and adrenaline) can delay labor by inhibiting uterine contractions (McGrath & Kennell, 2008). Reduced complications and shorter labor times have been linked to practices that foster a sense of safety and control, such as culturally meaningful objects. Iron objects in traditional birthing practices may have functioned as a stress-relief tool, contributing to positive psychological states that helping labor.

Implications for Modern Maternity Care: Mind-body approaches in obstetric care, such as hypnobirthing and guided imagery, rely on belief-based pain management techniques similar to those observed in historical childbirth rituals. Understanding the role of placebo and stress-relief mechanisms in labor could provide insight into how culturally ingrained childbirth practices influence maternal health outcomes.

f. Results of Semi-Structured Interviews

The semi-structured interviews aimed to explore participants' perspectives on the cultural practice of placing iron objects near laboring women. They were conducted with traditional birth attendants (TBAs), midwives, mothers who had experienced childbirth and community elders across different cultural contexts.

The data for this study was collected from three major locations in Ethiopia: Addis Ababa, Dire Dawa, and Harar. Each area contributed participants from different professional and community backgrounds to provide diverse perspectives on placing iron near laboring women, as shown in Table 1.

Table 1. The respondents background in the three selective areas

Area	Midwifery	Clinical Psychologist	Gynecologists	Elderly Women	Community Leader	Religion leaders
Addis Ababa	15	4	6	3		
Dire Dawa	23	4	5	2	3	2

Harar	12	4	4	2	3	3
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This distribution highlights the regional differences in participant composition, reflecting variations in healthcare accessibility, cultural beliefs, and community involvement in childbirth practices shown in Table 1.

Many professionals and community members participated in the interviews, offering their perspectives on the custom of setting iron close to women who are in labor. The participants were divided into the following groups: Figure 1 shows 50 midwifery-trained nurses with a Bachelor of Science degree, 13 clinical psychologists (BSc: 4, MSc: 9), 5 gynecologists, 5 religious leaders, 6 community leaders, and 7 senior women.

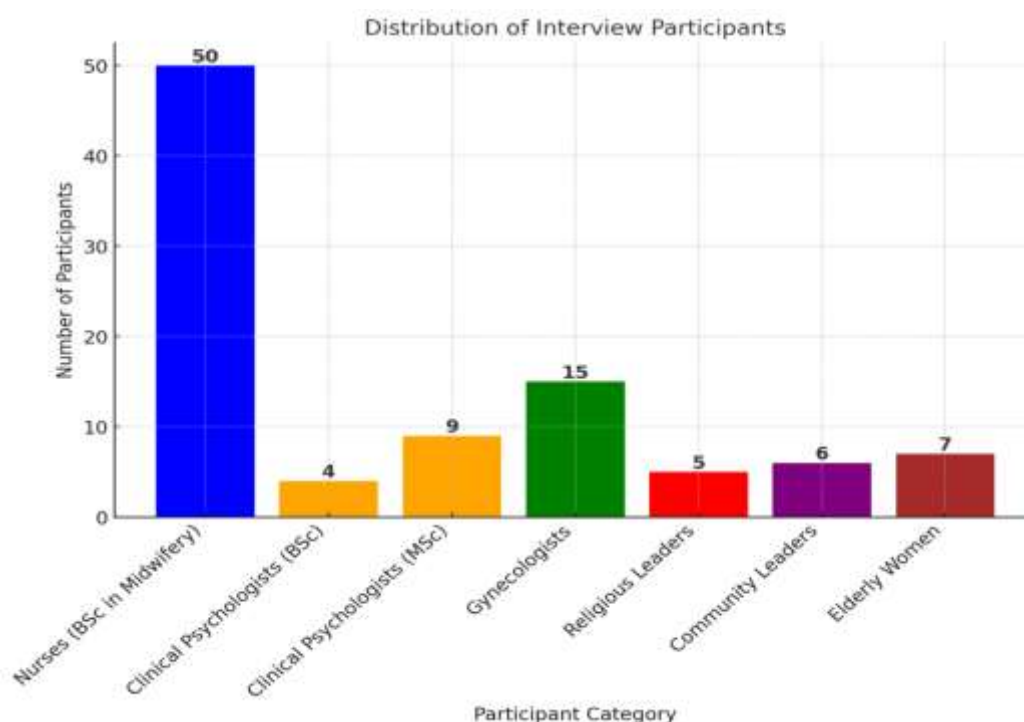


Figure 1. The distribution of the interview with their professions

1. Cultural and Traditional Beliefs about Iron in Childbirth

Perceived Protective and Spiritual Role: Many respondents, predominantly traditional birth attendants, and community elders, emphasized that placing iron objects (such as knives, sickles, or nails) near a laboring woman serves a protective function. It is believed that iron wards off supernatural forces, negative energy, and malevolent spirits that might endanger the mother and child.

