



Following the cultural norms as an effort to protect the mother and the baby during the perinatal period: An ethnographic study of women's food choices[☆]



Vella Yovinna Tobing, Yati Afiyanti*, Imami Nur Rachmawati

Faculty of Nursing Universitas Indonesia, Depok, West Java, Indonesia

Received 13 November 2018; accepted 17 April 2019

Available online 15 July 2019

KEYWORDS

Food choices;
Traditional food restrictions;
Cultural practices;
Nutrition;
Perinatal period

Abstract

Objective: An ethnographical approach was applied to explore cultural practices that influence women's consumption behavior in the perinatal period in Pulau Godang Kari, a village in Riau, Indonesia.

Methods: This study involved 27 participants consisting of pregnant women, breastfeeding mothers, family members, a traditional birth attendant, a midwife, and community leaders. This study used observation, focus group discussion, and interviews and applied thematic data analysis.

Results: The findings identified some rules and taboos about food consumed during the perinatal period. There are "good" and "bad" foods to consume, as well as the prescribed time for restriction and amount of food intake. Pregnant women choose to conform to the beliefs to protect themselves and the baby.

Conclusions: Culture has a strong influence on food choice decision-making. These findings highlight that family participation in perinatal care is essential to address.

© 2019 Elsevier España, S.L.U. All rights reserved.

[☆] Peer-review under responsibility of the scientific committee of the Second International Nursing Scholar Congress (INSC 2018) of Faculty of Nursing, Universitas Indonesia. Full-text and the content of it is under responsibility of authors of the article.

* Corresponding author.

E-mail address: yatikris@ui.ac.id (Y. Afiyanti).

Introduction

Culture is learned and adopted from the interpersonal communication with the closest environment, such as family and social context.¹ Cultural practices are closely related to health because culture has a significant influence on lifestyle, which can impact the health conditions.² One of

the cultural norms that can affect health during the perinatal period is the practice of food restriction.³

Indonesia is estimated to be the most culturally diverse country because it consists of almost 500 tribes. One of the largest tribes in Indonesia is the Malays, and one of the provinces in Indonesia with the most significant population of Malays is Riau Province.⁴ The Malays' cultural practices are still applied in Riau Province, especially in rural areas. Traditional practices during the perinatal period also exist in the Malays community.⁵

The maternal nutritional condition is closely related to the child's nutritional status; for example, maternal weight gain will affect birth outcomes.^{6,7} Deficiencies in some dietary components (iron, folic acid, and vitamin B12) are linked to increased risk of fetal growth restriction, premature birth, and Low Birth Weight (LBW) occurrence.^{8,9} The quality of an individual's nutritional status begins at the beginning of the life cycle: the pregnancy period; therefore, the fetal nutritional condition depends on his/her mother's. The golden period of nutritional fulfillment is the first thousand days of life.¹⁰

The problem of a lack of nutritional fulfillment, especially during the perinatal period, continues to be an issue in Indonesia. The incidence of anemia and chronic energy deficiency (CED) during pregnancy are found to be fairly high in Riau Province. This condition indirectly affects the occurrence of cases of LBW in Riau Province. The highest CED prevalence (53.4%) in pregnant women in Riau Province is found in Kuantan Singingi.¹¹

Pulau Godang Kari is one of the villages in Kuantan Singingi. The incidence of CED and anemia in pregnant women is considerably high in this village.¹² Kuantan Singingi has no problem in the food supply, but the people strongly hold cultural guidance for their daily intake. Women would avoid certain foods during the perinatal period as prescribed by the cultural norms.⁵

Culture has a strong influence on women's food choices during the perinatal period. This tendency can be changed relative to social factors, women's knowledge, health condition, and family finance. The objective of this study was to explore women's' culturally-driven food choices during the perinatal period in Pulau Godang Kari, Kuantan Singingi, Riau Province, Indonesia.

Method

This study adopted ethnographical qualitative research to explore the cultural practices of maternal food consumption during the perinatal period. The ethnographical approach was applied to identify the way of life and to explore the reasons for food choices of the pregnant women in Pulau Godang Kari, a village in Kuantan Singingi, Riau, Sumatera. Twenty-seven participants were selected with purposive sampling method including pregnant women, breastfeeding mothers, family members, a traditional birth attendant, a midwife, and a community leader. To be included, the participant must be a resident and live in the study location. A local midwife helped the researcher to recruit the participants.

