ORIGINAL ARTICLE

Breastfeeding Among the Orang Asli in Peninsular Malaysia: Insights From a Cross-sectional Study of Knowledge, Attitude and Practice

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ABSTRACT

Introduction: Breastfeeding is vital for child survival and development, yet its practices are influenced by cultural, social, and informational factors. There is inadequate data concerning breastfeeding knowledge, attitudes, and practices (KAP) among the Orang Asli in Malaysia. This study aims to assess the KAP related to breastfeeding among Orang Asli in Peninsular Malaysia. **Methods:** A cross-sectional study was carried out between July 2022 and November 2023 among Orang Asli women aged 18 years and older with at least one child. Respondents were selected from sub-ethnic groups across three main indigenous categories. Data were gathered through a structured questionnaire, administered by interviewers which covered socio-demographics, knowledge, attitudes, and practices. Descriptive statistics were used for analysis. **Results:** One hundred respondents participated in the study. The majority (89%) had practiced exclusive breastfeeding, and 90% intended to continue in the future. About 98% correctly recognized that adequate breastfeeding helps infants sleep better, and 94% knew that complementary feeding should begin at six months. But several cultural or misinformation-related beliefs persisted. For example, 42% believed colostrum should be discarded, and 49% thought breastfeeding should be stopped if the mother had cracked nipples. Overall, respondents demonstrated positive attitudes and consistent breastfeeding practices. Although 58% found exclusive breastfeeding tiring for the mother. **Conclusion:** Despite high breastfeeding rates and positive intentions, mixed feeding practices and misconceptions persist among Orang Asli mothers. Culturally sensitive, community-based education is needed to reinforce accurate breastfeeding knowledge and support exclusive breastfeeding practices.
Malaysian Journal of Medicine and Health Sciences (2026) 22(SUPP2):3-10. doi:10.47836/mjmhs.22.s2.2

Keywords: breastfeeding, knowledge, attitude, practice, orang asli, indigenous people

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INTRODUCTION

Breastfeeding plays a key role in safeguarding child health and survival by providing essential nutrition and immune protection during early life. Breast milk is naturally adapted to meet the specific needs of infants, supplying nutritional composition and bioactive components that support survival, growth and healthy development (1). Many studies have shown that breastfeeding provides significant benefits for infants and mothers, but also for families and society. These benefits include improvements in health, nutritional, child developmental, social wellbeing, economic efficiency, and environmental sustainability. World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommend exclusive breastfeeding during first six months of life followed by continued breastfeeding alongside appropriate complementary food for up to two years or beyond. During the initial six months, no additional food or drink, including water are typically required (2-3).

According to Adlina et al (4), multiple factors can hinder the continuation of breastfeeding including inadequate engagement from physicians, misinformation, hospital practices that disrupt breastfeeding, premature hospital discharge, insufficient routine follow-up, absence of postpartum home visits, maternal employment, and lack of social support. Additionally, the normalization of bottle-feeding in media and the aggressive marketing of infant formula via hospital discharge packs contribute to the early cessation of breastfeeding. These challenges can be addressed through adequate maternal knowledge, positive breastfeeding attitudes and active engagement from healthcare providers such as obstetricians and paediatricians (5).

With reliable information and strong support from families, communities, and healthcare providers, most mothers can successfully initiate and sustain breastfeeding. However, there is limited data available on breastfeeding among the Orang Asli. A study by Ali and Isa (6) among the Semai community found that over 95% of Semai women breastfed their infants with an average duration of 17.9 months. High parity, short birth interval and prolonged breastfeeding have been reported to negatively affect the health status of Orang Asli women (7) while Norlida et al reported the duration of breastfeeding was 12.8 months (Temuan), 11.4 months (Mah Meri) and only 31% of them continuing breastfeeding beyond one year (8). A qualitative study among Temiar women found that, although they had breastfeeding experience, most demonstrated limited understanding of the benefits of breastfeeding for both the mother and the child (9). Undernutrition is common among Orang Asli children, with growth faltering in length being more pronounced than weight deficits during the first two years of life. (10). Childhood malnutrition is also due to a lack of nutritional awareness regarding the importance of breastfeeding, highlighting the need for adequate knowledge and positive attitude toward breastfeeding practice. Globally, breastfeeding is regarded as the best natural approach to promoting optimal childhood nutrition (11).