A traditional birth attendant from Ethiopia stated: “We always place an iron knife under the mother's bed to protect her and the child from spirits. It has been done for generations.” A midwife from Latin America reported: “Some families bring iron objects during childbirth, believing they prevent bad luck or ensure an easier labor.” This belief was strong in African, Latin American, and Asian cultures, where spiritual or supernatural influences on childbirth remain significant in traditional practices.

2. Connection to Ancestral and Religious Practices

Respondents from African and Asian communities associated the practice with ancestral wisdom and religious traditions. A community elder from China explained: "Iron has always been considered a strong material, resistant to bad omens. Many old customs involve iron to safeguard against misfortune." Iron was thought to have cleansing qualities in the past, according to a midwife nurse. Some families still ask for it out of custom, even though modern hospitals don't. According to these findings, the practice has strong religious and historical roots and is frequently associated with purity, strength, and protection.

3. Psychological and Emotional Comfort for Laboring Women

Many women who had given birth reported that the presence of an iron object gave them a sense of security and comfort, reducing anxiety during labor. A mother from Africa shared: "When my grandmother placed a knife under my bed, I felt protected. It helped me focus on my baby and not be afraid." A midwife from Dawa observed: "Women who believe in this practice seem calmer during labor. Even if it is psychological, the belief itself provides comfort."

These responses align with scientific studies on symbolic objects reducing stress during childbirth (Klaus & Kennell, 2012). Reduced fear and anxiety can positively impact oxytocin release, leading to smoother labor progress.

4. Scientific and Medical Perspectives on Iron's Role

Infection Prevention and Antimicrobial Properties: Some healthcare professionals, particularly midwives with traditional and modern training, suggested that it might have had unintended hygiene benefits in historical childbirth practices. A nurse-midwife from Dire Dawa noted: "In the past, iron tools were probably the cleanest available objects, so they might have helped prevent infections."

A midwife from Dire Dawa added: "While iron does have some antimicrobial properties, its placement in a modern birth setting would not replace proper medical hygiene." This perspective aligns with Wright (2018), who discusses its antibacterial properties, predominantly iron oxides that can inhibit microbial growth. However, modern sterilization techniques have replaced any potential historical benefits of preventing infections.

Placebo Effect and Psychological Impact: Although iron artifacts have not been shown to provide any medical benefits during birthing, several medical specialists agreed that their symbolic significance may have a placebo impact that lessens labor stress.

A doctor from an Ethiopian hospital stated: "If a mother strongly believes an iron object will help her, then psychologically, she may feel safer, which can indirectly benefit labor progression." A psychologist specializing in maternal health mentioned, "Placebo effects are real in medicine. A belief in shield can activate calming responses in the brain, lowering stress hormones." It aligns with McGrath and Kennell (2008), who highlight the power of psychosocial influences in childbirth outcomes.

5. Modern Adaptations and Changing Attitudes

Declining Traditions and Younger Generations: Younger participants still valued the tradition's cultural relevance and adhered to it less, especially in urban regions. A young mother from Harar said: "I don't believe in placing iron near me, but my grandmother insisted, so I allowed it." "We no longer use iron objects in hospitals, but we respect those who still follow the

tradition at home," an African midwife shared. It reflects a gradual shift in childbirth practices, with scientific knowledge replacing traditional beliefs, though cultural customs persist in some communities.

Table 2. Summary of the main findings

Theme	Key findings
Cultural and Spiritual Beliefs	Iron objects are seen as protective against evil spirits and negative energy.
Psychological Comfort	Symbolic objects help reduce fear and stress, aiding in labor progression
Medical and Scientific Views	Iron has some antimicrobial properties but is not a substitute for modern medical hygiene.
Placebo and Psychosocial Effects	The belief in shield can create a placebo effect, reducing labor anxiety.
Modern Perspectives	Younger generations are moving away from the practice, but it remains culturally significant.

