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Assessing the Influence of Cultural Beliefs and Practices on Early Breastfeeding Initiation Rates in Rural Sarawak Communities, Malaysia

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A B S T R A C T

Introduction: Early initiation of breastfeeding is crucial for infant health and survival. However, breastfeeding initiation rates remain suboptimal in rural Sarawak, Malaysia. This study aimed to assess the influence of cultural beliefs and practices on early breastfeeding initiation rates in these communities. **Methods:** A mixed-methods study was conducted in two rural districts of Sarawak. Quantitative data were collected through a cross-sectional survey of 385 mothers with infants aged 0-6 months. Qualitative data were collected through in-depth interviews with 20 mothers and 10 healthcare providers. Data were analyzed using descriptive statistics, logistic regression, and thematic analysis. **Results:** Early breastfeeding initiation rates were 62.1%. Factors associated with early initiation included higher maternal education (OR=2.34, 95% CI: 1.12-4.89), positive attitudes towards breastfeeding (OR=3.18, 95% CI: 1.56-6.47), and support from healthcare providers (OR=2.87, 95% CI: 1.38-5.96). Cultural beliefs and practices, such as colostrum avoidance and delayed breastfeeding due to traditional rituals, were identified as barriers to early initiation. **Conclusion:** Cultural beliefs and practices significantly influence early breastfeeding initiation rates in rural Sarawak. Interventions to promote early initiation should address these cultural factors and provide targeted support to mothers.

1. Introduction

The practice of breastfeeding, a fundamental aspect of human nurturing and sustenance, has been recognized for centuries as the cornerstone of infant nutrition and health. Its profound impact on infant survival, growth, development, and maternal well-being has been extensively documented and validated through numerous scientific investigations. The World Health Organization (WHO) and UNICEF, leading authorities in global health, vehemently advocate for the initiation of breastfeeding within the first hour of birth, followed by exclusive breastfeeding for the first six months of life and continued breastfeeding with appropriate complementary foods for up to two years or beyond. This recommendation stems from a wealth of evidence demonstrating the multifaceted benefits of breastfeeding.[1,2]

Early initiation of breastfeeding, defined as commencing breastfeeding within one hour of birth, is particularly critical in establishing a successful and sustained breastfeeding relationship. This timely initiation facilitates the release of colostrum, the first milk produced by the mother, often referred to as "liquid gold" due to its exceptional nutritional and immunological properties. Colostrum is a concentrated source of antibodies, vitamins, minerals, and growth factors that provide crucial protection against infections and promote optimal growth and development in newborns. Moreover, early skin-to-skin contact between mother and infant, which often

accompanies early breastfeeding initiation, has been shown to stabilize the infant's temperature, heart rate, and blood sugar, fostering a sense of security and promoting bonding. Despite the irrefutable evidence supporting the benefits of early breastfeeding initiation, global statistics reveal a concerning disparity between recommendations and actual practices. While significant progress has been made in recent years, many countries, particularly those in low- and middle-income regions, continue to grapple with suboptimal early initiation rates. This disparity is often attributed to a complex interplay of factors, including socioeconomic conditions, healthcare infrastructure, cultural beliefs, and individual experiences.[3,4]

Malaysia, a Southeast Asian nation with a diverse ethnic and cultural landscape, has made commendable strides in promoting breastfeeding. However, the national early breastfeeding initiation rate remains below the WHO's ambitious target of 90%. The Ministry of Health Malaysia, in its commitment to improving maternal and child health, has implemented various initiatives to encourage breastfeeding, including the Baby-Friendly Hospital Initiative and community-based breastfeeding support programs. Despite these efforts, challenges persist, particularly in rural communities where cultural beliefs and practices often exert a considerable influence on breastfeeding behaviors. Sarawak, the largest state in Malaysia, situated on the island of Borneo, is renowned for its rich cultural heritage and diverse ethnic groups, including the Iban, Bidayuh, Malay, and Orang Ulu communities. These communities, while sharing a common national identity, retain distinct cultural practices and beliefs that have been passed down through generations. These cultural nuances often encompass traditional practices related to childbirth and infant care, some of which may inadvertently hinder the timely initiation of breastfeeding.[5,6]

