Review Article ISSN 2689-1050

Chemical & Pharmaceutical Research

A Cross Cultural Examination of Prenatal Care and Birthing Practices

Jessica Peters[1], Sophia Logan[1], KB Sneed[2] and Yashwant Pathak[2,3*]

[1]*Judy Genshaft Honors College, University of South Florida*

[2]*Taneja College of Pharmacy, University of South Florida, Tampa FL 33612, USA.*

[3]*Adjunct Professor Faculty of Pharmacy, Airlangga University, Surabaya, Indonesia.*

[*]Correspondence:
Yashwant Pathak, Taneja College of Pharmacy, University of South Florida, Tampa FL 33612, USA.

Received: 02 August 2021; **Accepted:** 28 August 2021

Citation: Jessica Peters, Sophia Logan, Sneed KB, et al. A Cross Cultural Examination of Prenatal Care and Birthing Practices. Chem Pharm Res. 2021; 3(1): 1-7.

ABSTRACT

Prenatal care is health care given to a pregnant woman and fetus until delivery, there is no set prenatal care routine nor are delivery practice, like women, each culture's prenatal care and birthing practices unique. Both Eastern and Ayurvedic medicine use centuries-old techniques and beliefs from ancient times to today such as food taboos and suggestions. Some of these ancient prescriptions and treatments are disputed by modern medicine, whereas treatments such as Eastern Acupuncture or Ayurvedic Yoga have been found to be beneficial and have been implemented worldwide. This sharing and spread of knowledge helps the human race develop, a key focus of this literature review. Both the United States and Europe went from heavy reliance on midwives and community assistance to utilization of hospitals and advanced medical technology largely due to the historically high maternal and infant mortality rates. Contrastingly, Native Americans have yet to significantly change their prenatal and birthing practices. Indigenous mothers rely on superstitions, herbal remedies, and community to protect their unborn children. Sub-Saharan Africa has a high maternal mortality possibly due to mothers preferring to continue use of traditional birth attendants. African medicine has various cultural pregnancy practices such as food taboos and burying the placenta. The Middle East is plagued with wars undoubtedly bringing tremendous stress to expecting mothers which can be detrimental to the woman and fetus. Patient care may benefit worldwide from having culture practices taught in medical schools, and from health professionals practicing cultural humility.

Keywords

Prenatal care, Birthing practices, Pregnancy, Culture, Eastern medicine, Ayurvedic practices, Yoga practices for prenatal care, Sub-Saharan African birthing practices, Stress during pregnancy, Western medicine.

Introduction

Women are unique creatures; each possesses a unique culture and personality. There is one commonality among the female population: the ability to carry and give birth to a child. Mothers want the best for their children, even when they have yet to leave the womb. Subsequently, mothers utilize prenatal care. Prenatal care (or antenatal care) is the medical care given to a pregnant woman before the birth of her child. Babies born without prenatal care are three times more likely to have low birth weights and five times more likely to die than babies born to mothers who do practice prenatal care [1], making antenatal care a vital part of a healthy pregnancy. Although throughout the world cultures aim to help both the mother and unborn child, different regions of the world have different ideas of how to approach prenatal care, childbirth and postnatal care.

In this paper, we discuss the prenatal care culture of six regions of the world: Eastern, Ayurvedic, Western, Native America, Africa, and Middle East. To our knowledge, this is the first study to discuss cultural trends in prenatal care and birthing practices on a global scale. For the purpose of this paper, culture is the identity of a certain group or region based on their social characteristics, customs, lifestyle, and history. For further clarification purposes, we used the term woman referring to an individual who is capable of carrying a child or becoming pregnant.

Both Eastern and Ayurvedic Medicine place a great importance on pregnancy and ensuring safe deliveries. Modern Asian medicine

still follows the traditional century's old medicinal beliefs and practices, which are helping mothers in today's world just as they did in ancient times. Acupuncture, a 500-year-old technique, is still used to ease pregnancy pains. Similarly, Yoga suggested by Ayurvedic Medicine is not only still used in India where it originated but also recommended in modern western medicine.