Several studies have evaluated the knowledge, attitude and practice of breastfeeding in Malaysia but to our knowledge, one study has been done on Orang Asli communities regarding practice of breastfeeding in Sepang District and Carey Island, Selangor (8). Among the studies conducted, three were from Health Clinics (12-14) and two were from tertiary hospitals (15-16). The mothers' breastfeeding knowledge primarily focused on the importance of breastfeeding and breast milk, recommended feeding duration, early initiation, feeding on demand, colostrum, appropriate timing for introducing complementary foods, benefits for both mother and child, risk of bottle feeding, and general breastfeeding knowledge. The knowledge scores ranged from 41.4% to 97.5% with higher percentage indicating more knowledge (14,16-17). Women's attitude toward breastfeeding were commonly evaluated through perception of early initiation, discarding colostrum, timing of complementary feeding and mother-infant bonding with the percentage 28.9, 47.9, 72.1% and 48.6%. For evaluation of mother's practice, majority of mothers (72.9%) initiated breastfeeding within one hour of delivery. However, 15.8% reported breastfeeding on demand. Furthermore, 55.9% exclusively breastfed their infants for the first six months, while most mothers (79.5%) provided colostrum after birth (17). The government, in collaboration with UNICEF and WHO, has introduced various programs and policies to encourage breastfeeding. Information on its benefits and correct practices is widely disseminated through mass media and healthcare professionals. Despite its well established advantages for both mothers and infants, multiple factors influence the decision not to breastfeed. Among these, maternal knowledge and attitudes toward breastfeeding play a decisive role in shaping and sustaining breastfeeding practices (18-19).

By identifying gaps in breastfeeding knowledge, attitudes, and practices (KAP), this study provides valuable insights that guide targeted breastfeeding promotion and interventions tailored to the needs of Orang Asli communities. The findings aim to promote greater understanding and culturally sensitive engagement between the Orang Asli and relevant health stakeholders. Therefore, this study was conducted to assess the knowledge, attitudes, and practices related to breastfeeding among Orang Asli women in Peninsular Malaysia. This study focused on the descriptive phase and establishing baseline data to guide future research of factors influencing breastfeeding KAP within this population.

MATERIALS AND METHODS

Study Setting and Population

A cross-sectional study was conducted between July 2022 to November 2023 to assess the levels of knowledge, attitude, and practice related to breastfeeding among the Orang Asli community in Peninsular Malaysia. The study covered sub-ethnic groups including Temiar and Semai, Jahai, Batek, Orang Kuala Temuan and Kensiu The inclusion criteria were Orang Asli women aged 18 years and above with at least have one child, whereas the exclusion criteria were women who unable to initiate breastfeeding due to medical issues and those who could not communicate in the Malay language. Sample size was calculated using a single proportion formula. Based on a 95% confidence level, estimated prevalence of 98.9% (8), and 5% margin of error, the minimum sample size was 16.72 respondents. After included 20% potential dropout, the adjusted sample size was 20 respondents per location. Thus, final sample size was 100 participants accross five different locations. Ethical approval was obtained from Human Research Ethics Committee USM (USM/JEPeM/21100676) and Jabatan Kemajuan Orang Asli (JAKOA).

Research Instrument

The questionnaire was adapted from a validated questionnaire with Cronbach alpha values of 0.85 for the knowledge section and 0.79 for the attitude section (15). The questionnaire consists of four parts: socio-demographic details, knowledge items, attitude items and practice items. The first part is on socio-demographic data including personal characteristics such as age of mother, religion, status of marriage, child's age, number of children, nationality, employment status, prenatal disease, post-natal disease, family income salary, mode of delivery, number of children, sex of current baby, history of delivery, history of breastfeeding and whether

the respondent had received health education about breastfeeding. The second part assessed breastfeeding knowledge through 40 items covering benefits for the infant, benefits for the mother, colostrum, breast milk expression, effective feeding methods, feeding duration, complementary feeding, breastfeeding problems, breast engorgement and practical aspects of breastfeeding. Each item was scored as 1 for a correct answer and 0 for an incorrect or don't know response, with higher scores indicating better knowledge. The third part evaluated attitudes toward breastfeeding using 11 items measured on a five-point Likert scale ranging from strongly disagree to strongly agree, divided into three sub-domains: cognitive, affective, and behavioural. The final part consist of nine questions assessing practice toward breastfeeding with responses coded according to frequency (always, sometimes, never).