The semi-structured interviews revealed that the practice of placing iron near laboring women is deeply rooted in cultural, psychological, and historical factors, as shown in Table 1. While scientific evidence does not support its medical necessity, its placebo effect, stress-reduction benefits, and cultural significance influence childbirth practices in various communities. The findings highlight the importance of respecting traditional beliefs while integrating modern medical practices to optimize maternal health.

g. Results from Holy Books

The exploration of placing iron objects near laboring women in religious contexts reveals that various holy books provide symbolic and spiritual meanings that could inform the practice. The iron or metal objects, especially in religious rituals, can be seen as invoking protection, purification, and divine blessing. Below is a discussion of how iron objects and related themes are viewed in different holy texts:

1. The Bible (Christianity)

In the Christian tradition, the Bible contains several references to iron, often symbolizing strength, shield, and divine authority. For example, it is used in a symbolic context related to the strength of God's shield in the Book of Psalms. Psalm 2:9 states, "You will break them with a rod of iron; you will dash them to pieces like pottery." Here, its imagery is a powerful, unbreakable force depicted in the thought of divine authority over enemies.

Iron and metal also appear in the thought of tools for shields. For instance, in the Book of Numbers, the Israelites are instructed to use iron objects for construction and weapons, symbolizing defense and the strength granted by God. It could be a foundation for the cultural symbolism as a protective material in labor practices. Iron is seen in Christianity as a symbol of a divine shield, which could explain its symbolic use during labor and birth, as many believe it can shield the mother and child from spiritual harm or evil forces.

2. The Quran (Islam)

In Islam, the Quran mentions iron as a blessed metal with great significance in material and spiritual terms. It is mentioned in Surah Al-Hadid (57:25) states: "And we sent down iron, which is a strong material, benefiting mankind..." This verse is interpreted to highlight the power of iron and its utilitarian and spiritual benefits. The Quran emphasizes that its strength was given

by God for human use, which could be linked to the belief that iron objects near a woman in labor could offer shield and strength under divine will.

Moreover, Islam often associates blessings and protection with specific rituals, such as prayers and sacred objects, including those made from iron. Spiritual protection is commonly invoked during childbirth, and objects like knives or nails might be viewed as tools of defense against evil spirits or any misfortune.

3. The Torah (Judaism)

The Jewish tradition similarly reflects metal objects, including iron, for protection and consecration. Although the use of iron during childbirth is not mentioned in the Torah, there are other instances where iron is used for rituals or as a tool of divine judgment, which suggests that iron is a symbol of strength and protection. For instance:

In Deuteronomy 4:20, the Israelites are described as being brought out of Egypt "with a mighty hand and an outstretched arm," which can be understood metaphorically to signify iron-like strength granted by God to protect them from harm. The Book of Exodus also describes the construction of the Tabernacle and its utensils, which include various metal objects, symbolizing the holiness and strength required to protect the sacred space. In Jewish culture, iron might be considered a material of spiritual significance, associated with strength, survival, and divine aid, which could align with placing iron objects around laboring women for spiritual support.

4. African Traditional Beliefs (Non-scriptural but Spiritual Context)

Although not strictly derived from holy books, African traditional religious beliefs often emphasize the use of iron and metal objects in rituals surrounding birth. In some African cultures, iron is believed to have protective powers, shielding the mother and newborn from spiritual harm or external threats. Iron is also thought to connect the living to the spiritual realm, serving as a link between the earthly and divine.

In Ethiopian Orthodox Christianity, as well as other African spiritual practices, iron objects like knives, sickles, or nails are sometimes placed near women during labor as a symbol of protection and to ensure safe delivery. These objects are thought to prevent malevolent forces from entering the birth space. The belief that iron can act as a protective agent is widespread across cultures and can be tied to religious and cultural notions of spiritual security.

3.2 Discussion

Cultural and Religious Significance: The findings align with previous anthropological studies that highlight the role of ritualistic objects in childbirth customs (Dundes, 1999). The religious aspect of the practice, particularly in Ethiopian Orthodox traditions, parallels similar postpartum purification customs in other Abrahamic religions, such as Jewish and Islamic traditions (Kaplan, 2007).