We recruited participants with different backgrounds to achieve maximum variation, conformability, and to

minimize bias. The participants had diverse backgrounds, such as different educational status, economic status, occupation, family type, and obstetric status.

This study was approved by The Research Ethic Committee of Faculty of Nursing, University of Indonesia. The participants agreed to take part after they had read the information statement, received the explanation about the study, and signed the informed consent. All data were handled with the strictest confidence; pseudonyms were used for anonymity.

We observed the participants' behavior focusing on nutritional fulfillment according to the observation guide. We also performed a focused group discussion (FGD) to discuss the cultural practices surrounding food consumption during the perinatal period. There were two FGDs for the groups of pregnant women and breastfeeding mothers and two FGD sessions for each group. Another method to collect the data was interviewed with the family members (husbands, mothers, and mothers-in-law), a traditional birth attendant, a midwife, and a community leader. Data were tape- and video-recorded.

Data analysis was performed by using thematic analysis. Data were transcribed verbatim and analyzed continuously by looking at the suitability of the results from FGDs, interviews, and observation. The researchers repeatedly examined the findings, searching for keywords, coding, and ultimately determining the research themes.

Results

In total, there were 27 participants in this study: nine pregnant women, ten breastfeeding mothers, five family members, a traditional birth attendant, a midwife, and a community leader. Most women were homemakers in nuclear families, but their parents lived nearby. The data analysis of the verbatim and field note showed that culture had a strong influence on food choice decision-making of the women during the perinatal period.

'Bad food and good food': Food taboos during pregnancy and lactation

Food is frequently classified into taboo and recommended foods. Pregnant and breastfeeding women are told of what to eat or not to eat, when, and how much. The local delicacies which are particularly prohibited for the women during perinatal period include *jangek* (cow's trotter/skin), *cipuiik* (snail), *cubodak* (jackfruit), *jengkol* (dog fruit), spicy foods, *tape* (fermented cassava), chicken innards, *basongek* fish (fish with rays), cane, banana, durian, pineapple, and bamboo sprout. Taboo drinks include soda, coconut water, and cold beverages. Eating cow's trotter is believed to cause the rupture of the fetal membrane during labor, thus making the mothers have longer pain. Jackfruit, soda, and coconut water are considered to contain gas that can cause excessive flatulence both in pregnant/lactating mothers and in breast-fed infants. Spicy food is feared to cause abdominal pain in pregnant women and diarrhea in breastfed babies. Fermented cassava (*tape*), durian, and pineapple should be avoided because they can induce abortion in pregnant

women. But eating *tape* is recommended after delivery because it is believed to increase milk production.

Some foods are made taboo due to their character or form that are projected to the mother or child. For example, eating bamboo sprouts during pregnancy (which originally have 'hairy' appearance) is believed to cause a 'hairy' baby (plenty of lanugo). *Basongek* fish (fish that has elongated rays such as gourami fish) is avoided since the ray is believed to be sharp and can cause injury to the mother's womb. Dogfruit should not be consumed during pregnancy in the third trimester because its strong smell is believed to cause smelly amniotic fluid. Chicken innards, especially chicken liver, should not be consumed because it is believed that they can darken the baby's lips and genitalia as the chicken liver has a dark color. 15 participants think that chicken liver can be the treatment of anemia, yet they choose not to consume because they perceive it as a taboo food.

"I have heard that chicken liver can help raise the red blood cell, the midwife said that. I had anemia, and my midwife told me to eat it, but I don't want my baby to have dark lips. Chicken liver can darken the baby's lips and genitalia. I believe that there are bad foods and good foods to consume, and I want to consume good foods..." (Pregnant woman 6).

The cultural norm, nevertheless, highly recommends vegetable consumption during the perinatal period. Mothers who breastfeed their children consume a lot of *katuk*/star gooseberry leaves and the banana blossom; both are believed to increase the amount of breast milk. Most breastfeeding mothers and women who had breastfeeding experience agreed that the *katuk* leaves and banana blossom increased breast milk production.

