Understanding early complementary food practice in rural Indonesia: a qualitative study

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Abstract

Background Almost all cases of stunting occur in developing countries and could be prevented through exclusive breastfeeding. However, as a result of cultural beliefs, early complementary food practices are widely practiced in Indonesia. This study explored cultural beliefs related to early complementary food practices in rural areas of Indonesia.

Methods This ethnographic study involved 16 key and six general participants. Data were collected via focus group discussions, in-depth interviews, observations, and field notes, and then thematically analysed.

Results Four themes emerged: reasons for early complementary feeding, the idea of 'the sooner the better', types of complementary food and influencing people.

Conclusions Using policymakers to provide culturally sensitive and evidence-based health information involving grandmothers and traditional birth attendants may help prevent early complementary feeding and improve exclusive breastfeeding rates.

Keywords

Early complementary feeding | Non-exclusive breastfeeding | Qualitative study | Rural area | Stunting

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Stunting is an impairment related to a child's development as a result of malnutrition, repeated infections or lack of social stimulation during early years. It is indicated by poor linear growth, shown in a height-for-age-Z score ≤-2 standard deviations from the World Health Organization's (WHO, 2015) child growth standard median. Stunting is a major health problem (Hall et al, 2018; Alam et al, 2020) that commonly occurs in developing countries (WHO, 2018). More than half of stunted children are Asian (United Nations Children's Fund (UNICEF) et al, 2018), and Indonesia is among the top three countries in the South East Asia Region with the highest prevalence (WHO, 2018). In 2013, 2016, 2017 and 2018, the prevalence of stunted children younger than 5 years was 37.2%, 29%, 27.5% and 29.6% respectively (National Institute of Health Research and Development, 2018; UNICEF Indonesia, 2018).

Stunting is significantly associated with several health problems. A literature review found it affects children's cognitive development, achievement, economic productivity and maternal reproductive outcomes as long-term effects (Titaley et al, 2019). Preliminary studies have also found that in developing countries, stunting leads to increased child mortality and morbidity rates, low physical neurodevelopmental and economic capacities, higher rates of metabolic disease in adulthood, intergenerational stunting (Beatty et al, 2017), higher rates of diarrhea (Budge et al, 2019), poorer neuropsychological outcomes (Sanou et al, 2018), higher risks of pneumonia and lengthy hospital stays during childhood (Moschovis et al, 2015). The early introduction of complementary feeding in infants less than 6 months old is a significant cause of stunting in Indonesia (Nadiyah et al, 2014). According to Paramashanti and Benita (2020), non-exclusively breastfed children that receive early complementary food before the age of 6 months correlate with stunting.

Adequate nutrition during the first 1000 days, from conception to the child's second birthday, reportedly prevents stunting (UNICEF, 2017) and overall exclusive breastfeeding duration has been found to significantly

inhibit the incidence of stunting (Zurita-Cruz et al, 2017). By contrast, infants given poor quality complementary food before the age of 6 months are more likely to be stunted (Uwiringiyimana et al, 2019). However, Lestari et al's (2018) study reported that fewer than half (43.3%) of stunted children in Indonesia were not exclusively breastfed before 6 months, and 13.3% of children with adequate growth were exclusively breastfed. Lestari et al (2018) carried out a multivariate analysis that showed exclusive breastfeeding for 6 months to be a protective factor against stunting.

Previous studies in developing countries have shown that cultural beliefs can influence early complementary feeding procedures. Turkish, Nepalese, Ethiopian and West African mothers are known to engage in this practice (Van Eijsden et al, 2015; Issaka et al, 2015; Gautam et al, 2016; Asemahagn, 2017). One study found that the Javanese community believe that the introduction of complementary food to infants below the age of 6 months is good for an infant's health, which is contrary to the exclusive breastfeeding programme (Anggraeni et al, 2016; 2018). Foods given to young infants include banana, honey, formula milk (Ruhmayanti and Yasin, 2020), instant porridge, noodles, biscuits, rice porridge, rice, fish, vegetables, fruit, tempeh, egg and meat (Mangkat et al, 2016). The intake of energy, protein and zinc derived from complementary foods is below the Indonesian recommended dietary allowance (30%, 45%, and 5% respectively) (Lestari et al, 2018).