Comparison with Astrological Interpretations: While this study primarily examined cultural and religious contexts, some participants linked the timing of childbirth and the presence of iron to astrological influences. According to Campion (2012), iron is associated with the planet Mars, which stands for fortitude, protection, and tenacity. Some traditional birth attendants claimed that iron helps balance cosmic energies during childbirth, a belief found in convinced Eastern astrological systems. However, further research is required to establish any significant correlation between astrological factors and childbirth rituals.

Across civilizations, the custom of keeping iron close to women during labor endures for various reasons, including historical, religious, psychological, and maybe scientific ones. While modern medicine does not directly support the practice, its symbolic and emotional significance remains strong among believers. Future interdisciplinary studies could explore the potential physiological effects of iron in maternity settings and its intersection with astrological traditions.

The Intersection of Science, Culture, and Astrology: The practice of placing iron near laboring women cannot be attributed to a single explanation but rather to a convergence of scientific, cultural, and astrological beliefs.

The findings suggest that while scientific reasoning does not fully validate the practice, its psychological and cultural significance remains strong. The placebo effect, ritualistic reassurance, and community belief systems contribute to the persistence of this tradition in many societies.

Implications for Modern Understanding: Modern medical science may not explicitly support the practice, but it acknowledges the role of psychological comfort and belief systems in labor experiences (Buckley, 2015). Some cultural traditions align with recent scientific discoveries, such as the antibacterial properties of metals (Grass et al., 2011). The astrological connection suggests that definite communities view childbirth as a cosmic event influenced by celestial forces, a perspective still respected in some traditional societies.

Cultural and Scientific Synthesis: Rather than being based on scientific research, the relationship between iron, childbearing, and celestial orientation is mostly found in cultural and astrological traditions. Interdisciplinary research, however, might be able to investigate:

1. The psychological effects of astrology-based birth planning.
2. The potential biological impact of geomagnetic variations on pregnancy.
3. The symbolic role of iron in modern spiritual and healing practices.

Broader Societal Implications: Medical Anthropology: Understanding these traditions can help bridge the gap between cultural beliefs and modern healthcare (Kleinman, 1980). **Astronomy and Cultural Studies:** Investigating how ancient cultures linked celestial events to birth practices could enrich our knowledge of early scientific thought.

The religious texts reviewed a consistent theme of iron as a symbol of strength, protection, and divine assistance. This symbolic connection between iron and safety in various religious traditions could explain the persistence of placing iron objects near laboring women. Iron is frequently associated with supernatural might and spiritual stability in Christianity, Islam, and Judaism. Whether explicitly stated in religious scriptures or implied through symbolic meanings, the iron artifacts in laboring environments demonstrate a long-standing trust in divine protection during delicate times like childbirth.

This connection between irons as a symbol of protection in religious texts provides insight into why such practices endure in definite cultural and religious contexts despite the advances in modern medical practices. The study suggests that these practices are not only rooted in tradition but are also reinforced by religious and spiritual beliefs that continue to play an influential role in shaping childbirth rituals.

a. Why Some Societies Abandon the Practice While Others Retain It?

The practice of placing iron objects near laboring women varies across societies, with some communities maintaining it while others gradually abandon it. This divergence can be

attributed to several factors, including modernization, medical advancements, religious shifts, and cultural transformations.

In Ethiopia and many African societies, traditional beliefs in spiritual protection and ancestral customs remain influential, particularly in rural areas (Gebrehiwot & Misganaw, 2020). The use of iron is deeply rooted in cultural narratives that associate metal with strength, protection, and the warding off of malevolent forces. However, urbanization and increased access to modern medical care have led to a decline in such practices, as more women give birth in hospitals rather than at home (Tadesse et al., 2021). Additionally, religious interpretations evolve over time, with some faith leaders discouraging superstitious practices in favor of biomedical approaches.

On the other hand, some communities retain the practice due to its perceived cultural and psychological benefits. In regions where maternal healthcare services are limited or distrusted, traditional birthing customs persist as part of a holistic approach to childbirth. In Ethiopia, for example, midwives in certain ethnic groups continue to place iron near laboring women, believing it ensures a smooth delivery and protects the newborn from harm (Desta et al., 2019). The practice's continuity is also influenced by intergenerational transmission, where elders pass down knowledge and customs that reinforce collective identity.

b. Comparing Childbirth Experiences in Traditional vs. Hospital Settings

Childbirth experiences differ significantly between traditional home births and modern hospital deliveries. In traditional settings, birth is often surrounded by cultural rituals, emotional support from family and midwives, and the integration of spiritual or symbolic elements such as iron placement (Mekonnen et al., 2022). Many women feel a strong sense of comfort and familiarity in these settings as the birthing process aligns with their cultural and religious beliefs. However, traditional settings also come with higher risks due to the absence of emergency medical interventions in cases of complications (Worku et al., 2020).