While the supine birthing position is most portrayed, many cultures throughout Asia and the world have other positions which make use of gravity such as squatting or sitting, which eases the pressure of delivery. By learning how different cultures handle delivery and prenatal care, women throughout the world can benefit from the collective knowledge. Of course, there are certain cultural practices which may be unfounded or even harmful to the mother and/or child, such as Chinese Angelica [2], one of the most popular antenatal care herbs in China often had as Dong Quai Tea, is actually believed to be bad for pregnancy in modern, western science, as it affects the abdominal muscles. Thus, if research can be done on common practices finding they are detrimental, then knowledge can be spread on why to avoid them, which also aids expecting mothers throughout the world.

Western medicine involves the care received by United States and European citizens. Although commonly grouped together, each region has a unique approach to pregnancies and deliveries. In the United States, women rarely utilized painkillers nor special foods to ensure a healthy pregnancy. However, as time passed and medical inventions were created, women started to rely on pain-reducing drugs. This transition further affected the delivery system. Before centralized care facilities, midwives used to deliver almost all of the babies. In the modern United States, almost all mothers deliver their children in hospitals which can be advantageous but there has been recent interest in the idea of home births, something Europeans often utilize. All European countries have hospitals, and a large portion of mothers utilize them due to the extensive services available to pregnant women. Nevertheless, European women primarily focus on who will deliver the child, not the location. As far back as the Renaissance era, Europe has placed a strong reliance on midwives to deliver the children. Midwives are valued in Europe because they teach mothers everything from prenatal care to postnatal care.

Native Americans, despite the multiple cultural influences they have faced throughout the last few hundred years, have a defined prenatal care and childbirth culture. The prenatal care Native American mothers rely on stems from superstitions. For example, they are not allowed to eat certain foods nor be present in certain situations. Pregnant women are also the subjects of gift giving and community ceremonies. To initiate labor, women rely on their female relatives and their medicine men to provide them with labor-inducing tea. Native American women also have two options for childbirth: alone delivery or assisted delivery.

African mothers place an emphasis on restricting foods which are considered to cause a hard pregnancy or delivery. Mothers also had a desire to deliver at home as traditional birth attendants were more likely to accommodate their cultural preferences.

The Middle East is known for civil unrest and war. Due to this climate, mothers experience stress and prenatal depression which can cause health conditions like preeclampsia and low birth weight.

Cultures around the World

Eastern Medicine

In Asia prenatal care was used to not only improve chances of a safe delivery, but also give comfort to expecting mothers. Methods used included the practice of acupuncture, use of herbs, birthing positions, and particular behaviors.

Acupuncture has been practiced in China for over 3,000 years [3] and used to relieve pain and tension caused by pregnancy. A study testing the effects of lower back acupuncture in the third trimester [4], found reduced pain for 60% of mothers receiving acupuncture as opposed to the 14% who reported reduced pain in the control group. Furthermore, there were no serious adverse effects found, supporting that this ancient treatment for pregnancy pain relief was effective. Majority of pregnant women experience back pains, some finding the pain nearly intolerable, but many are unaware or worried about trying acupuncture, so spreading information on this helpful treatment can benefit expecting mothers worldwide.

Birthing is often portrayed with mothers giving birth in a supine position (laying horizontally with torso facing up) but there are many other birthing positions. In Asia it is normal for mothers to deliver while sitting, squatting, or even standing. In countries such as Nepal, women give birth on hands and knees, in some countries women give birth while seated, such as India, and in other countries such as Laos, women may prefer to give birth while squatting. Each position has its own benefits additional to gravity: giving birth on hands and knees allows for comfort through pelvic tilts, back massages, or counter pressure; sitting can ease contraction pains and open up the pelvis; squatting opens up the pelvis [5]. Birthing in these positions is aided by gravity and also pressure is taken off the back and spinal cord nerves, making delivery less painful. Many women wanting to follow cultural practices feel unable or awkward delivering in medical facilities, which can be detrimental to the mother and/or baby. Laos has a high maternal mortality rate, so a study was conducted examining why only 15% of rural women in Laos deliver in clinics. The main reasons against birthing in clinics was supine delivery and the wish to follow traditional birthing practices, such as squatting [6]. To reduce maternal mortality in Laos and internationally, it is important for women to feel comfortable in clinics, which can be done by using, understanding, and accepting other traditions, as they are not only effective but culturally significant.