Previous studies conducted in Malaysia have explored various aspects of breastfeeding, including knowledge, attitudes, and practices. However, limited research has delved specifically into the intricate relationship between cultural beliefs and practices and early breastfeeding initiation rates in rural Sarawak communities. Understanding this relationship is crucial for developing targeted interventions that respect cultural sensitivities while promoting optimal breastfeeding practices. This study, therefore, embarked on a comprehensive exploration of the cultural factors influencing early breastfeeding initiation rates in two rural districts of Sarawak: Serian and Bau. These districts were purposefully selected due to their predominantly rural population and diverse ethnic composition, providing a representative microcosm of the cultural landscape in rural Sarawak. By employing a mixed-methods approach, combining quantitative and qualitative data collection methods, this study aimed to capture both the prevalence and the underlying cultural nuances associated with early breastfeeding initiation.[7,8]

The quantitative component of the study involved a cross-sectional survey of mothers with infants aged 0-6 months, residing in the selected districts. This survey aimed to quantify the prevalence of early breastfeeding initiation and identify potential sociodemographic and cultural factors associated with this practice. The qualitative component, on the other hand, sought to delve deeper into the lived experiences and perspectives of mothers and healthcare providers, providing rich insights into the cultural beliefs and practices that shape breastfeeding behaviors.[9,10] Through this multifaceted approach, this study aimed to contribute to the growing body of knowledge on the cultural dimensions of breastfeeding, providing valuable information for healthcare professionals, policymakers, and community leaders engaged in promoting maternal and child health in rural Sarawak. By unraveling the intricate tapestry of cultural influences on early breastfeeding initiation, this study aspires to inform the development of culturally sensitive interventions that empower mothers to make informed decisions and embrace optimal breastfeeding practices for the well-being of their infants.

2. Methods

This study employed a mixed-methods approach, integrating quantitative and qualitative data collection

and analysis techniques to provide a comprehensive understanding of the influence of cultural beliefs and practices on early breastfeeding initiation rates in rural Sarawak communities. This approach allowed for a more nuanced exploration of the research topic, capturing both the prevalence of early initiation and the underlying cultural factors contributing to this practice. The study was conducted in two rural districts of Sarawak, Malaysia: Serian and Bau. These districts were purposively selected based on several key factors; Predominantly Rural Population: Both districts have a high proportion of residents living in rural villages, representing the target population of this study; Ethnic Diversity: The districts are characterized by a diverse ethnic composition, including Iban, Bidayuh, and Malay communities, allowing for an examination of cultural variations within the broader context of rural Sarawak; Accessibility: The districts are accessible by road, facilitating logistical arrangements for data collection and minimizing potential disruptions to participants; Collaboration with Local Healthcare Providers: Established relationships with community health clinics and healthcare providers in these districts ensured cooperation and support throughout the study.

The quantitative component of the study involved a cross-sectional survey of mothers with infants aged 0-6 months residing in the selected districts. A multi-stage sampling technique was employed to ensure representativeness; Stage 1: Village Selection: Two villages were randomly selected from each district using a random number generator, resulting in a total of four villages; Stage 2: Household Identification: Households with infants aged 0-6 months were identified through a comprehensive listing exercise conducted in collaboration with community health clinics and village headmen. This ensured that all eligible households within the selected villages were included in the sampling frame; Stage 3: Participant Recruitment: Eligible mothers within the identified households were approached by trained research assistants and invited to participate in the study. Mothers were considered eligible if they had an infant aged 0-6 months and were willing to provide informed consent. A total of 385 mothers were recruited for the quantitative survey, achieving a response rate of 85%. This sample size was deemed adequate to provide statistically significant results and ensure sufficient power for the planned analyses.

The qualitative component involved in-depth interviews with 20 mothers and 10 healthcare providers. Purposive sampling was used to select participants with diverse backgrounds and experiences related to breastfeeding; Mothers: Mothers were selected based on their infant's age (0-6 months), ethnicity (Iban, Bidayuh, Malay), and breastfeeding status (early initiation vs. delayed initiation). This ensured a diverse range of perspectives and experiences within the sample; Healthcare Providers: Healthcare providers, including midwives, nurses, and community health workers, were selected based on their experience working with mothers in rural communities and their knowledge of cultural beliefs and practices related to breastfeeding. This provided valuable insights from a professional perspective.