Data Collection

Data were collected through questionnaires at specific research locations within these communities. A guided, face-to-face interviewer-administered questionnaire was used for data collection where the interviewer verbally asks the questions to respondents. The interviewers have been undergoing the same training to conduct the interviews to minimise biases. This is to ensure that they can conduct the interviews similarly. Having the same kind of training will reduce the differences that can occur in questioning methods as this will lead to minimization of error in responses. The interview session was conducted using the Malay language for ease of communication between researchers and participants. The estimated time of completion of an interview was around 30- 40 minutes. The questionnaire was adapted and modified for cultural and practice adaptation to minimize the sensitivities issues to the Orang Asli regarding breastfeeding. This is important to fit the needs of Orang Asli population, location, and language. A discussion was held to review the suitability of each question from the previous questionnaire, attended by researchers with prior experience conducting breastfeeding research among the Orang Asli. An information sheet and consent form were provided to the respondents before data collection began.

Data Analysis

Statistical analysis was conducted using the IBM Statistical Package for the Social Sciences version 28 for Windows (IBM Corp., Armonk, NY, USA). Descriptive statistics for numerical data were reported as mean (SD) or median (IQR) depending on the distribution of the data while categorical data were summarized as frequency (percentage).

RESULTS

The study involved 100 participants, whose the mean age was 28.59 (6.62) years old. The largest sub-ethic group participate in this study was Temiar (38%) followed by Orang Kuala (19%) and Jahai (13%). Most participants practiced Islam (66%), were married (97 (%) and have at least secondary level of education. The mean of number of children was three. Common medical conditions during pregnancy included hypertension (10%), diabetes (8%) and others-low HB (5%). Pre-existing conditions such as hypertension and diabetes were also reported, though at lower frequencies. In shows 74% of the mothers had a normal vaginal birth, while 26% underwent caesarean section. Just over half (52%) received pain medication during childbirth. A majority (76%) had skin-to-skin contact with their baby immediately after birth, and 59% initiated breastfeeding within the first hour post-delivery. In terms of breastfeeding history, 89% indicated that they exclusively breastfed for the initial six months, and 90% expressed intent to exclusively breastfeed future children. Majority of the mothers (62%) reported receiving breastfeeding education during pregnancy. This finding presented in Table I and Table II.

Breastfeeding Knowledge

The breastfeeding knowledge of mother is presented in Table III. While certain facts were well understood, for example 98% correctly recognized that adequate breastfeeding helps infants sleep better, and 94% knew that complementary feeding should begin at six months. Misconceptions were also common, only 17% knew the correct storage duration for breast milk in the freezer, and a significant number of participants (48%) incorrectly believed breast size influences milk production. Several

Table I: Socio demographic characteristics

Variables		n (%)	Mean (SD)
Age			28.59 (6.62)
Sub ethnic			
	Temiar	38 (38.0)	
	Semai	10 (10.0)	
	Jahai	13 (13.0)	
	Batek	9 (9.0)	
	Orang Kuala	16 (16.0)	
	Temuan	9 (9.0)	
	Kensiu	5 (5.0)	
Religion			
	Islam	66 (66.0)	
	Christian	8 (8.0)	
	No religion	25 (25.0)	
Marital status			
	Single	1 (1.0)	
	Married	97 (97.0)	
	Widow	2 (2.0)	
Educational level			
	No formal education	22 (22.0)	
	Primary	34 34.0)	
	Secondary	44 (44.0)	
No. of children			2.97 (6.62)
Medical conditions during pregnancy	Hypertension	10 (10.0)	
	Pre-clampsia	-	
	Diabetes	8 (8.0)	
	Others	5 (5.0)	
Medical conditions before pregnancy	Hypertension	3 (3.0)	
	Diabetes	1 (1.0)	
	Heart disease	-	
	Other	-	

Table II: Birth History and Breastfeeding History (most recent birth)