Eastern countries such as China, India, Myanmar, Thailand and Vietnam have behavioral taboos such as women should not lift heavy objects, lay on the abdomen, drive a car, or engage in sexual intercourse while pregnant [7]. Many other countries agree that lifting heavy objects is not advised, the CDC states that "Heavy lifting, standing for long periods of time, or bending a lot during

pregnancy could increase your chances of miscarriage, preterm birth, or injury during pregnancy" [8]. The CDC also advises that pregnant women should not engage in sexual intercourse, or at least use a condom, to protect against the transfer of STDs and viruses (such as Zika). Driving or laying on the abdomen during pregnancy lacks sufficient evidence to be considered harmful, more research should be conducted.

Globally herbs and pharmaceuticals are used, in Eastern Medicine, particularly China, Japan and Korea, some of the most popular herbs for pregnancy include Chinese Angelica, colloquially Dong Quai, and Ziziphus jujuba (Jujube). A 2016 study found 28.8% of Chinese women of all socioeconomic statuses consumed Chinese Angelica while pregnant, followed by 21.6% of the women having consumed Ziziphus Jujuba [9]. Certain ancient pharmaceuticals are still considered helpful while others are strongly advised against. For example, Dong Quai, is advised against by the NIH as it seemingly affects the muscles of the uterus which may complicate pregnancy or affect the fetus [10]. Contrastingly, use of Jujube is supported as it helps soothe abdominal pains during pregnancy [11]. Often modern and ancient medicine agree, but when they contradict, should findings of modern science or centuries of practice be more heavily weighted? Research should be conducted as to why certain pharmaceuticals were thought to help rather than solely observing their immediate effects.

Ayurvedic Medicine

Ayurvedic Medicine focuses on the concept of prevention is better than cure. Typically, expecting mothers following Ayurveda, will have a more holistic, lifestyle, approach to ensure a safe pregnancy and delivery. Eating a good diet, reducing stress, and doing exercises such as yoga are some preventative suggestions found in Ayurvedic Medicine and globally.

For food there is the concept of "dau-hrida" which essentially means two hearts and theorizes that the cravings women have during pregnancy is due to the fact that the fetus is requiring certain foods in order to properly develop [12]. Pregnancy cravings should be met, and a mother should not restrict her diet but also should not overeat, moderation is key. An average South Asian woman with desirable body weight is expected to gain between 11–13 kg over pregnancy, gaining too little can indicate lack of supplements to the fetus while gaining too much can complicate delivery [13]. Suggested foods include Ghee, a type of clarified butter which aids in digestion, milk is also suggested for fetal calcium intake. Honey and yogurt are a combination suggested in Ayurvedic Medicine but is advised against in Western Medicine since pregnant women are prone to diabetes, but Ayurvedic practitioners argue that although honey is a carbohydrate the main component is fructose which is different from other sugars which worsen diabetes [14]. Certain citrusy foods, such as pineapple, are avoided by expecting mothers.

Yoga originated in India over 5,000 years ago and is suggested to pregnant women through Ayurveda. Research found that the group of women who practiced yoga during pregnancy had significantly higher numbers of babies born at ≥2500 grams, preterm labor was significantly lower, and "complications such as isolated intrauterine growth retardation and pregnancy-induced hypertension were also significantly lower," [15]. Similar to Yoga is Aerobics in Western Medicine, which is also suggested for expecting mothers, AGOC [16] suggests brisk walking, aerobic swims, Yoga and Pilates for pregnant women. Veda Oil Massages are also suggested as it can reduce back pain, help distress, and increase blood flow [17], often mothers will have a massage done after a workout or stretch since Yoga also helps reduce pains and stress.

Western Medicine

During the nineteenth century, America experienced prenatal care and childbirth breakthroughs. First, doctors learned ether, chloroform, and anesthesia relived labor pains. Subsequently, women shifted "from having children at home to having children in hospitals" [18]. In addition, hospitals started to administer antibiotics and blood transfusions, allowing for a decrease in both infant and maternal mortality rates. Hospitals also experienced an expansion in staff; maternity care workers currently include "nurses, obstetricians, family physicians, pediatricians, and midwives" [19].