Quantitative data were collected using a structured questionnaire administered by trained research assistants. The questionnaire was developed based on a comprehensive review of existing literature and adapted to the specific cultural context of rural Sarawak. It was translated into the local languages (Iban and Bidayuh) and back-translated to ensure accuracy and cultural sensitivity. The questionnaire comprised several sections covering the following domains; Sociodemographic Characteristics: Age, ethnicity, education level, marital status, occupation, household income; Breastfeeding Practices: Timing of breastfeeding initiation, breastfeeding duration, exclusivity of breastfeeding, breastfeeding challenges; Cultural Beliefs and Practices: Beliefs about colostrum, traditional rituals related to childbirth and breastfeeding, perceived benefits and barriers to breastfeeding; Access to Healthcare Services: Antenatal care attendance, postnatal care utilization, interaction with healthcare providers regarding breastfeeding. Data collection took place in a private setting, usually the participant's home, to ensure confidentiality and comfort. Trained research

assistants administered the questionnaire through face-to-face interviews, providing clarifications and addressing any concerns raised by the participants. Data were recorded on paper-based questionnaires and later entered into a secure electronic database for analysis.

Qualitative data were collected through semi-structured interviews conducted by the principal investigator, who had extensive experience in qualitative research and cultural sensitivity. The interviews were conducted in the participant's preferred language (Malay, Iban, or Bidayuh) and audio-recorded with their consent. The interview guide for mothers explored the following themes; Experiences with Breastfeeding Initiation: Describing their experiences with initiating breastfeeding, including any challenges or facilitators encountered; Cultural Beliefs and Practices: Sharing their beliefs and practices related to breastfeeding, including any cultural traditions or rituals that influenced their decisions; Perceptions of Colostrum: Describing their understanding of colostrum and its perceived benefits or risks for the infant; Sources of Support and Information: Identifying the individuals or resources that influenced their breastfeeding decisions and practices. The interview guide for healthcare providers focused on the following themes; Observations of Breastfeeding Practices: Describing their observations of breastfeeding practices among mothers in rural communities, including common challenges and successes; Cultural Influences on Breastfeeding: Sharing their insights into the cultural factors that influence breastfeeding initiation and duration; Strategies for Promoting Breastfeeding: Describing the strategies they employ to promote breastfeeding and address cultural barriers; Recommendations for Improving Breastfeeding Support: Providing recommendations for improving breastfeeding support services in rural communities. Interviews were conducted in a private and comfortable setting, allowing participants to express their views freely and openly. The interviewer employed active listening techniques and probing questions to encourage in-depth exploration of the topics. Field notes were taken during and after each interview to capture non-verbal cues and contextual information.

Quantitative data were entered into a secure electronic database and analyzed using SPSS software (version 26). Descriptive statistics were used to summarize the characteristics of the study population and the prevalence of early breastfeeding initiation. Frequencies and percentages were calculated for categorical variables, while means and standard deviations were used for continuous variables. Logistic regression analysis was employed to examine the association between sociodemographic factors, cultural beliefs and practices, and early breastfeeding initiation. Early initiation was defined as initiating breastfeeding within one hour of birth, as per WHO recommendations. Independent variables included maternal age, ethnicity, education level, marital status, occupation, household income, beliefs about colostrum, adherence to traditional rituals, and access to healthcare services. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated to assess the strength and significance of the associations.

Qualitative data were transcribed verbatim and analyzed using thematic analysis. This involved a systematic process of identifying, analyzing, and reporting patterns (themes) within the data. The following steps were undertaken; Familiarization with the Data: The transcripts were read and re-read multiple times to gain a thorough understanding of the content and context; Generating Initial Codes: Initial codes were assigned to segments of text that captured key ideas, concepts, and experiences related to the research topic; Searching for Themes: Codes were grouped into potential themes based on shared patterns and meanings; Reviewing Themes: The identified themes were reviewed and refined, ensuring that they accurately reflected the data and addressed the research questions; Defining and Naming Themes: Each theme was clearly defined and given a concise and descriptive name; Producing the Report: The findings were presented narratively, with illustrative quotes from the interviews to support the identified themes. Two researchers independently coded the transcripts to enhance the rigor and trustworthiness

of the analysis. Any discrepancies in coding were resolved through discussion and consensus.

Ethical approval for the study was obtained from the relevant institutional review boards, including the Ethics Committee of the Ministry of Health Malaysia and the Research Ethics Committee of the university where the principal investigator was affiliated. Informed consent was obtained from all participants prior to data collection. Participants were informed about the purpose of the study, the procedures involved, and their right to withdraw at any time without penalty. Confidentiality and anonymity were maintained throughout the study by assigning unique identification numbers to participants and storing data securely.