There are ethnic group variations in improper infant feeding practices in Indonesia, of which the Javanese ethnicity are the largest and the majority reside in rural areas (Cukarso and Herbawani, 2020). Previous studies have found that two-thirds of mothers on Sumatera Island (Inayati et al, 2012) and virtually all (90.5%) mothers on Java Island (Barati et al, 2018) engage in early complementary feeding. One study found this common feeding practice to be affected by grandmothers' suggestions and cultural beliefs passed down through generations (Anggraeni et al, 2018).

Irrespective of technological advancement, these cultural beliefs are often strictly adhered to and may be communicated via rituals, folklore or traditional behaviours (Karmiyati and Amalia, 2018). In Javanese culture, it is normal to follow advice given by elders and respect one's parents (Herdaetha et al, 2020). The younger generation is often expected to adhere to cultural beliefs without question. Given the high prevalence of complementary feeding in Javanese infants under the age of 6 months, there is a need to study this specific ethnic group, particularly those residing in rural areas.

Previous studies related to stunting have used quantitative methods and selected demographic characteristics as variables (Egata et al, 2013; El Shafei et al, 2014; Zaragoza Cortes et al, 2018). Three studies recruited only mothers as participants (Egata et al, 2013; El Shafei et al, 2014; Areja et al, 2017), and one study recruited participants in hospital settings (Parry et al, 2013). The present study was carried out to gain multiple perspectives on how cultural beliefs can affect the introduction of early complementary feeding practices among Javanese people living in rural areas. Participants included not only mothers but also family members, midwives and traditional birth attendants.

Methods

Study design

This study used an ethnographic approach to explore cultural beliefs related to early complementary food practices among Javanese mothers residing in rural areas (Cresswell and Cresswell, 2018). This approach was used to provide a better understanding of the phenomenon. A variety of participant characteristics were included to enhance data richness.

Study participants

A total of 16 key participants (mothers) from the Central Java Province were selected using purposive and snowball sampling. The inclusion criteria were Javanese women aged 20 years or older who had given birth in the past 2 years. Those with health issues that prevented them from breastfeeding, such as HIV/AIDS, those who were undergoing cancer treatment, those using psychotic drugs or narcotics and mothers of babies with cleft lip and/or palate or other conditions such as congenital heart problems were excluded from the study.

In addition to the 16 key participants, six general participants were also included: family members of participating mothers (n=3), licensed midwives (n=2) and a traditional birthing assistant (n=1). Traditional birthing assistants are non-professional birthing assistants that use indigenous healing methods to help mothers during the intranatal and postnatal periods.

Village health volunteers approached the proposed participants in several sub-districts. The aims of the study, its benefits, data collection procedures, trustworthiness and inclusion and exclusion criteria were explained. Discussions about potential participants were held with health volunteers and details of the discussion were shared on the community's Whatsapp group. Possible participants who met the inclusion criteria were advised to join voluntarily.

In total, 12 participants joined the focus group discussions, and a further four were interviewed separately because they were either working class or multiparous women experienced in taking care of more than one child. This was because working mothers had limited free time in which to be interviewed and so

Table 1. Illustrative questions in discussion guides

Core topics discussed	Interview guide
Experience of infant feeding practices before age of 6 months	How did you get the idea to provide food to your infant before the age of 6 months?
Types of food	Can you describe your experiences of the best time to start providing complementary food to your infant before the age of 6 months?
Times feeding was initiated	What complementary food did you provide to your infant before the age of 6 months?
Influential people	Which people in your life suggested you provide complementary food to you infant before the age of 6 months?

these interviews were conducted at night. In the case of multiparous mothers, it was thought that an in-depth interview combined with observation in their home would generate rich data. The general participants underwent in-depth interviews separately from the key participants to obtain independent information.

Study setting

This study was carried out in Java, the most populated island in Indonesia. Javanese is the most prevalent ethnicity in the country (Indonesia Central Bureau of Statistics, 2014). The data were collected in Banyumas Regency, situated in the middle south of Jawa Island.

Data collection

Data collection was carried out between March and October 2019. It was performed by female Javanese faculty members who were graduates holding at least a master's degree in health and had been residing in the same area as the participants for more than 10 years. They introduced themselves as members of a particular faculty at the university to ensure the participants knew they were not healthcare providers.