Variable		n (%)
Type of delivery	Normal	74 (74.0)
	C-section	26 (26.0)
Received any pain medication	No	48 (48.0)
	Yes	52 (52.0)
Skin-to-skin contact with the mother immediately after birth	No	24 (24.0)
	Yes	76 (76.0)
Mother breastfeed the baby within one hour after birth	No	41 (41.0)
	Yes	59 (59.0)
Mother accompanied by a family member during delivery	No	66 (66.0)
	Yes	34 (34.0)
Mother experience any complications or problems during childbirth	No	83 (83.0)
	Yes	17 (17.0)
Experience exclusively breastfeeding your baby from birth to six months	No	11 (11.0)
	Yes	89 (89.0)
Intention to exclusively breastfeed her baby for the first six months after birth, without introducing any additional food or drink	No	10 (10.0)
	Yes	90 (90.0)
Received health education on breastfeeding during pregnancy	No	38 (38.0)
	Yes	62 (38.0)

Table III: Knowledge regarding breastfeeding

Knowledge Items	Response		
	True n (%)	Wrong n (%)	Don't Know n (%)
Breastfeeding can reduce the risk of infants developing lung infections	39 (39.0)	25 (25.0)	36 (36.0)
Colostrum may cause difficulty in pooping for the baby*	22 (22.0)	23 (23.0)	55 (55.0)
Mothers with inverted nipples cannot breastfeed their babies*	48 (48.0)	28 (28.0)	24 (24.0)
Frequent breastfeeding can help prevent breast engorgement	83 (83.0)	11 (11.0)	6 (6.0)
Adequate breastfeeding helps ensure that the baby sleeps well	98 (98.0)	1 (1.0)	1 (1.0)
Breast milk can be expressed every 3 hours when the baby is not with the mother	58 (58.0)	10 (10.0)	32 (32.0)
Breastfeeding causes babies to easily experience diarrhea*	10 (10.0)	74 (74.0)	16 (16.0)
Exclusive breastfeeding can help for family planning	27 (27.0)	31 (31.0)	42 (42.0)
Colostrum is the mother's early milk, which is thick, sticky, and yellowish in color	63 (63.0)	13 (13.0)	24 (24.0)
Mothers who breastfeed tend to return to their pre-pregnancy weight more quickly	63 (63.0)	12 (12.0)	24 (24.0)
Expressed breast milk can be heated over a flame*	24 (24.0)	49 (49.0)	27 (27.0)
Breastfeeding can enhance a baby's brain development	77 (77.0)	10 (10.0)	13 (13.0)
Breastfeeding can help the mother's uterus contract	63 (63.0)	16 (16.0)	21 (21.0)
Colostrum is difficult to digest and should be discarded*	42 (42.0)	27 (27.0)	31 (31.0)
Breastfeeding mothers are at risk of getting breast cancer*	18 (18.0)	59 (59.0)	23 (23.0)
Formula milk protects babies from allergies better than breast milk*	16 (16.0)	70 (70.0)	14 (14.0)
Baby's weight will increase healthily with adequate breastfeeding	97 (97.0)	2 (2.0)	1 (1.0)
Proper breastfeeding positioning enhances the effectiveness of breastfeeding	87 (87.0)	7 (7.0)	6 (6.0)
Colostrum cannot protect the baby from jaundice*	32 (32.0)	26 (26.0)	42 (42.0)
Expressed breast milk that has been used can be stored again*	36 (36.0)	39 (39.0)	25 (25.0)
Breastfeeding should be continued up to two years even after the baby has started complementary feeding	89 (89.0)	6 (6.0)	5 (5.0)

Continue.....

Table III: Knowledge regarding breastfeeding (Continued....)