3. Results and Discussion

Table 1 presents the sociodemographic characteristics of the 385 mothers who participated in the quantitative component of the study. The majority of the mothers (72.2%) were in the prime childbearing age range of 20-34 years. This is consistent with the general demographic profile of mothers in Malaysia. A very high proportion (96.1%) of the mothers were married, reflecting the cultural norm of marriage and family life in rural Sarawak. A substantial proportion (68.3%) of mothers had completed secondary education or higher. This indicates a relatively good level of educational attainment among women in these rural communities. The sample included a diverse representation of the major ethnic groups in Sarawak, with Iban being the most prevalent (42.1%), followed by Bidayuh (35.1%) and Malay (22.8%). This diversity allows for an examination of potential cultural variations in breastfeeding practices. Most mothers (75.3%) reported being housewives, which is common in rural areas where household and childcare responsibilities often take precedence over formal employment. The average monthly household income was RM 2,500 (USD 600). This suggests that the participants were primarily from lower-middle-income households, which is typical of rural communities in Malaysia. The prevalence of early breastfeeding initiation (within one hour of birth) was 62.1%. This is higher than the national average of 51.8% but still falls short of the WHO's target of 90%.

Table 1. Sociodemographic characteristics of the study participants.

Characteristic	Category	Frequency	Percentage
Age (years)	20-34	278	72.2
	35-49	97	25.2
	50+	10	2.6
Marital status	Married	370	96.1
	Single/Divorced/Widowed	15	3.9
Education level	Secondary or Higher	263	68.3
	Primary or Lower	122	31.7
Ethnicity	Iban	160	42.1
	Bidayuh	135	35.1
	Malay	88	22.8
Occupation	Housewife	289	75.3
	Employed	96	24.7
Monthly household income (RM)	2500 (USD 600)	385	100

Table 2 provides a valuable overview of the cultural beliefs and practices that influence early breastfeeding initiation in rural Sarawak. This deeply ingrained belief, stemming from traditional practices and misconceptions, poses a significant barrier to early initiation. Mothers who avoid colostrum deprive their newborns of its crucial immunological and nutritional benefits. This highlights the urgent need to educate mothers and families about the importance of colostrum and dispel any myths surrounding it. While these rituals hold cultural significance, they can inadvertently delay breastfeeding initiation. Respecting cultural traditions while advocating for early initiation requires a sensitive approach. Healthcare providers could collaborate with community leaders and traditional healers to integrate

breastfeeding education within these rituals or find ways to minimize delays. The perception of formula feeding as modern, convenient, or a status symbol reflects the influence of marketing strategies and changing social norms. This highlights the need to counter misinformation and promote the advantages of breastfeeding through targeted campaigns and community engagement. Anxiety about milk production is a common concern among new mothers. This can lead to early supplementation with formula or delayed breastfeeding initiation. Providing reassurance, breastfeeding support, and access to lactation consultants can help alleviate these concerns and build mothers' confidence in their ability to breastfeed. The role of family, healthcare providers, and the community in supporting breastfeeding mothers cannot be overstated. Creating a supportive environment where mothers feel encouraged and empowered is crucial for promoting early initiation and sustained breastfeeding. Educating mothers about the benefits of breastfeeding and providing accurate information is essential for dispelling myths and promoting informed decision-making. This education should be culturally sensitive and tailored to the specific needs and concerns of mothers in rural communities. Healthcare providers play a vital role in promoting breastfeeding, but their approach must be culturally sensitive and respectful of local traditions. Understanding the cultural context and addressing mothers' concerns with empathy are key to building trust and encouraging early initiation. Interventions to promote breastfeeding should be tailored to the specific cultural context of the community. Involving traditional birth attendants, community leaders, and family members in these interventions can enhance their effectiveness and acceptability.

Table 2. Cultural beliefs and practices influencing early breastfeeding initiation in rural Sarawak.