Data were collected during three focus group discussions, each with four participants and 10 in-depth interviews (four key participant interviews and six general participant interviews), which lasted for approximately 1.5–2 hours and 1–1.5 hours respectively. Focus groups were selected as the main data collection method because they are well known to promote interactive discussions between group members (Nyumba et al, 2018). Participants with more than one child (multiparous) were invited for in-depth interviews. The combination of focus group discussions and in-depth interviews contributed to the richness of the data in this study and provided an opportunity for in-depth inquiry (Lambert and Loiselle, 2008). Data saturation was reached when no additional information was obtained from the final participant, and the data collection process was stopped at this point (Cresswell and Plano Clark, 2011).

The data collected included participants' age, parity, educational background and working status. The researchers used open, non-direct questions that were designed to explore participants' experiences. The interview guide was developed by researchers, based on a literature review and validated by three maternity experts who each had more than 10 years' experience with healthcare provision in the study's setting. Two mothers of infants were recruited for a pilot study. The interview guide covered five main topics: experience of infants' feeding practices before the age of 6 months, reasons behind the practice, types of food given, times feeding was initiated and influencing people. The questions are shown in *Table 1*.

Data were also collected by observing participants carrying out daily activities at their respective homes in order to get natural data (Cresswell and Cresswell, 2018). These observations were carried out between three and four times per participant on different occasions, and each session lasted for 1 hour. Field notes were taken during these sessions to gain a better understanding of early complementary food practices and to complete the research data (Cresswell and Cresswell, 2018).

Data analysis

The data were transcribed verbatim and cross-checked with recordings for accuracy by four personnel. Classical ethnographic data analysis was used, characterised by a cyclic iterative process relating to participants' interviews and personal observations and interpretations in the natural setting (Whitehead, 2005). A thematic review was carried out to identify, analyse and report on early complementary food practices among Javanese mothers in rural areas (Braun and Clarke, 2019). A tentative themes map was developed, based on the literature review and data collected. The datasets were read several times for familiarity with the information. Preliminary and modified tentative theme maps were produced based on the answers to the research questions. Codes were assigned to the data and organised in accordance with their relevance to the analysis. The final themes and subthemes were modified and participants were allowed to review the analysis results to ensure data accuracy. Unique terms were used in the participants' answers, and these were translated into English in the final report.

Ethical considerations

Ethical approval for the study was obtained from the Institutional Review Board Medical Faculty University of Jenderal Soedirman (No.1204/KEPK/III/2017). The participants were informed of the study's aim, benefits and risks and signed informed consent forms before data

Table 2. Demographic characteristics of participants (*n*=22)

Code	Age (years)	Parity	Education	Employment	Child's age (months)	Marital status	Role
R1	30	Multiparous	Diploma	Housewife	21	Married	Key participant
R2	35	Multiparous	Junior school	Housewife	14	Married	Key participant
R3	21	Primiparous	High school	Housewife	18	Married	Key participant
R4	39	Multiparous	Junior school	Housewife	20	Married	Key participant
R5	27	Primiparous	Bachelor	Private employee	16	Married	Key participant
R6	25	Primiparous	High school	Housewife	22	Married	Key participant
R7	32	Multiparous	Bachelor	Civil servant	15	Married	Key participant
R8	34	Multiparous	Junior school	Housewife	19	Married	Key participant
R9	22	Primiparous	High school	Housewife	20	Married	Key participant
R10	23	Primiparous	Diploma	Private employee	24	Married	Key participant
R11	27	Primiparous	Junior school	Housewife	18	Married	Key participant
R12	31	Multiparous	High school	Housewife	25	Married	Key participant
R13	30	Multiparous	Junior school	Housewife	21	Married	Key participant
R14	21	Primiparous	High school	Housewife	27	Married	Key participant
R15	37	Multiparous	Diploma	Housewife	16	Married	Key participant
R16	36	Multiparous	High school	Housewife	22-	Married	Key participant
R17	53	-	Junior school	Housewife	-	Married	General participant
R18	61	-	Elementary school	Housewife	-	Married	General participant
R19	64	-	Junior school	Housewife	-	Married	General participant
R20	37	-	Diploma	Health worker	-	Married	General participant
R21	42	-	Diploma	Health worker	-	Married	General participant
R22	67	-	Elementary school	Traditional birth attendant	-	Widowed	General participant

collection, reflecting their willingness to participate in the study. They were also informed that the study was voluntary, and that they could withdraw at any time.