With the extensive health care network, America created a prenatal care and delivery plan that almost all hospitals utilize. Before admitted, expectant mothers undergo an obstetric triage. Medical professionals analyze "maternal condition, fetal heart rate tracing, uterine contractions, labor status, estimated due date, woman's perception of fetal movement, and any previous high-risk medical conditions" [19]. Once an official patient, physicians may institute a variety of procedures: insertion of an intravenous (IV) line, continuous electronic fetal monitoring, bed rest, cervical ripening, augmentation of labor, artificial rupture of membranes, and blood draws for laboratory studies. Expectant mothers do not typically decide the medical procedures done to them, especially in an emergency situation. Yet, mothers in the United States may determine if they give birth naturally or through surgery. The natural method involves women giving birth in labor rooms when their body naturally starts to push out the baby. The surgical method, known as a Caesarian section, involves removing the child through an incision made on the woman's abdomen. Physicians first utilized this method in cases when vaginal delivery is hazardous to either the mother or the baby. As C-sections became a routine procedure, American mothers began to prefer it over the natural technique.

In the United States, "98.4 percent of births take place in a hospital" [19]. Although hospitals are chosen by the majority of mothers, a few mothers "bear their children in special birthing rooms that provide a home-like environment" [18]. These home births are attended by midwives who "monitor the woman and fetus, provide one-to-one care and continuously assessing for complications" [19]. A prenatal care occupation similar to midwives is a doula. Doulas provide "nonclinical support during labor and birth, as well as during the prenatal and postpartum periods" [19]. Unlike midwives, doulas do not require formal training nor a certification to practice. Many expectant mothers prefer midwives over doulas for this reason alone. Yet, some women prefer doulas over

midwives because they offer additional emotional support to the expecting couple.

Along with American mothers, European women rely on modern medical care. European facilities have four divisions of care: subfertility management, antenatal care, labour and delivery, and postpartum care. Subfertility management helps couples who cannot conceive nor maintain a viable pregnancy. Examples of the technology utilized include "induction of ovulation, artificial insemination, or implantation of ovum or ova with conventional in vitro fertilization" [23]. Once a woman becomes pregnant, European guidelines encourage antenatal care to begin during the first trimester. The first antenatal care appointment women receive is an ultrasound scan that helps "identify medical conditions which need careful surveillance throughout pregnancy" [23]. Expectant mothers in Europe have access to both public and private antenatal care facilities. However, private childbirth facilities are rare and located in high-income, low-volume regions. Thus, the majority of mothers deliver in a hospital. After a woman delivers a child, medical professionals teach the mothers about "immediate skin-to-skin contact and breastfeeding" [22]. Hospital workers strongly discourage mothers to have bottle feeding as breast milk provides infants with more health benefits. Breastfeeding further creates an emotional bond between a mother and her infant, something all parents wish for. Postnatal periods in Europe further involve mothers creating lace hats and swaddling bands "to ensure proper growth [of their infants] by preventing any [extraneous] movement of their limbs" [21].

Native American Medicine

Before the United States formed, Native American tribes encompassed the area. Despite constant colonizing actions, Native Americans maintained their culture, including the way they approach pregnancies and deliveries. While pregnant, women are forbidden from "eating raccoon or pheasant [because they] would make the baby sickly or could cause death" [24] Speckled trout and black walnuts were also frowned upon as they were associated with birthmarks and big noses, respectively. Along with avoiding certain foods, women purposefully ate others. According to historian Ellen Holmes Pearson, "Native Americans were known to take exceptional care of themselves during pregnancy" [25]. This is because they realized by maintaining a healthy body, an uncomplicated labor and birth would result.

Eating different foods was not the only thing Native American women changed about themselves while pregnant; they also acted differently. Expectant mothers abided by superstitions to protect their unborn children. For example, in Inuit culture, pregnant woman "cannot nap at irregular times" nor "attend funerals because it can increase the risk of a miscarriage or stillbirth happening" [26]. Other tribes encouraged women to remember their dreams. In Native American culture, dreams are messages. By analyzing the symbols and signs in their dreams, women believed they could receive information from their unborn children. Tribes further protect their future generations by holding specific ceremonies. The Navajo tribe, for example, enacted a ritual known as the Blessing Way to place positive blessings into the mother and remove misfortunes. Other rituals involved specific, sacred items. These objects were sacred because the medicine man, or the traditional healer who was "wise in the ways of nature and the relationships between humans and the environment", utilized them [27].