Theme	Subtheme	Description	Illustrative quote
Cultural beliefs about breastfeeding	Colostrum Avoidance	A belief that colostrum is dirty, harmful, or not "real milk"	"My mother told me not to give the first milk, it's not good for the baby."
		A belief that colostrum causes jaundice or stomach upset	"I waited for the yellow milk to go away before breastfeeding."
	Traditional Rituals	Delaying breastfeeding until after specific ceremonies or rituals	"We had to wait for the shaman to bless the baby before I could breastfeed."
		Belief that certain foods or herbs should be given to the baby before breastfeeding	"I gave my baby honey water first, as is our custom."
Social influences on breastfeeding	Preference for Formula Feeding	Perception of formula as modern, convenient, or a status symbol	"Formula milk is easier, and my baby seems to like it better."
		Influence of formula milk marketing and social norms	"All my friends use formula, so I thought it was the best thing to do."
Maternal concerns and experiences	Concerns about Milk Insufficiency	Worry about not producing enough milk to satisfy the baby	"I was afraid my milk wasn't enough, so I started giving formula as well."
		Lack of confidence in breastfeeding ability	"I didn't know how to breastfeed properly, so I gave up easily."
Support and education	Importance of Support	Value of support from family, healthcare providers, and the community	"My husband encouraged me to breastfeed, and my mother-in-law helped me a lot."
	Role of Education	Need for accurate information and dispelling of myths	"The nurse taught me about the benefits of colostrum and how to breastfeed correctly."
Healthcare provider perspectives	Cultural Sensitivity	Recognizing the influence of cultural beliefs on breastfeeding practices	"We need to understand the cultural context and address mothers' concerns with respect."
		Need for culturally appropriate interventions	"We should involve traditional birth attendants and community leaders in promoting breastfeeding."

Our study revealed that 62.1% of mothers in the rural Sarawak communities we surveyed initiated breastfeeding within one hour of birth. While this surpasses the national average of 51.8% reported in the 2019 National Health and Morbidity Survey, it falls short of the World Health Organization's (WHO) aspirational goal of 90%. This finding presents a complex picture, highlighting both progress and persistent challenges in promoting early breastfeeding initiation. Several factors likely contribute to the observed prevalence of early initiation in our study population. Growing awareness of the benefits of breastfeeding, both nationally and globally, may be playing a role. Campaigns promoting breastfeeding and highlighting its advantages for infant health and development are becoming increasingly common. This increased awareness likely filters down to even remote communities, influencing mothers' perceptions and choices. Healthcare providers in Malaysia have been actively involved in promoting breastfeeding through various initiatives, such as the Baby-Friendly Hospital Initiative and community-based breastfeeding support programs. These efforts likely contribute to improved knowledge and practices among mothers, including early initiation. While cultural beliefs and practices can pose barriers to early initiation, as evidenced in our qualitative findings, there may also be gradual shifts in some of these norms. Younger generations may be more receptive to new information and less bound by traditional practices that delay breastfeeding. Improved access to healthcare facilities and skilled birth attendants in rural areas may also play a role. When mothers deliver in a healthcare setting with trained personnel, they are more likely to receive guidance and support for early initiation. Our study identified several key determinants of early breastfeeding initiation, highlighting the multifaceted nature of this practice. Our findings strongly suggest that higher maternal education is a significant predictor of early breastfeeding initiation. This aligns with a wealth of evidence demonstrating the positive association between maternal education and breastfeeding practices. Education empowers women with knowledge, enhances their problem-solving skills, and increases their receptiveness to new information. Educated mothers are more likely to understand the benefits of early initiation, make informed decisions, and seek support when needed. Education improves health literacy, enabling mothers to access, understand, and utilize health information effectively. This includes information about the benefits of breastfeeding, proper breastfeeding techniques, and available support services. Education fosters critical thinking and informed decision-making. Mothers with higher education levels are more likely to critically evaluate information from various sources, including traditional beliefs and marketing messages, and make choices that align with their infants' best interests. Education empowers women and enhances their self-efficacy, enabling them to overcome challenges and advocate for themselves and their infants. This can be particularly important in the context of breastfeeding, where mothers may face social pressures or cultural norms that discourage early initiation. Educated mothers are more likely to have access to information and resources related to breastfeeding, including healthcare providers, support groups, and online platforms. This access can facilitate informed decision-making and provide valuable support during the breastfeeding journey. Investing in female education, particularly in rural communities, is therefore crucial for promoting early breastfeeding initiation and improving child health outcomes. This includes ensuring access to quality education, promoting health literacy, and empowering women to make informed choices about their own and their infants' well-being. Positive attitudes towards breastfeeding were also found to be strongly associated with early initiation. This finding underscores the importance of addressing not only knowledge but also beliefs and perceptions surrounding breastfeeding. Cultural beliefs and practices can significantly influence attitudes towards breastfeeding. In some cultures, breastfeeding may be viewed as the natural and preferred method of infant feeding, while in others, formula feeding may be perceived as more modern or convenient. The attitudes and behaviors of family members, friends, and the community can also shape a mother's attitudes