"I had a breastfeeding problem in the first two days after delivery. I produced a few breast milk, and I think it was not enough for my baby. So, my mother asked me to eat katuk leaves and banana blossom. After consuming katuk leaves and banana blossom, my breast milk production increased..." (Breastfeeding mother 12)

Apart from the 'good' and 'bad' food labels, there is also a time limit on food consumption. *Turun mandi* (a ritual event) marks the end of food restriction for the postpartum women. After the ceremony, the participants were observed consuming more variety of foods.

'...The time limit is until turun mandi. Turun mandi is a term to be free to consume food and free to do anything... going for shower performed after the umbilical cord detached...' (Traditional birth attendant).

In addition, another cultural tradition rules the amount of food to be consumed during the perinatal period. For example, an observation for a few days after labor indicated that a participant was encouraged to only drink 1–2 medium glasses of water (± 250 –300 cc) and to eat in small amounts.

'The mother was experiencing measles after childbirth five days ago. She continued to breastfeed her baby. When she was recommended to drink a lot of water because of the hot body condition, she looked a little hesitant while nodding, but she only drank a glass

of water after being given vitamin A' (Observation of breastfeeding mother 8).

In the second visit, the participant described the restriction of water for postpartum women:

'...if I eat a lot of food, drink a lot of water, the belly cannot get smaller after pregnancy. I will continue to look like a pregnant woman; I do not want to be like that...' (Breastfeeding mother 8).

"I have no other choice; this is my condition": Reasons of food consumed during a perinatal period

A mother's food intake is determined by several conditions including health status, financial status, food preparation, and beliefs that food could cause health problems and the purpose of consuming food. Maternal health conditions during the perinatal period may lead to less food intake. One participant who suffered from CED just ate two tablespoons of rice a day. As nausea and vomiting frequently occurred during pregnancy, some participants tended to eat very little and were suggested to reduce the portion and frequency of feeding.

'During pregnancy, food intake is reduced. We sometimes only eat once a day, sometimes twice. During pregnancy, I rarely eat breakfast. Before pregnancy, I eat breakfast every morning...' (FGD1, Pregnant woman 5).

Family's economic condition also influences the food consumption of the mothers. Low-income families can only afford cheaper foods for all family members including the mother. A participant who is a mother of five said:

'... I often eat tempe (soybean cake) and eggs; it's cheap. It would be nice to eat fish, but my family is a big one, we cannot afford to eat fish. I have no other choice; this is my condition. My husband is just a rubber farmer, we don't have much money to buy fish, chicken or meat... so I eat what we can afford along with my family...' (Pregnant women 9).

Certain types of food preparation are not allowed during pregnancy. Food preparation starts with cleaning food until the food can be consumed. Based on the observations, the majority of participants washed vegetables after cutting them to make them cleaner. There is a belief that during pregnancy both the expectant mother and father should abstain from killing animals for food, a common practice in the village. Killing animals is believed to cause congenital disabilities. Pregnant women should only eat boiled or steamed food. Based on informal interviews with the participants, the way of cooking could affect the mother's appetite. Also, a woman revealed the following information during the interview and FGD process:

'We must not kill crabs during pregnancy. If you kill a crab, the baby's fingers will look like a crab. During pregnancy, the wife and husband should not kill any animal to consume. It's not good for the fetus...' (Pregnant woman 2)

'Eating fried food is not allowed because it is greasy. We are afraid our womb content will also be greasy...' (FGD2, Breastfeeding mother 1)

The cultural restriction on certain foods is justified by the beliefs of the foods' effects on the mother's and child's health. A negative effect on the mother can be passed on to the unborn child. The reasons for avoiding food consumption are illustrated in the following passage:

'If we drink ice, the baby will get bigger and hard to give birth to... I have seen my neighbor's big baby, I knew when she was pregnant, she would drink ice every day. I don't want to be like her...' (Pregnant woman 4)

'... The woman cooked raw cubodak (jackfruit) curry but did not consume it. This participant said she was afraid that her child would have excessive flatulence. The participant also waited for the food until it got cold because the hot food was believed to cause guam (stomatitis) in the baby's mouth' (Observation of Breastfeeding mother 4)

'I follow the restriction to protect the baby and me': Environment influences the food preference

One of the participants have a diploma degree in nursing, but she still follows the restriction to respect to her mother-in-law, as in this following statement:

'I live with my mother-in-law, and I feel so thankful to her because she always helps me to take care of my baby... I believe that she will always give me the best because she has many experiences so that I will follow her instruction about food restriction. I should give my respect to her and make her happy by doing what she tells me...' (Breastfeeding mother 9).