Knowledge Items	Response		
	True n (%)	Wrong n (%)	Don't Know n (%)
Expressed breast milk can be stored for 3–5 days in the lower compartment of the refrigerator*	25 (25.0)	36 (36.0)	39 (39.0)
Breast milk production is influenced by breast size*	33 (33.0)	48 (48.0)	19 (19.0)
Breastfeeding promotes the process of bone deterioration*	11 (11.0)	39 (39.0)	50 (50.0)
Mothers may combine breastfeeding with formula feeding once the baby begins eating complementary foods	36 (36.0)	51 (51.0)	13 (13.0)
Breastfeeding must be stopped if the mother has cracked nipples*	49 (49.0)	36 (36.0)	15 (15.0)
Breastfeeding should be given according to the baby's demand*	79 (79.0)	14 (14.0)	7 (7.0)
Expressed breast milk can be stored for up to 3 months in the freezer compartment of a two-door refrigerator	17 (17.0)	40 (40.0)	43 (43.0)
Complementary foods should be introduced when the baby is 6 months old	94 (94.0)	1(1.0)	5 (5.0)
Expressed breast milk can be heated in a microwave*	18 (18.0)	15 (15.0)	67 (67.0)
Breast engorgement can be relieved with a cold pack	44 (44.0)	15 (15.0)	41 (41.0)
Breastfeeding should be initiated within 30 minutes after the baby is born.	78 (78.0)	8 (8.0)	14 (14.0)
Breastfeeding should be stopped if the baby has jaundice*	26 (26.0)	58 (58.0)	16 (16.0)
Cabbage leaves can help reduce breast engorgement	17 (17.0)	11(11.0)	72 (72.0)
Exclusive breastfeeding should be practiced until the baby is 6 months old	78 (78.0)	6 (6.0)	16 (16.0)
Breast massage techniques can help reduce breast engorgement.	78 (78.0)	11(11.0)	11(11.0)
Giving plain water is encouraged after every breastfeeding session*	46 (46.0)	42 (42.0)	12 (12.0)
Babies who are adequately breastfed will urinate more frequently	89 (89.0)	5 (5.0)	6 (6.0)
Babies can also be given formula milk throughout the first 6 months of breastfeeding*	31(31.0)	53 (53.0)	16 (16.0)
Breastfeeding should be stopped if the mother experiences breast engorgement*	46 (46.0)	41(41.0)	13 (13.0)

*Reverse items

cultural or misinformation-related beliefs persisted. For instance, 42% believed colostrum should be discarded, and 49% thought breastfeeding should be stopped if the mother had cracked nipples. About 36% incorrectly believed expressed breast milk could be reheated over a flame, and 67% were unsure whether microwaving breast milk was safe.

Breastfeeding Attitude

Majority of mothers expressed positive attitudes toward exclusive breastfeeding with strongly agreed that it is easier than formula feeding (89%) and that it saves family expenses (86%). However, concerns remained regarding its practicality, 47% agreed or strongly agreed that exclusive breastfeeding disrupts daily activities, and 34% felt it affects sleep. Negative social perceptions were less prevalent, with only 14% believing that breastfeeding is embarrassing or outdated. Most mothers disagreed that exclusive breastfeeding damages the father–baby relationship (76%) or that it causes maternal stress (74%) (Table IV).

Table IV: Attitude toward breastfeeding

Attitude Items	Response				
	Strongly Agree n (%)	Agree n (%)	Not Sure n (%)	Disagree n (%)	Strongly Disagree n (%)
Exclusive breastfeeding is easier than giving formula milk to the baby	50 (50.0)	39 (39.0)	5 (5.0)	4 (4.0)	2 (2.0)
Exclusive breastfeeding causes mothers to have difficulties breastfeeding in public	14 (14.0)	34 (34.0)	13 (13.0)	29 (29.0)	10 (10.0)
Exclusive breastfeeding is the best choice for working mothers	24 (24.0)	33 (33.0)	18 (18.0)	23 (23.0)	2 (2.0)
Exclusive breastfeeding will cause the father–baby relationship to become distant	2 (2.0)	6 (6.0)	16 (16.0)	39 (39.0)	37 (37.0)
Exclusive breastfeeding is something that embarrasses mothers	2 (2.0)	12 (12.0)	8 (8.0)	42 (42.0)	36 (36.0)
Exclusive breastfeeding is something outdated	2 (2.0)	7 (7.0)	19 (19.0)	36 (36.0)	36 (36.0)
Exclusive breastfeeding causes mothers to feel stressed	7 (7.0)	9 (9.0)	10 (10.0)	41 (41.0)	33 (33.0)
Exclusive breastfeeding can save family expenses	41 (41.0)	45 (45.0)	7 (7.0)	3 (3.0)	4 (4.0)
Exclusive breastfeeding causes disrupted sleep for the mother	5 (5.0)	29 (29.0)	12 (12.0)	38 (38.0)	16 (16.0)
Exclusive breastfeeding disrupts the mother's daily tasks	4 (4.0)	24 (24.0)	8 (8.0)	45 (45.0)	19 (19.0)
Exclusive breastfeeding is tiring for the mother	16 (16.0)	42 (42.0)	8 (8.0)	31 (31.0)	3 (3.0)