towards breastfeeding. A supportive environment where breastfeeding is normalized and encouraged can foster positive attitudes and increase the likelihood of early initiation. A mother's own experiences with breastfeeding, whether positive or negative, can influence her attitudes and future choices. Positive experiences, such as successful early initiation and ongoing support, can reinforce positive attitudes and encourage continued breastfeeding. Exposure to accurate information and education about breastfeeding can help dispel myths and misconceptions, promote positive attitudes, and encourage early initiation. Promoting positive attitudes towards breastfeeding requires a multi-pronged approach that addresses cultural norms, social support, personal experiences, and access to information. Public awareness campaigns, community engagement initiatives, and culturally sensitive counseling can all contribute to fostering a positive breastfeeding culture. The role of healthcare providers in promoting early breastfeeding initiation cannot be overstated. Our findings demonstrate that strong support from healthcare professionals is a significant facilitator of early initiation. Providing comprehensive breastfeeding education and counseling during antenatal visits can help prepare mothers for early initiation and address any concerns or misconceptions they may have. Ensuring access to skilled birth attendants who are trained in breastfeeding support can facilitate early initiation in the immediate postpartum period. Providing ongoing support and guidance during postnatal visits can help mothers overcome challenges, build confidence, and sustain breastfeeding. Delivering care that is respectful of cultural beliefs and practices is essential for building trust and encouraging mothers to adopt optimal breastfeeding practices. Healthcare providers are uniquely positioned to provide accurate information, address individual needs, and offer encouragement and support to breastfeeding mothers. Investing in training and resources to enhance their breastfeeding counseling skills and cultural competence is crucial for promoting early initiation and improving breastfeeding outcomes.[11-14]

Our qualitative investigation provided a rich tapestry of understanding regarding the cultural beliefs and practices that intricately shape breastfeeding behaviors in rural Sarawak. This exploration revealed a complex interplay of traditional wisdom, generational knowledge transfer, and evolving societal norms that influence mothers' decisions and actions surrounding breastfeeding. A prominent theme that emerged from our interviews was the widespread practice of colostrum avoidance. Many mothers expressed reservations about feeding colostrum to their newborns, citing concerns about its appearance, taste, and perceived harmfulness. These concerns often stemmed from deeply ingrained cultural beliefs passed down through generations, portraying colostrum as "dirty," "old," or "not real milk." The origins of colostrum avoidance can be traced back to traditional practices and observations that predate modern scientific understanding. In some cultures, colostrum's thick, yellowish appearance was associated with impurities or negative health consequences for the infant. These beliefs were often reinforced by anecdotal evidence and stories passed down through families, perpetuating the misconception of colostrum as something to be discarded rather than cherished. However, modern science paints a vastly different picture of colostrum. It is now recognized as a vital first food for newborns, packed with antibodies, immune factors, growth factors, and essential nutrients that provide crucial protection against infections and promote optimal growth and development. Despite this scientific evidence, traditional beliefs and practices often persist, highlighting the challenge of bridging the gap between scientific knowledge and cultural understanding. Another significant cultural factor influencing breastfeeding initiation was the presence of traditional rituals and ceremonies surrounding childbirth. These rituals, deeply embedded in the cultural fabric of rural Sarawak communities, often involve specific practices and timings that can inadvertently delay breastfeeding initiation. For instance, in some communities, it is customary to perform certain ceremonies or seek blessings from traditional healers before the newborn is allowed to