Conversely, hospital births in Ethiopia and other African nations provide medical supervision, pain management, and access to life-saving interventions. While hospital deliveries have significantly reduced maternal and infant mortality rates (Berhan & Berhan, 2014), some women report feeling isolated due to the clinical nature of the process. Additionally, hospital environments may lack the cultural sensitivity found in traditional births, leading some women to experience psychological distress or dissatisfaction (Tadesse et al., 2021).

A key challenge in the transition from traditional to hospital births is ensuring culturally respectful maternity care. Some studies suggest that integrating positive cultural elements—such as allowing supportive family members, midwives, and traditional symbols—can enhance women's birthing experiences while maintaining medical safety (Hailu & Mariam, 2019). This approach could help bridge the gap between traditional beliefs and modern obstetric care.

The retention or abandonment of traditional childbirth practices, including the placement of iron objects, is shaped by sociocultural, religious, and medical influences. While modernization and hospital births have led to a decline in the practice, it remains prevalent in communities where cultural identity and traditional midwifery are strong. A balanced approach that respects cultural beliefs while prioritizing maternal health could lead to more positive childbirth experiences for women across Ethiopia and Africa.

c. A Comparative Analysis of Why Some Societies Abandon Astrological Childbirth Beliefs While Others Retain Them

Astrological beliefs surrounding childbirth have been practiced for centuries in many societies, with some continuing to follow them while others have abandoned them due to modernization, scientific advancements, and religious influences. This discussion explores the factors influencing the persistence or decline of these beliefs across different cultures.

Retention of Astrological Childbirth Beliefs: Astrology is still an essential component in delivery procedures in many cultures. Celestial bodies are still thought to influence a child's destiny, personality, and general well-being in some communities in Africa, Asia, and Latin America (Adeyemi & Adebayo, 2021). In Ethiopia, traditional beliefs align astrological interpretations with religious customs, where the timing of birth is thought to be linked to divine forces and cosmic arrangements (Tadesse, 2019). Similar perspectives exist in India and China, where astrological charts determine an auspicious time for birth and subsequent life events (Zhao & Liu, 2020).

The persistence of these beliefs can be attributed to: **Cultural Continuity:** Communities with strong oral traditions pass down astrological childbirth beliefs across generations, reinforcing their legitimacy.

Religious Endorsement: Some religious teachings incorporate astrological elements, providing spiritual justification for their continuation (Badran, 2021). **Psychological Comfort:** Pregnant women who believe in astrological timing may feel more in control and reassured throughout birthing (Singh & Verma, 2022).

Societal Shift Away from Astrological Childbirth Beliefs: Contrariwise, other societies have largely abandoned astrological interpretations of childbirth due to increasing reliance on science-based medical practices. The decline of these beliefs is evident in many Western nations, where biomedical explanations of birth outcomes have replaced supernatural interpretations (Smith & Johnson, 2018). In Ethiopia's urban areas, exposure to Western education and modern healthcare has led to a gradual shift away from traditional astrological childbirth customs (Mesfin & Getachew, 2020).

Key factors contributing to this decline include:

1. **Scientific Advancements:** The development of obstetrics and gynecology has provided empirical explanations for pregnancy and childbirth, reducing reliance on astrological theories (Roberts, 2019).
2. **Religious Reform Movements:** Some religious groups actively discourage astrological practices, viewing them as superstition rather than spiritual truth (Abdullahi, 2021).
3. **Globalization and Modernization:** Beliefs have changed due to increased exposure to diverse worldviews through media, education, and technology, especially among younger generations (Gyekye, 2019).
4. **Comparative Analysis: Africa vs. Europe and Asia:** The divergence in attitudes towards astrological childbirth beliefs can be seen in the contrast between Africa, Europe, and Asia:
5. **Africa:** While some African communities retain astrological childbirth customs, urbanization is leading to their gradual decline. In rural areas, astrological beliefs are still practiced alongside biomedical approaches (Tadesse, 2019).
6. **Europe:** Western societies have largely abandoned astrological childbirth beliefs due to the dominance of scientific reasoning and secularism (Smith & Johnson, 2018). However, some

alternative medicine movements continue to incorporate astrological perspectives (Williams, 2020).