Medicine men also played an important role before and during labor. These tribal leaders created herbal remedies "to promote rapid, to speed delivery of the placenta, [and] to relieve pain" [25]. In the Mahican tribe, they created a concoction "made of root bark that the mother drank shortly before labor began" [24]. Cherokee mothers favored a Partridgeberry tea and started drinking it several weeks before contractions started. They also utilized wild black cherry tea which stemmed from a tree's inner bark. Furthermore, the Koasati tribe created "a tea of the roots from the plant of cotton" [25]. Once labor starts, the expectant mother gathers all the necessary provisions. In Navajo culture, a common birthing tradition is "the use of the rope or Sash Belt thrown over tree limbs" [25]. Placing this intricate-colored sheep wool over the tree allows the mother to pull something as she is pushing out her child. Furthermore, it is tradition in some tribes for women in labor to "depart alone to a secluded place near a brook, or stream of water and prepare a shelter for themselves with mats and coverings" [24]. In other words, mothers deliver their children without the help of other tribe members. European observers furthermore "described solitary, painless births of the Native Americans", which is most likely inaccurate because men were forbidden from witnessing the birth of a child [28].

African Medicine

Every day, approximately 550 women die in sub-Saharan Africa due to childbirth which equates to 200,000 deaths annually [29]. To decrease the preventable maternal mortality, Sustainable Goal 3 in the 2030 Agenda for Sustainable Development stresses an increase in skilled birth care [30]. To curb the barrier of cost, the healthcare system in South Africa is free for pregnant women [31]. However, more than 80% of people in sub-Saharan Africa still use traditional medicine [32]. This disparity in health care facility attendance could be attributed to barriers like distance or cost in the form of time; however, culture is thought to be the main predictor behind lack of healthcare facility attendance [31].

Many women in sub-Saharan Africa are prevented from eating taboo foods during pregnancy due to cultural restrictions obtained from family members (primarily mothers and grandmothers) and elders in the community or due to their individual experiences during pregnancy [33]. Taboo foods were cited to cause problems with the child (health and/or social) and complications during delivery. These foods include oranges, nartjies, orange juices, aloe juice, pineapple, bananas, yogurt, fish, chicken, eggs, left-over food, potatoes, various meats (baboon, vervet monkey, red, etc.), and honey [33-34]. Many of the taboo foods contain crucial nutrients like iron in red meat. A lack of iron can result in anemia which is a common maternal malady, especially in Africa where 57.1% of pregnant woman have anemia [35]. Anemia during pregnancy is associated with adverse maternal and infant outcomes

like placental abruption, peripartum hemorrhage, maternal mortality, premature birth, low birth weight, and developmental impairments [36]. It is important for public health officials to have knowledge of such food taboos, so they can develop effective strategies like educational programs or nutritional drinks to combat malnourishment during pregnancy.

While culture may be responsible for food taboos, it must be noted that some foods are promoted during pregnancy. In Eastern Cape, women are told to consume horse womb to protect from witchcraft [33]. In Northern Ghana, women eat hot "zoomkom" (a drink made from millet which is rich in vitamin C) or "puusakoom" (a drink made from fruits) after childbirth [37].

When choosing the place of delivery, discretion is desired [37-38]. For this reason, many expectant mothers will choose to deliver at home, particularly in their mother's family home. The primary reason for privacy is to protect the mother and newborn from evildoers. For instance, the Beti in North Cameroon believe that an enemy may use the mother's blood from childbirth to make her barren and bring about the newborn's death [38]. Furthermore, women liked the freedom to discard the afterbirth in a culturally acceptable manner to prevent evil influences. In Northern Ghana, the placenta is linked to the child's destiny, so the placenta must be buried to preserve the child's destiny [37]. The Bangoua and Bakoko in Northern Cameroon believe the placenta should be wrapped in leaves and buried under a banana tree, a symbol of fertility, in the village thereby connecting the child with the father's land [38]. The Sabiny disposal method of the placenta changes depending on the birth. Normally, placentas are buried, but they may be fastened to the roof for a breech delivery, prayed for if there was a curse, or kept inside the house while the mother is in seclusion for the birth of twins [39].