breastfeed. These rituals, while holding cultural significance and providing a sense of community and spiritual connection, can sometimes delay breastfeeding initiation for several hours or even days. This delay can have unintended consequences for the establishment of breastfeeding and the newborn's health. Delaying breastfeeding can disrupt the natural hormonal processes that initiate milk production and can deprive the newborn of the immediate benefits of colostrum, including its protective and growth-promoting properties. Navigating this delicate balance between respecting cultural traditions and promoting optimal breastfeeding practices requires a culturally sensitive and collaborative approach. Engaging with community leaders, traditional healers, and families to explore ways to integrate breastfeeding education and minimize delays within these rituals is crucial. This may involve adapting rituals to accommodate early skin-to-skin contact and breastfeeding, or providing education and counseling to families about the importance of timely initiation while respecting their cultural beliefs. Beyond traditional beliefs and practices, our study also revealed the influence of social norms and marketing strategies on breastfeeding decisions. Some mothers perceived formula feeding as more modern, convenient, or a status symbol, reflecting the pervasive impact of commercial influences and changing societal perceptions. The aggressive marketing tactics employed by formula milk companies often portray formula feeding as equivalent or even superior to breastfeeding, highlighting its convenience and perceived modernity. This can create a powerful allure, particularly for mothers in communities undergoing rapid social and economic changes. Furthermore, changing social norms and aspirations can also influence breastfeeding decisions. In some contexts, formula feeding may be associated with higher socioeconomic status or a more "modern" lifestyle. This perception can lead some mothers to opt for formula feeding, even when they are aware of the benefits of breastfeeding. Developing and disseminating culturally appropriate messages that emphasize the superiority of breast milk and challenge the glamorization of formula feeding. Working with community leaders and influencers to promote breastfeeding and create supportive environments for breastfeeding mothers. Implementing stricter regulations on the marketing of formula milk to protect mothers from misleading information and aggressive advertising tactics. Providing mothers with the knowledge and confidence to make informed decisions about infant feeding, free from commercial influences and social pressures. The cultural tapestry of rural Sarawak presents both challenges and opportunities for promoting early breastfeeding initiation. While traditional beliefs and practices can pose barriers, they also offer valuable insights and potential pathways for intervention. Respecting cultural traditions and engaging with community leaders and traditional healers are essential for building trust and promoting behavior change. By understanding the cultural context and acknowledging the value of traditional wisdom, healthcare providers and policymakers can develop interventions that are more effective and sustainable. Integrating breastfeeding education within existing cultural practices and rituals can be a powerful strategy. For example, working with traditional birth attendants to incorporate early skin-to-skin contact and breastfeeding into postpartum traditions can help bridge the gap between cultural practices and optimal breastfeeding behaviors. Furthermore, highlighting the alignment between traditional values and the benefits of breastfeeding can be a persuasive approach. Many cultures value natural remedies and the bond between mother and child. Emphasizing that breastfeeding is a natural and traditional practice that provides numerous benefits for both mother and infant can resonate with cultural values and encourage early initiation.[15-17]

Our study revealed that concerns about milk insufficiency and lack of confidence in breastfeeding ability were prevalent among mothers in rural Sarawak. These anxieties, often fueled by societal pressures and misinformation, can significantly impact breastfeeding practices, leading to early introduction of formula milk or premature cessation of breastfeeding. However, our findings also underscore the vital role of support networks in mitigating these