'Most of the women would follow the restriction, some can still accept my argument not to follow it. I think they mostly do it out of respect to their mothers and they think that their mothers must have the experience about it...' (Midwife)

A few participants including the community leader believe that the traditional restriction that has been passed on to generations should be followed to prevent harm for the mother and babies.

'I saw my relative who did not follow the restriction. She killed a chicken when she was pregnant and ate jangek. The delivery process was so hard and long, and the baby died. So, I follow the restriction to protect my baby and me...' (Breastfeeding mother 6)

'We should believe what the traditional birth attendants say. They have given knowledge from the predecessors. It will be better to avoid the undesirable effect...' (Community leader)

Discussion

Nutrition is essential in all life cycles, including at the fetal stage. An individual's nutritional status starts at

the beginning of the life cycle and pregnancy is a golden period of nutritional fulfillment.¹⁰ Nutrition deficiency during the perinatal period may lead to adverse impacts on pregnancy outcome.^{7,9} The complex nature of dietary behavior is among the factors underpinning individual food choices.¹³ Cultural beliefs and practices about food which are considered good or bad during pregnancy have implications for maternal nutrition.¹⁴

Food taboos and classifications influence mothers' dietary intake. Cultural norms that restrict or encourage particular foods affect perinatal nutrition.¹⁵ Some Asian culture classifies foods as hot or cold.^{3,15} In this study, the cultural beliefs classify foods as good and bad, and prescribe the timing and quantity of food intake. Food classification is also found in other ethnic groups in Indonesia, such as in the Dayak Sanggau tribe in Kalimantan province that classifies food based on the type and amount.¹⁶

Mothers' food choices are influenced by the belief that some sort of food cannot be consumed at specific times because it can cause health problems or it will not provide the desired benefits. Vegetables are believed to be beneficial in pregnancy, so pregnant women are encouraged to eat plenty of vegetables. During pregnancy, changes occur in the digestive system; for example, the decreasing intestinal peristalsis due to the higher progesterone levels leads to constipation in pregnant women.¹⁷ This cultural practice is aligned with the general recommendation of dietary intake for pregnant women that needs higher consumption of fiber contained in vegetables. Low fiber intake and lack of physical activity during pregnancy increase the incidence of constipation.¹⁸

Katuk (*Sauropus androgynus*/star gooseberry) is a medicinal plant high in antioxidants. The antioxidant has shown to be beneficial on health, but excessive consumption of it may cause poisoning and injury to the lungs.¹⁹ Furthermore, *Katuk* leaf extract consumed by the breastfeeding women can increase milk production by about 50.7%.²⁰

Several forbidden foods in perinatal period identified in this study including *cubodak* (jackfruit), durian, pineapple, *jangek* (cow's trotter/skin), and *tape* (fermented cassava), are also considered taboo for the ethnic group in Pasaman Barat area, one of the regions of West Sumatra Province.²¹ This similar taboo may be due to the adjacent geographic location that allows for the transfer of cultural practices. Hot, spicy, and sour foods are believed to affect the health of the mother and baby. Pregnancy is considered a 'hot' condition, so pregnant women should eat 'cold' foods in order to achieve balance.²² Durian, pineapple, and fermented cassava are believed to be hot foods and can cause miscarriage. Durian is avoided by most Asian women since it is believed to induce abortion.²³

The cultural tradition also prescribes the timing of food consumption and restriction. '*Turun mandi*' is a ceremony that marks the freedom of the mothers to eat foods that were previously prohibited. The practice of time restriction of food consumption is also found in another ethnic group of Indonesia in Purwodadi, Central Java Province, and is shown to slower the postpartum wound healing.²⁴

Furthermore, cultural practice also restricts the amount of food and drink consumed after delivery. The mothers should not eat in large quantities and are only allowed to drink one glass of water at a time. They believe such

limitation can help to get their stomach back into shape after giving birth. Pregnant women in Mimika region in Eastern Indonesia also limit their food intake to prevent the baby from being too fat which can hinder the labor.