Many women also choose to deliver at home to avoid cesarean-sections as vaginal birth signifies the passage to womanhood [39-40]. In some African cultures, a cesarean-section is viewed as a "reproductive function failure" [40]. Furthermore, women who undergo cesarean-sections are viewed as weak, lazy, and lacking faith. These views can be problematic as they are not related to the reasons behind cesarean-section recommendation. For instance, a health profession may suggest that a woman who is HIV-positive have a cesarean-section to prevent transmission to the child during birth [40]. Women also deliver at home as they fear the judgment of health professionals. Women in Northern Ghana reported that health professionals would insult natural processes that accompany labor like defecation and urination [37].

Generally, traditional birth attendants (TBAs) are viewed as more comforting and knowledgeable of cultural rites. TBAs teach women different birthing positions and encourage them to choose the position that is most comfortable to them which contrasts the biomedical standard of giving birth in the supine position [37]. For example, the sabiny of Uganda often squat, kneel or sit during delivery. Some even believe that giving birth in the supine position may kill the child [39]. In addition, TBAs allow family members to assist in the birthing process, whereas hospitals restrict or deny family member's access to the birthing mother [37].

Middle Eastern Medicine

The Middle East is characterized by civil and political unrest as well as war. Some of the recent conflicts in the Middle East include civil wars in Yemen and the Iraq-Palestine conflict. Loss, terror, poverty, and stress are common during war making citizens of such regions vulnerable [41,42].

Stress during the prenatal period has been shown to have a variety of impacts on the fetus like an increase in ADHD and anxiety in childhood, impaired cognition and stress hormone regulation due to decreased gray matter in the prefrontal cortex, and an alteration of the HPA axis function [43]. The impact of wartime stress on fetal development has not been studied, but one would assume that the extreme stress of war would possibly exacerbate these effects. A study of Denmark women showed that experiencing the death of a loved one during the first trimester correlated with higher rates of schizophrenia [44]. However, women living in war may have changed perceptions of trauma and stress. In a study of Somali women who had multiple encounters with violence, many women stated that they had not experienced a potentially traumatic event [45].

Another common symptom of war is depression. A study of Iraqi young people showed that many experienced depression and anxiety due to wartime stress [46]. Women who have had past depressive episodes are more likely to develop major depression during pregnancy [47]. In addition, poverty and increased life stress, both of which are common during war, are predictors of prenatal depression [48]. Mothers who have prenatal depression are at higher risk for preeclampsia, spontaneous abortion, and premature delivery. Infants born to mothers who experienced prenatal depression are more likely to have restricted growth and low birth weights putting them at higher risk for infant mortality [49]. Some of these factors may be explained by the increased cortisol levels associated with depression [50].

Conclusion

There are noticeable differences between the cultures discussed above and their practices. However, despite the physical boundaries, there are similarities as well. Throughout the world giving birth and pregnancy seems to be a cultural event not just involving the mother and child, but also her family and community. Majority of women conduct prenatal care according to century old practices and advice from elders, and give birth using help from doulas, midwives, female family members, etc. A second similarity across the cultures involves the expecting mother changing her lifestyle and behavior once pregnant. For instance, many women do not consume certain foods, such as pineapple which is not recommended in Ayurvedic Medicine or African Medicine. Nor do women participate in activities that may be harmful to the fetus. Some of the motives for changing her behavior are scientifically proven, some are done because of cultural beliefs. Another commonality is women undergo childbirth in a way that is most comfortable to them. A

large portion of delivery involves the position that the mother is in. Women may prefer laying straight across on a surface, while others stay in a standing or sitting orientation. Mothers also try to have a comfortable childbirth by initiating painless labor. In many of the regions, women who are full-term drink tea that supposedly helps promote a fast delivery. Mothers may also walk or stand for long-periods of time to encourage the child to leave her womb. The most important feature across all of the cultures, however, is women participate in natal care to promote the health of their unborn children. It may be shown in different ways throughout different regions, but mothers protect and care for their children.

Future Trends

Some common themes appeared which were outside the scope of this paper but are still important to note. They are as follows: Sex education, postpartum mental health, abortion, and fertility treatments. Though these topics were not addressed, they have important implications within the reproductive field.