To ensure anonymity, participants' verbatim responses were given an identifying code. The code was also used to publish the results of the analysis, and only authorised persons had access to the data. Participants were informed that the focus group discussions and in-depth-interview processes were audio-recorded with their permission. Focus group discussions were conducted in the village meeting room and in-depth interviews were conducted at the participants' homes. This was intended to minimise participants' time away from their babies and location burden.

Trustworthiness

The four principles of trustworthiness in qualitative research are credibility, transferability, dependability and confirmability (Lincoln and Guba, 1985). To ensure the credibility of the results obtained from this study, each participant was interviewed. The outcome was transcribed verbatim, which allowed all team members to discuss unfamiliar terminology. The findings were presented to reflect the Javanese maternal population to ensure transferability. Dependability was achieved by providing a detailed description of the study process, methodology and findings, enabling this study to be repeated. Confirmability was achieved by maintaining neutrality, acknowledging bias and objectively stating the methods used.

Results

Participant characteristics

Participating mothers (key participants) (*n*=16) were engaged in three focus group discussions and four in-depth interviews, while general participants (family

Table 3. Themes and subthemes of cultural beliefs related to early complementary food practice

Theme	Subtheme
Reasons for early complementary food practices	Early complementary food is a common practice
	Following tradition
	Perceived insufficient breastmilk supply
	Fussy infant
	Health-related issue
	Boost infant's growth and development
The sooner the better	The sooner the better
Types of early complementary food	Soft foods
	Liquids
Influential people	Mother, mother-in-law and grandmother
	Traditional birth attendants
	Neighbours and friends

members, midwives and a traditional birth attendant) were involved in six in-depth interviews. The respondents' demographic characteristics are shown in *Table 2*.

The mean age of key participants was 29.63 years old. Both primiparous (n=7) and multiparous (n=9) women were involved and all participating mothers were married. Of the three participating mothers who were employed, one was a civil servant and the remaining two were private employees. The mean child's age was 20.36 months. The general participants either took care of or lived with the participating women (key participants) during the postpartum period. Three were grandmothers who lived with expectant mothers, two were healthcare providers (midwives) and one was a traditional birth attendant. All participants were Javanese women residing in Central Java Province, Indonesia. Four themes and 12 subthemes emerged from the data, as shown in *Table 3*. The four main themes were reasons for early complementary food practices, the sooner the better, types of early complementary food and influential people.

Reasons for engaging in early complementary food practices

Early introduction of complementary food is a common practice among Javanese mothers. In this study, 14 of the 16 participants stated they believed breastmilk to be the best source of infant feeding. However, they also gave their babies early complementary food.

Early complementary food is a common practice

Some participants stated that they engaged in the practice of early complementary food because they were accustomed to it, citing social pressure as an influencing factor. One multiparous participant stated that she engaged in this practice because it was encouraged by society.

> ***'I gave all my kids complementary food because virtually all mothers practice this. Besides, it is perceived as a societal norm.' (R4, multiparous, 39 years old)***

A similar view was shared by a primiparous participant who agreed that it was widely practiced in society.

> ***'Every mother gives their babies complimentary food as well as breastmilk because it is believed to be good for them.' (R5, primiparous, 27 years old)***

Following tradition

Javanese mothers believed that they had to respect traditions passed down from older generations.

> ***'My mother suggested that I give my son early complementary food whenever he was crying…I adhered to her advice because it has been the tradition since my great grandparents.' (R1, multiparous, 30 years old)***

For the infant of participant R10, their grandmother agreed with this practice.

> ***'My parents gave me early complementary food… therefore, I suggested that it be given to my granddaughter because it is our tradition.' (R10, 53 years old)***

Perceived insufficient breastmilk supply

Some participants stated that a condition led to early complementary feeding. Insufficient breastmilk supply was frequently mentioned as a primary reason.

> ***'My son was always hungry at night due to low breastmilk supply. When I gave him complimentary foods he was able to have a good sleep.' (R5, primiparous, 27 years old)***

One infant's grandmother also mentioned that her daughter's breastmilk was insufficient to satisfy her baby's needs, saying the mother was forced to give him early complementary food.