Types of taboo food, when associated with CED occurrences and anemia, may not have much effect on pregnant or postpartum women's health. However, the way they prepare food may impact health. The majority of the participants in this study washed vegetables after cutting them. This method can reduce the nutrition in the vegetables since the plant-based vitamins and fibers are water-soluble. The Food and Drug Agency recommends washing vegetables with running water before cutting, eating, or cooking.

Apart from cultural beliefs, the mothers' food choices are also determined by economic and health conditions. Participants with low economic levels tend to choose cheap food that the whole family can eat. The financial status has its influence on nutrition management.¹⁵

Leininger's approach provides three alternatives in addressing the existing cultural practice: (1) to maintain it if it is beneficial; (2) to negotiate change if it negatively impacts health; or (3) to eliminate the culture. The cultural practices found in this study can be negotiated for change. The restriction on eating *basongek* (fish with tentacles), eating spicy and oily food, or amount restriction of food intake should be adapted to promote the health of the mothers and babies. For example, the *basongek* fish that is prohibited for pregnant women can be substituted with many other types of fish. The practice of eating an only a small amount of foods and drinks should be changed into the 'small and frequent' eating and drinking.

This study has some limitations since there were only a few pregnant women in the study setting, hence the limited group for FGDs. The translation of the local terminologies is also challenging and requires clarification from many sources. The transferability of this study may also be limited only in this particular ethnic group.

Culturally-sensitive interventions and policies are needed to improve public health, especially in areas where people still strongly hold to cultural norms. Culturally-sensitive health education can be provided not only for pregnant or breastfeeding women but also for families and communities that can influence the selection of health-related measures.

Conclusion

Culture can influence decision making in dietary intake during the perinatal period. Cultural tradition in Pulau Godang Kari, Riau, Indonesia can restrict the type, amount, and timing of particular food consumption with the beliefs to protect the unborn child and the mother. Nevertheless, food consumption is also influenced by the family income and the mother's health condition. The findings of this present study research can inform the development of a culturally-sensitive intervention to promote maternal nutrition, particularly for the respective ethnic group.

Conflict of interests

The authors declare no conflict of interest.

Acknowledgements

This work is supported by Hibah PITTA 2017 funded by DRPM Universitas Indonesia No. 391/UN2.R3.1/HKP.05.00/2017.