7. Asia: Many Asian societies, particularly in India and China, still integrate astrology into childbirth customs. Astrology remains a strong cultural force, influencing naming ceremonies and future life planning (Zhao & Liu, 2020).

The retention or abandonment of astrological childbirth beliefs is shaped by cultural heritage, scientific progress, religious perspectives, and modernization. While some societies uphold these traditions due to their deep cultural and spiritual significance, others have moved towards scientific explanations for childbirth. A balanced approach that respects traditional beliefs while integrating scientific advancements may help bridge the gap between cultural heritage and modern healthcare.

IV. Conclusion

The study has explored the practice of placing iron objects near laboring women, examining its historical, cultural, religious, psychological, and scientific dimensions. Based on the findings from semi-structured interviews, holy books, and literature review, the following conclusions can be drawn:

Historical and Cultural Significance: In many cultures throughout Africa, Europe, Asia, and Latin America, it is customary to place iron objects like sickles, knives, or nails near laboring women. Historically, iron was believed to have protective qualities against evil spirits and negative energies, and this belief continues to hold significance for many communities today. The cultural continuity of this practice has been sustained through oral traditions, religious beliefs, and family customs.

Psychological Impact: Many participants reported psychological comfort associated with the presence of iron objects during labor. The practice can provide a sense of security and emotional reassurance, reducing stress and anxiety, which could, in turn, positively influence labor outcomes. This psychological effect aligns with the placebo effect theory, where the belief in protection itself can aid in reducing fear and pain.

The scientific explanations for the practice of placing iron near laboring women span biological, psychological, and sociocultural domains. Iron's antimicrobial properties may have historically contributed to childbirth safety, though modern medicine provides more effective infection control. Symbolic and psychological effects suggest objects can reduce stress and enhance emotional well-being during labor. Placebo and stress-relief mechanisms play a role in labor progression, with ritualized beliefs potentially influencing childbirth outcomes.

While modern medicine does not recognize the necessity of placing iron near laboring women, these findings highlight the complex interplay between cultural traditions, psychological support, and childbirth experiences. Future interdisciplinary research could explore how traditional childbirth practices intersect with modern obstetric care to optimize maternal health outcomes.

Religious and Spiritual Beliefs: Iron objects' religious significance in labor practices cannot be understated. Iron's association with protection, stemming from religious teachings in Christianity, Islam, and African traditions, underscores its symbolic importance in safeguarding the mother and child. Religious leaders and community elders continue to support this practice, reinforcing its connection to spiritual well-being.

Declining Use in Modern Settings: While the practice remains prevalent in rural or traditional settings, it is increasingly being abandoned in urban and hospital settings, where medical interventions are prioritized. Younger generations are less likely to adhere to practices, though respect for cultural heritage remains.

The scientific explanations for the practice of placing iron near laboring women span biological, psychological, and sociocultural domains. Despite the advancement of medical science, the persistence of this practice reflects the interplay between cultural beliefs and modern obstetric care.

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Recommendations

Further Research: Future investigations should explore the psychological effects of traditions, such as positioning iron objects during childbirth, particularly in regions where the practice remains prevalent. Investigating how such practices influence labor outcomes, pain management, and maternal well-being could offer valuable insights for integrating cultural beliefs into modern obstetric care.

Cultural Sensitivity in Healthcare: Healthcare providers in regions where this practice is still prevalent should consider adopting a culturally sensitive approach to childbirth. Patients and families should have open discussions with midwives, obstetricians, and nurses, who should respect their cultural beliefs while enlightening them about contemporary medical procedures.

Integration of Tradition and Modernity: Medical practitioners should consider incorporating elements of traditional practices that are not harmful into modern birth care settings. **Collaboration between Traditional and Modern Birth Practitioners:** In communities where traditional birth attendants (TBAs) are still active, fostering collaboration between TBAs and medical professionals could ensure that women receive comprehensive care.

Training TBAs in modern medical practices while respecting their traditional methods could improve maternal outcomes and enhance community trust in healthcare systems. Preserving the history of childbirth practices, including the role of iron objects, will contribute to cultural heritage preservation and allow future research into their evolution.

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