> ***'My daughter's breastmilk supply was low, and I was forced to give my granddaughter early complementary food to fulfill her needs.' (R16, 61 years old)***

Fussy infants

Some participants perceived fussiness in infants to be a sign of higher nutritional needs, stating they were forced to give their babies complimentary food to calm them and enable them to sleep well.

> ***'My infant cried throughout the entire night and even became fussy after breastfeeding. Then, I gave him banana and soft rice to make him calm.' (R4, multiparous, 39 years old)***

One healthcare provider mentioned that some infants were fussy because of growth spurts, and some mothers believed their babies needed food besides breast milk.

> ***'Some mothers gave their babies early complementary food due to the fuss they made at night. They are not aware that their infants are experiencing growth spurts and this makes them fussy.' (R20, 37 years old)***

Health-related issues

The early introduction of complementary food was also affected by mothers' and infants' health conditions. Issues related to mothers included becoming sick and having cracked or inverted nipples. Reasons given regarding the infants' health included to boost weight, to assist with sleep and to prevent fussiness.

> ***'I was hospitalised because of typhoid fever and my infant stayed at home with her grandmother. She has been given formula milk since that day.' (R14, multiparous, 30 years old)***

To boost infant growth and development

Some participants believed that providing early complementary and supplementary food supported an infant's growth and development.

> ***'My daughter always sleeps well and gains weight after being fed with complimentary food. Therefore, I think it's good for her growth.' (R15, primiparous, 21 years old)***

> ***'Some food is good for my baby's growth…I believe providing early supplementary formula is ideal for their development.' (R4, multiparous, 39 years old)***

The traditional birth attendant indicated that the early introduction of complementary foods was practiced for several reasons. They believed that providing early complementary food was ideal for infants' growth and development and suggested that mothers should engage in such practices, calling it a tradition within the Javanese community.

Key points

- Early complementary food is practiced widely among mothers living in rural areas of Indonesia.
- Early complementary food aims to adhere to cultural beliefs, which are passed down from generation to generation.
- In this study of complementary feeding practices in rural areas of Indonesia, infants were provided with early complementary food during the first 6 months of life.
- Having a close relationship with extended family members and neighbours affected early supplemental food practices.
- Cultural beliefs have been modified in younger generations, as a result of higher education and the availability of information from the internet.

> ***'Early complementary food has been practiced for a long time. It is normal, and the baby is believed to grow well.' (R22, 67 years old)***

The sooner the better

The timing for providing early complementary food to infants varied. Some participants stated having started at birth, others started at 2 weeks, and some started it between 2 and 4 months of age.

> ***'I started giving my son banana when he was 2 weeks old…I gave him it once per day, usually at 10am…and when he was 4 months old, I increased it to twice daily.' (R7, multiparous, 32 years old)***

According to the health worker participants, some mothers started giving their babies complementary food immediately after birth because of tradition.

> ***'Some mothers give complementary food to their babies immediately after birth while others give it to their infants when they are 2 months old.' (R20, 37 years old)***

Types of early complementary food

There were several types of early complementary food given to babies. Eight of the participants stated they provided additional soft food or liquids besides breast milk before their infants reached 6 months old.

Soft food

Participants stated feeding their babies soft food such as bananas, instant porridge, rice porridge and soft rice. Occasionally, they also fed them family food mixed with warm water to soften it.

> ***'I usually feed my son with bananas, instant porridge and soft rice as complimentary food other than breast milk.' (R17, multiparous, 37 years old)***

Liquids

The participants also stated they had been advised to give their babies liquids such as formula milk, cow milk and tajin (rice water).

> ***'My child is given cow milk as well as breast milk.' (R4, multiparous, 43 years old)***

The health workers explained that most mothers combined breastmilk and early complementary food, which varied depending on the infant's age and socioeconomic background.

> ***'Mothers give their infants certain kinds of complimentary food, including banana, formula milk, instant baby porridge, tajin and rice porridge. Meanwhile, those with low social-economic incomes prefer cheap food…and the younger ones are provided with softer diets.' (R21, 42 years old)***

Influencing people

Participants reported hearing about cultural beliefs during the postpartum period from mothers, mothers-in-law, grandmothers, traditional birth attendants, neighbours and friends.