Due to high immigration rates, it is necessary for healthcare professionals to gain cultural competence. This may be done by adding courses which focus on cultural norms around the world thus allowing doctors to deliver better patient-centered care. Some women do not feel comfortable while giving birth in clinics and hospitals because their beliefs and practices are ignored or they feel looked down upon, so it is important for delivery staff to be aware of these practices and be respectful, especially since many of these practices, such as squatting while giving birth, are actually very effective delivery methods.

By conducting such a large cross cultural literature review on antenatal and birthing practices, information gathered on similarities and differences can be used to benefit women across the world. If there are similarities across these cultures ranging from things to eat or do and those to avoid, they should be researched because most likely there is some reasoning behind it. As for differences, ones which are helpful can be spread and taught across the world, while cultural practices which are harmful can be educated against to increase the number of safe deliveries. In the future as globalization occurs and cultures intertwine collective knowledge will be extremely helpful and relied upon to benefit women and the entire human race.

References

1. https://www.womenshealth.gov/a-z-topics/prenatal-care.
2. https://medlineplus.gov/druginfo/natural/936.html.
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4104560/.
4. Kvorning N, Holmberg C, Grennert L, et al. Acupuncture relieves pelvic and low-back pain in late pregnancy. Acta Obstet Gynecol Scand. 2004; 83: 246-250.
5. https://www.whattoexpect.com/pregnancy/labor-and-delivery/delivery-options/labor-positions.aspx.
6. Sychareun V, Hansana V, Somphet V, et al. Reasons rural Laotians choose home deliveries over delivery at HEALTH facilities: A qualitative study [Abstract]. BMC Pregnancy and Child birth. 2012; 12:86.
7. Withers M, Kharazmi N, Lim E. Traditional beliefs and practices in pregnancy, childbirth AND postpartum: A review of the evidence from Asian countries. Midwifery.2018; 56: 158-170.
8. https://www.cdc.gov/niosh/topics/repro/physicaldemands.html#:~:text=Heavy%20lifting%2C%20standing%20for%20long,which%20might%20reflect%20reduced%20fertility.
9. Tang L, Lee A, Binns C, et al. Consumption of Chinese herbal Medicines during pregnancy AND postpartum: A prospective cohort study in China. Midwifery. 2016; 34: 205-210.
10. https://www.ncbi.nlm.nih.gov/books/NBK555484/.
11. https://doi.org/10.1111/j.0001-6349.2004.0215.x
12. Rhyner HH. Llewellyn's complete book of Ayurveda: A comprehensive resource for the understanding & practice of traditional Indian medicine (Ser. 9). Woodbury, MN: Llewellyn Publications. 2017.
13. Ingle PV, Chaudhari SL, Dighore PN, et al. Sociocultural, Healthy Nutrition & Eating, Exercise Pattern and Use of Ayurvedic Medicines in Pregnancy. Indian Journal of Pharmacy Practice.2012; 5: 5-12.
14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3331247/pdf/ASL-14-245.pdf
15. Narendran S, Nagarathna R, Narendran V, et al. Efficacy of Yoga on Pregnancy Outcome. The Journal of Alternative and Complementary Medicine. 2005; 11: 237-244.
16. https://www.acog.org/womens-health/faqs/exercise-during-pregnancy.
17. Rhyner HH. Llewellyn's complete book of Ayurveda: A comprehensive resource for the understanding & practice of traditional Indian medicine (Ser. 9). Woodbury, MN: Llewellyn Publications. 2017.
18. https://www.digitalhistory.uh.edu/topic_display.cfm?tcid=70.
19. https://www.ncbi.nlm.nih.gov/books/NBK555484/
20. McCool W, Simeone S. Birth in the United States: an overview of trends past and present. The Nursing clinics of North America. 2002; 37: 735-746.
21. http://www.vam.ac.uk/content/articles/r/renaissance-childbirth/.
22. https://www.euro.who.int/__data/assets/pdf_file/0010/277741/Place-of-birth-in-Europe.
23. https://europeristat.com/images/doc/EPHR/indicators.pdf.
24. https://teachinghistory.org/history-content/ask-a-historian/24097. https://pubmed.ncbi.nlm.nih.gov/12587371/.
25. https://www.lamaze.org/Connecting-the-Dots/series-welcoming-all-families-supporting-he-native-american-family.
26. https://www.babygaga.com/15-unique-pregnancy-rules-native-american-women-have-to follow/.
27. https://www.jognn.org/article/S0884-2175(15)33875-2/pdf
28. http://www.shermanindianmuseum.org/how-native-american-women-gave-birth.html.
29. World Health Organization, UNICEF, United Nations Population Fund and the World Bank. Trends in Maternal Mortality: 2000 to 2017. WHO, Geneva. 2019.
30. World Health Organization, Department of Reproductive Health and Research. Making pregnancy safer: The critical