Breastfeeding Practices

Breastfeeding was widely practiced among the mothers in this study, with 92% reporting that they always breastfed their babies. A substantial proportion of mothers (73%) gave plain water to their infants, 31% always and 42% occasionally and the average age of introduction at 6.2 (4.23) months. A total of 53% of mothers reported giving formula milk to their babies, with 41% stating they always did so and 12% occasionally. Meanwhile, 47% indicated that they never used formula milk (Table V).

Table V: Practice of breastfeeding

Practice Item	Response			Mean (SD)
	Never n (%)	Some-time n (%)	Always n (%)	
I give breast milk to my baby	-	8 (8.0)	92 (92.0)	
I give plain water to my baby	26 (26.0)	42 (42.0)	31(31.0)	
If yes, when it starts (month)				6.2 1 (4.23)
I give other drinks (e.g., juice) to my baby	57 (57.0)	19 (19.0)	24 (24.0)	
If yes, when it starts (month)				13.16 (14.85)
I give complementary foods to my baby	17 (17.0)	16 (16.0)	67 (67.0)	
If yes, when it starts (month)				8.17 (9.43)
I give formula milk to my baby	47 (47.0)	12(12.0)	41(41.0)	
If yes, when it starts (month)				6.52 (2.86)

DISCUSSION

Overall, breastfeeding practices were favourable among indigenous mother with 89% have experiences of exclusively breastfeeding and 90% expressed the intention to do so with future children. It is important to note that these findings reflect maternal experience and intention, whereas national statistics refer to the prevalence of exclusive breastfeeding among infants under six months. To the best of our knowledge, no other studies have observed KAP breastfeeding among indigenous people in Malaysia. These values exceed the Malaysia's national average of 47.1% as reported in previous surveys (20). When compared to other local communities in Malaysia such in Klang (32.8%) (14), Kinta (65.4%) (21) and Maternal and Child Health Clinics (MCHCs) in the Gombak district, Selangor, (45%) (22), the Orang Asli mothers demonstrated higher breastfeeding practice. In some indigenous communities, breastfeeding is highly valued with mother often continuing to breastfeed for extended duration. This reflects the influence of diverse cultural and social factor on breastfeeding practice.

About 62% of respondents received some form of health education on breastfeeding, more than one-third (38%) did not receive any. This is particularly concerning in light of the significant gaps in breastfeeding knowledge assessment identified in the survey. Further interviews revealed that most mothers received breastfeeding information informally from nurses during routine clinic visits or at Pusat Transit Kesihatan JAKOA, suggesting that such education may not be consistently structured or comprehensive.

The assessment of breastfeeding knowledge among Orang Asli mothers in this study revealed a mix of accurate understanding and persistent misconceptions. While many participants demonstrated good awareness of recommended breastfeeding practices, notable gaps remain, particularly related to maternal conditions, colostrum, and breast milk storage. Encouragingly, 98% of mothers correctly understood that adequate breastfeeding promotes better infant sleep, and 94% knew that complementary foods should only be introduced at six months. These findings align with a study conducted in 2023 among mothers in Terengganu, where 96.5% of participants were aware of the guideline recommending six-month exclusive breastfeeding (23). Similarly, high awareness regarding the importance of correct positioning (87%), babies sleep well after received adequate breastmilk and introducing complementary foods at six months was consistent with findings from a study conducted in Kuching, Sarawak

(24), which reported similar knowledge among mothers attending private clinic. This suggests that, despite socioeconomic and educational disparities, certain public health messages are successfully reaching indigenous populations.