Family members

Three quarters (12/16) of the participants were informed about early complementary food practices by their relatives, namely their mothers, mothers-in-law and grandmothers.

> ***'My mother and mother-in-law (the infant's grandmother) visited virtually every day. They told me that my baby cries a lot even after being breastfed due to hunger, and therefore, suggested some complimentary food be added.' (R17, multiparous, 37 years old).***

Healthcare providers stated that grandmothers, mothers and mothers-in-law played a significant role during the postpartum period. They assisted mothers and provided suggestions related to child-rearing.

> ***'Based on tradition, family members hugely support postpartum mothers. They help them take care of the baby and advise them to engage in the early introduction of complementary food for several reasons.' (R20, 37 years old)***

Traditional birth attendants

Most (13/16) of the participants requested traditional birth attendant services during the postpartum period.

> ***'I invited the traditional birth attendant to my house immediately after returning from the hospital. She suggested that I give my baby complementary food to rapidly boost their growth.' (R2, multiparous, 35 years old)***

Neighbours and friends

Some participants stated that information related to cultural beliefs was obtained from neighbours or friends during the postpartum period. The Javanese community has a tradition of 'ngendong' (coming and talking in a neighbour's house), and this allows the exchange of traditional beliefs among members.

> ***'My neighbours share information about childcare, breast massage and complimentary food practices in order to make babies sleep well.' (R5, primiparous, 27 years old)***

Discussion

Participants reported that the early introduction of complementary food is a common practice among Indonesian mothers. The majority of Javanese mothers live in Central and East Java, including Yogyakarta (Indonesia Central Bureau of Statistics, 2010). According to cultural beliefs, the nuclear family, kinfolk and community are part of their social identity (Herdaetha et al, 2020). Javanese people tend to view health from a simple perspective, believing that when a person is able to engage in daily activities, they are healthy (Widayanti et al, 2020). Javanese people usually seek health advice when they are unable to engage in their day-to-day activities (Dewi et al, 2010).

Cultural beliefs affect virtually all aspects of Javanese lives, from birth to death, and Indonesian mothers are highly pressured to adhere to these cultural beliefs (Aryastami and Mubasyiroh, 2021). Breastfeeding is culturally accepted and supported by this community (Anggraeni et al, 2020). However, according to Suwarsih (2016), 90.5% of Javanese mothers give their babies early complementary food, with 82.8% citing they engage in this practice because of cultural beliefs. Javanese people are encouraged to respect their elders, follow their advice, avoid conflict and live in peace and harmony with others (Probandari et al, 2017). This culture does not allow the younger generation to express opinions about inappropriate health-related beliefs (Anggraeni et al, 2018). Healthcare providers focus on the principles that every individual is entitled to quality healthcare, should participate in decision-making regarding their healthcare and should be protected from harmful traditional practices (Douglas et al, 2014).

The participants in the present study reported that the Javanese community believes that the early introduction of complementary food is good for infants. This study highlighted various reasons for this

belief. Answers mainly centered on cultural beliefs and maternal and infant health status. These findings are in line with previous studies in Indonesia, which also reported that mothers enage in the early introduction of complementary food because of cultural beliefs (Suwarsih, 2016), tradition (Anggraeni et al, 2014), fussy infants (Utami, 2010), to fulfil the baby's need (Utami, 2010), to boost weight (Rahmawati, 2014), because of cracked nipples (Rahmawati, 2014), because of a lack of appropriate feeding practice knowledge (Areja et al, 2017) and as a result of perceived insufficient breast milk supply (Rahmawati, 2014). UNICEF (2019) also lists inappropriate beliefs about insufficient breastmilk supply, fussy and thin babies and lack of knowledge concerning exclusive breastfeeding as factors that play an important role in the introduction of early complementary feeding by Indonesian mothers. Without proper education, these cultural beliefs and lack of knowledge related to lactation physiology and breastfeeding problems may increase infant morbidity and mortality in Indonesia.