role of the skilled attendant. 2004.
31. Ekpenyong MS, Bond C, Matheson D. Challenges of maternal and prenatal care in Nigeria. Journal of Intensive and Critical Care. 2019; 05: 1-6.
32. Mogawane MA, Mothiba TM, Malema RN. Indigenous practices of pregnant women at Dilokong hospital in Limpopo province, South Africa. Curationis. 2015; 38: 1–8.
33. Chakona G. Shackleton C. Food Taboos and Cultural Beliefs Influence Food Choice and Dietary Preferences among Pregnant Women in the Eastern Cape, South Africa. Nutrients. 2019; 11: 2668.
34. Tela FG, Gebremariam LW, Beyene SA. Food taboos and related misperceptions during pregnancy in Mekelle city, Tigray, Northern Ethiopia. PLoS ONE. 2020; 15: 1-14.
35. http://whqlibdoc.who.int/publications/2008/9789241596657_eng.pdf.
36. Mat Daud AA, Toh CQ, Saidun S. Mathematical modeling and analysis of anemia during pregnancy and postpartum. Theory in Biosciences. 2021; 140: 87.
37. Adatara P, Strumpher J, Ricks E, et al. Cultural beliefs and practices of women influencing home births in rural Northern Ghana. International Journal of Women's Health, ume. 2019; 11: 353-361.
38. Beninguisse G, De Brouwere V. Tradition and Modernity in Cameroon: The Confrontation between Social Demand and Biomedical Logics of Health Services. African Journal of Reproductive Health. 2004; 8: 152-175.
39. Kwagala B. Birthing choices among the Sabiny of Uganda. Culture, Health & Sexuality. 2013; 15: 401-414.
40. Ugwu NU, de Kok B. Socio-cultural factors, gender roles and religious ideologies contributing to Caesarian-section refusal in Nigeria. Reproductive Health. 2015; 12: 70.
41. Punamäki RL, Diab SY, Isosävi S, et al. Maternal pre- and postnatal mental health and infant development in war conditions: The Gaza Infant Study. Psychological Trauma: Theory, Research. Practice & Policy. 2018; 10: 144-153.
42. Al-Qubati D, Ostler T. between Worlds: A Yemeni Mother's Experiences of War, Separation, and Resettlement. Zero to Three. 2018; 39: 49-54.
43. Glover V O', Conor TG, Kieran O'Donnell. Prenatal stress and the programming of the HPA axis. Neuroscience and Bio behavioral Reviews. 2010; 35: 17-22.
44. Khashan AS, Abel KM, McNamee R, et al. Higher Risk of Offspring Schizophrenia Following Antenatal Maternal Exposure to Severe Adverse Life Events. Arch Gen Psychiatry. 2008; 2: 146.
45. de Jong K, van der Kam S, Swarthout T, et al. Exposure to violence and PTSD symptoms among Somali women. J Trauma Stress. 2011; 6: 628-634.
46. Freh FM. PTSD, depression, and anxiety among young people in Iraq one decade after the American invasion. Traumatology. 2016; 22: 56-62.
47. Marchesi C, Bertoni S, Maggini C. Major and Minor Depression in Pregnancy. Obstetrics and gynecology -New York. 2009; 6: 1292.
48. Bowen A, Muhajarine N. Prevalence of Antenatal Depression in Women Enrolled in an Outreach Program in Canada. Journal of Obstetric, Gynecologic & Neonatal Nursing. 2006; 35: 491-498.
49. Rahman A, Bunn J, Lovel H, et al. Association between antenatal depression and low birthweight in a developing country. Acta Psychiatrica Scandinavica. 2007; 6: 481-486.
50. Field T. Prenatal depression effects on early development: A review. Infant Behavior and Development. 2011; 34: 1-14.