Misconceptions surrounding colostrum were particularly notable in this study. While 63% of respondents correctly identified colostrum as the thick, yellowish early milk, 42% also believed it should be discarded because it is difficult to digest, and 31% were unsure. This contradiction highlights the influence of traditional beliefs that continue to shape breastfeeding decisions among the Orang Asli. These findings are consistent with a qualitative study carried out among Temiar women in 2018, where the practice of discarding colostrum was openly discussed. Many participants agreed that colostrum should be discarded, believing it to be "dirty" or containing harmful bacteria. Several women also indicated that they would discard colostrum when delivering at home but would feed it to the baby if the birth occurred in a hospital setting (9). In contrast, studies among non-indigenous populations have reported significantly lower rates of this misconception. For example, only 3% from online survey among breastfeeding support group (25), 28% of mothers in Selangor believed colostrum should be discarded (22) while studies in rural Uttarakhand, India, and in Kenema, Sierra Leone, reported similar findings at 26.6% (26) and 25.3% (27), respectively. The persistence of this belief among the Orang Asli population highlights the importance of culturally appropriate education strategies. Effective interventions should go beyond conveying biomedical information and instead engage with the cultural beliefs that influence these practices, using respectful, community-driven approaches to gradually transform deeply rooted traditions.

Attitudes toward breastfeeding were largely positive. Majority of mothers perceived exclusive breastfeeding as easier than formula feeding (89%) reflecting positive perceptions on its practicality, while 86% also agreed that it helps save family expenses. These attitudes may reflect a practical understanding of breastfeeding benefits in resource-limited settings. However, many mothers also expressed concerns about the burdens associated with exclusive breastfeeding: 37% agreed that it interferes with daily routines, and 34% felt it disrupts maternal sleep. These concerns align with findings from other studies, where commitments, exhaustion and time constraints have been cited as barriers to sustained breastfeeding, particularly among mothers with multiple children or household responsibilities (28).

While practices were generally supportive of breastfeeding. About 43% of mothers (24% always, 19% sometimes) introduced other drinks, with a mean starting age of 13.16 (14.85) months. The wide standard deviation indicates that some mothers may have introduced these fluids much earlier than recommended. This pattern suggests that the early introduction of fluids other than breast milk remains a common practice among some mothers. These findings suggest that while the intent to breastfeed is strong among Orang Asli mothers, mixed feeding practices remain common. Factors such as limited access to accurate breastfeeding information, the belief that breast milk alone could not provide adequate nutrition for six months, influence from family members and adherence to traditional practices were likely contribute to the early introduction of mixed feeding during the first six months (29). Although our study provides insights into these factors among Orang Asli mothers, causal relationships cannot be established due to the cross-sectional design, and this study data were not collected to explore underlying reasons in depth. The strengths of this study include the focus on an underrepresented population and the use of standardized questionnaires. However, limitations include a relatively small sample size and reliance on self-reported data, which may be introduced to recall bias.

CONCLUSION

This study found that Orang Asli women in Peninsular Malaysia generally had good knowledge and positive attitudes toward breastfeeding. The majority practiced exclusive breastfeeding and expressed the intention to continue breastfeeding with future children. Given the strong willingness to breastfeed observed in this population, reinforcing accurate information within a supportive, culturally respectful framework could substantially enhance breastfeeding outcomes and improve overall maternal and child health. These findings highlight the need for culturally sensitive, community-based interventions to improve breastfeeding knowledge among indigenous populations. Health promotion strategies should be tailored to the local context by incorporating indigenous languages, belief systems, and traditional knowledge. Engaging community health workers, midwives, or trained peer counselors from within the community can enhance both the acceptance and effectiveness of educational efforts. Integrating breastfeeding education into routine antenatal care, using materials that are visual, simple, and culturally relatable, may also improve comprehension and retention. Moreover, healthcare providers serving indigenous communities must be equipped to identify and address cultural influences on maternal health behaviors. Providing personalized counselling that includes family members could strengthen support systems and improve adherence to recommended practices.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the participants for their time and contributions. Special appreciation is extended to the Jabatan Kemajuan Orang Asli (JAKOA)

and the Tok Batin for their indispensable support and guidance during the data collection phase. The authors also acknowledge Universiti Sains Malaysia for the generous financial assistance provided through the Short Term Grant (304/PPSP/6315551), which was essential to the successful completion of this research.

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