Some early complementary food types are unsafe for infants because of their immature renal, immunological, gastrointestinal and neurological development (Romero-Velarde et al, 2016). In line with previous research, the participants of this study reported feeding their babies banana and rice porridge as well as other complimentary foods (Utami, 2010). Participants also reported giving their infants formula milk, cow milk and tajin as liquid sources. A previous systematic review similarly reported that cow milk derivatives served as complementary foods for infants (Pearce and Langley-Evans, 2013). However, animal milk protein tends to cause more allergic reactions in infants (Rangel et al, 2016), with diarrhea being the most common symptom (Pearce and Langley-Evans, 2013). Cow milk being fed to infants has also been found to cause stunting as a result of malnutrition (Beal et al, 2018), and its high prevalence is because of improper feeding practices. Discussions with a traditional birth attendant and healthcare providers in the present study highlighted the belief that soft food is needed to prevent fussy infants, make them sleep well and promote rapid growth. Based on these findings, new mothers need to be educated about newborns' developmental processes, particularly in relation to growth spurts.

There is a significant correlation between the choice of food in early complementary feeding and cultural beliefs. According to Chakona and Shackleton (2019), it is also affected by diet preference. The participants in the present study reported that these beliefs, passed down from older generations, serve as guidance for their daily activities. Food not only served as nourishment for the body, it is also perceived as a ritual that is linked to the attitudes, folklore, rules and customs used to identify a specific group within the community (Sibal, 2018). The participants' points of view were confirmed by the traditional birth attendant and healthcare providers, who explained that the Javanese community strongly upholds its cultural beliefs in daily activities. These findings are in accordance with a previous study that found participants believed that early complementary feeding was good for infant growth and development, based on traditions passed down from the older generations (Utami, 2010). Although healthcare providers offer health education, it is apparently insufficient for mothers to learn the importance of exclusive breastfeeding, influenced by psychological state, social-cultural beliefs and family support (Labangara and Yauri, 2018).

In the present study, participants stated that their mothers, mother-in-laws, and traditional birth attendants were influential people when it came to deciding whether to engage in early complementary feeding. A close relationship usually exists among community members, since most Indonesians are closely involved with their extended family and this influences almost all aspects of their lives (Kartikasari et al, 2019). The practice of early complementary feeding is therefore strongly affected by family members' opinions (Sunarti et al, 2017), and significantly affected by grandmothers (Amalia et al, 2018) and traditional birth attendants. It is common in this community to advise mothers to give babies jamu (herbal liquid) at 40 days (Suwarsih, 2016). While family members and traditional birth attendants advise postpartum women to engage in early complementary feeding, a previous study reported that participants believed in modifying suggestions that did not fit with health sciences, particularly for young mothers not living with their parents (Anggraeni et al, 2018). Based on these findings, community healthcare providers need to involve new mothers' mothers, mothers-in-law and traditional birth attendants in health education, particularly with regard to exclusive breastfeeding. The results are in line with a previous study that found in Javanese culture, close relatives, often a grandmother, plays an important role in decision-making regarding infant feeding (Suryati et al, 2020). In this study the midwives confirmed that most Javanese people strongly uphold their cultural beliefs and obey their parents out of respect.

CPD reflective questions

- How do cultural beliefs related to early complementary food practice affect stunting in the rural area?
- How can young generations change cultural beliefs practice without conflict with elder generations?
- What is the most suitable program to promote exclusive breastfeeding and prevent early complementary food practices among people living in rural areas?

Strengths and limitations

A strength of this study is that it explored first-hand the cultural beliefs of those living on Java Island. This qualitative study was carried out by those who have lived in Java for a long time and are familiar with the local language.

However, this study also had limitations. Only three working class mothers were recruited, and influential family members other than grandmothers who may influence mothers' feeding practices were not interviewed. Future research should involve more participants with different characteristics and provide privacy during in-depth interviews.

Conclusions

This study provides a recent picture of early complementary feeding in rural Indonesia, highlighting that it is widely practiced by Javanese mothers in rural areas. These mothers tend to adhere to cultural beliefs related to infant feeding, and a lack of exclusive breastfeeding support from close family members contributes to the adoption of this practice. The need to show respect to older generations and their traditional cultural beliefs greatly influences non-exclusive breastfeeding practices in this community. Policymakers and community healthcare providers must consider this and implement a culturally sensitive educative program that involves grandmothers and traditional birth attendants. BJM

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