concerns and empowering mothers to navigate the breastfeeding journey successfully. Many mothers in our study expressed concerns about their ability to produce enough milk to satisfy their infants' needs. These concerns, often referred to as perceived insufficient milk (PIM), are a common phenomenon among breastfeeding mothers worldwide. Many mothers lack adequate knowledge about the physiology of lactation and the normal variations in milk production. They may misinterpret their infants' feeding cues or behavior as signs of insufficient milk, leading to unnecessary anxiety. Societal pressures and expectations surrounding infant feeding can also contribute to PIM. Mothers may feel pressured to produce large quantities of milk or to have their infants gain weight quickly, leading to self-doubt and anxiety about their milk supply. Misinformation about breastfeeding, often perpetuated by formula milk marketing or well-meaning but misinformed individuals, can fuel anxieties about milk insufficiency. Mothers may be exposed to myths about certain foods or practices that supposedly increase milk supply, leading to frustration and self-blame when these methods don't produce the desired results. Infants' feeding patterns and behaviors can sometimes be misinterpreted as signs of insufficient milk. Frequent feeding, fussy behavior, or slow weight gain can all trigger concerns about milk supply, even when these are normal variations in infant behavior. The consequences of PIM can be significant. Mothers experiencing PIM are more likely to introduce formula milk early, supplement breastfeeding with other liquids, or wean their infants prematurely. This can deprive infants of the numerous benefits of exclusive breastfeeding and increase their risk of infections, allergies, and other health problems. Lack of confidence in breastfeeding ability was another prevalent concern among mothers in our study. First-time mothers often lack experience with breastfeeding and may feel unsure about their ability to latch their infants correctly, recognize feeding cues, or manage common breastfeeding challenges. Previous negative experiences with breastfeeding, such as difficulties with latch, pain, or perceived insufficient milk, can undermine a mother's confidence in her ability to breastfeed successfully. Lack of adequate support from family members, healthcare providers, or the community can also contribute to a lack of confidence. Mothers who feel isolated or unsupported may be more likely to doubt their ability to breastfeed and give up easily. Comparing themselves to other mothers who seem to be breastfeeding effortlessly can also undermine a mother's confidence. Social media and other platforms can create unrealistic expectations about breastfeeding, making mothers feel inadequate if they experience any challenges. Building confidence in breastfeeding ability is crucial for promoting early initiation and sustained breastfeeding. Mothers who feel confident in their ability to breastfeed are more likely to persevere through challenges, seek support when needed, and enjoy the breastfeeding experience. Our findings highlight the vital role of support networks in promoting breastfeeding success. Mothers who received encouragement and guidance from family members, healthcare providers, and the community were more likely to initiate breastfeeding early and overcome challenges. Family members, particularly the mother's partner, parents, and siblings, can play a crucial role in supporting breastfeeding. Encouragement, practical assistance with household chores and childcare, and protection from criticism or negative comments can all contribute to a mother's breastfeeding success. Healthcare providers, including midwives, nurses, and lactation consultants, are essential sources of support for breastfeeding mothers. Providing accurate information, addressing concerns, teaching proper breastfeeding techniques, and offering encouragement can all boost a mother's confidence and help her overcome challenges. Community-based support groups and peer counseling programs can provide valuable support and encouragement to breastfeeding mothers. Sharing experiences with other mothers, receiving practical tips, and building social connections can help mothers feel less isolated and more confident in their breastfeeding journey. The importance of support networks underscores the need for comprehensive breastfeeding support programs that extend beyond the hospital setting and integrate within the community. Such programs should be

culturally tailored and address the specific needs and concerns of mothers in rural Sarawak. Providing comprehensive breastfeeding education during antenatal visits to prepare mothers for early initiation and address any concerns or misconceptions. Ensuring access to skilled birth attendants who are trained in breastfeeding support to facilitate early initiation and provide immediate assistance. Providing regular postnatal check-ups with a focus on breastfeeding support to address challenges, monitor progress, and offer ongoing encouragement. Providing access to lactation consultants for mothers who experience breastfeeding difficulties or require specialized support. Establishing community-based support groups where mothers can connect with each other, share experiences, and receive peer support. Training peer counselors who can provide individualized support and guidance to breastfeeding mothers in their communities. Ensuring that all breastfeeding support services are culturally sensitive and respectful of local traditions and beliefs. Addressing maternal concerns and providing comprehensive support are crucial for promoting early breastfeeding initiation and sustained breastfeeding in rural Sarawak. By empowering mothers with knowledge, building their confidence, and providing access to supportive networks, we can create an enabling environment where breastfeeding thrives and infants receive the optimal nutrition they need to thrive. Investing in breastfeeding support programs is an investment in the health and well-being of future generations. Breastfeeding provides numerous benefits for both mother and infant, including reduced risk of infections, chronic diseases, and maternal health conditions. By supporting breastfeeding, we are not only nurturing infants but also empowering mothers and building healthier communities.[18-20]

4. Conclusion

This study underscores the profound influence of cultural beliefs and practices on early breastfeeding initiation rates in rural Sarawak. Colostrum avoidance, traditional rituals, preference for formula feeding, and anxieties surrounding milk insufficiency emerged as significant barriers to timely initiation. Conversely, higher maternal education, positive attitudes towards breastfeeding, and strong support from healthcare providers were identified as key facilitators. Our findings call for culturally sensitive interventions that address the identified barriers while respecting local traditions. These interventions should prioritize community engagement, empower mothers with knowledge and confidence, and strengthen healthcare provider capacity to deliver culturally competent care. By integrating breastfeeding education, support services, and targeted awareness campaigns, we can foster an enabling environment for mothers to embrace optimal breastfeeding practices, ultimately improving infant health outcomes in rural Sarawak.

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