References

1. Floyd K. *Interpersonal communication*. 2nd ed. New York: Mc Graw Hill; 2012.
2. Napier AD, Ancarno C, Butler B, Calabrese J, Chater A, Chatterjee H, et al. Culture and health. *Lancet*. 2014;384:1607–39, [http://dx.doi.org/10.1016/S0140-6736\(14\)61603-2](http://dx.doi.org/10.1016/S0140-6736(14)61603-2).
3. Swasono MF. *Kehamilan, kelahiran perawatan ibu dan bayi dalam konteks budaya*. Jakarta: UI Press; 1998.
4. Arsip Nasional Republik Indonesia; 2014. *Dunia Melayu – Indonesia*.
5. Kartikowati S, Hidir A. Sistem kepercayaan di kalangan ibu hamil dalam masyarakat melayu. *J Parall*. 2014;1:159–67. Available from: <https://ejournal.unri.ac.id/index.php/JPRL/article/view/2871>
6. Barger MK. Maternal nutrition and perinatal outcomes. *J Midwif Women's Health*. 2010;55:502–11, <http://dx.doi.org/10.1016/j.jmwh.2010.02.017>.
7. Naja F, Nasreddine L. Study protocol: mother and infant nutritional assessment (MINA) cohort study in Qatar and Lebanon. *BMC Pregn Childbirth*. 2016;16:98, <http://dx.doi.org/10.1186/s12884-016-0864-5>.
8. Finkelstein JL, Layden AJ, Stover PJ. Vitamin B-12 and perinatal health 1–3. *Adv Nutr*. 2015;6:552–63, <http://dx.doi.org/10.3945/an.115.008201.552>.
9. Furness D, Fenech M, Dekker G, Khong TY, Roberts C, Hague W. Original Article: Folate, Vitamin B12, Vitamin B6 and homocysteine: impact on pregnancy outcome. *Matern Child Nutr*. 2011;9:155–66, <http://dx.doi.org/10.1111/j.1740-8709.2011.00364.x>.
10. Black RE, Victoria CG, Walker SP, Bhutta ZA, Christian P, de Onis M. Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet*. 2013;427:51, [http://dx.doi.org/10.1016/S0140-6736\(13\)60937-X](http://dx.doi.org/10.1016/S0140-6736(13)60937-X).
11. Kementerian Kesehatan RI. *Pokok-Pokok Hasil Riset Kesehatan Dasar Provinsi Riau: RISKESDAS 2013*. 1st ed. Jakarta: LPB Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI; 2013.
12. KOHORT KIA Puskesmas Kari. *Data Ibu Hamil Januari – April 2017*.
13. McDermot MS, Oliver M, Simnadis T, Beck O, Coltman T. The theory of planned behaviour and dietary patterns: a systematic review and meta-analysis. *Int J Behav Nutr Phys Activ*. 2015;12:162, <http://dx.doi.org/10.1186/s12966-015-0324-z>.
14. Nag M. Beliefs and practices about food during pregnancy: implications for maternal nutrition. *Econ Polit Week*. 1994;29:2427–38. Retrieved from <http://www.jstor.org/stable/4401755>
15. Raman S, Nicholls R, Ritchie J, Razee H, Shafiee S. Eating soup with nails of pig: thematic synthesis of the qualitative literature on cultural practices and beliefs influencing perinatal nutrition in low and middle income countries. *BMC Pregn Childbirth*. 2016;16:1–14, <http://dx.doi.org/10.1186/s12884-016-0991-z>.
16. Suprabowo E. *Praktik budaya dalam kehamilan, persalinan dan nifas pada suku dayak sanggau tahun 2006*. *J Kesehat Masyarakat*. 2006;1:112–21, <http://dx.doi.org/10.21109/kesmas.v1i3.305>.
17. Perry SE, Hockenberry MJ, Lowdermilk DL, Wilson D. *Maternal child and nursing care*. Missouri: Elsevier Mosby; 2014.
18. Shi W, Xu X, Zhang Y, Wang J, Wang J. Epidemiology and risk factors of functional constipation in pregnant

- women. PLOS ONE. 2015;10:e0133521, <http://dx.doi.org/10.1371/journal.pone.0133521>.
19. Khoo H, eng, Azlan A. *Sauropus androgynus* leaves for health benefits: hype and the science. *Nat Prod J*. 2015;5:115–23, <http://dx.doi.org/10.2174/221031550502150702142028>.
 20. Sa'roni S, Sadjiman T, Sja'bani M, Zulaela Z. Effectiveness of the *Sauropus androgynus* (L.) Merr leaf extracts in increasing mother's breast milk production. *Med Litbangk*. 2004;15:20–4, 0.22435/mpk.v14i3 Sept.903.
 21. Kementerian Kesehatan RI. Penelitian etnografi di Indonesia (CD-Room version). Jakarta: Kemenkes RI. Software Tool-works.s.; 2016.
 22. Chen L, Low YL, Fok D, Han WM, Chong YS, Gluckman P, et al. Dietary changes during pregnancy and the postpartum period in Singaporean Chinese, Malay and Indian women: the GUSTO birth cohort study. *Public Health Nutr*. 2017;17:1930–8, <http://dx.doi.org/10.1017/S1368980013001730>.
 23. Jamaludin SSS. Postpartum food restriction of rural Malay women. *Asian J Hum Soc Sci*. 2014;2:32–41. Available from: <http://www.ajhss.org/pdfs/Vol2Issue4/4.pdf>
 24. Saidah N. Perilaku pantang makanan pada ibu nifas di polindes desa lebakrejo purwodadi pasuruan. *Hosp Majapahit*. 2011;3:20–37.