

Managing Feeding Behavior Since Birth: What Should Parents Know about the Homeostatic Stage Manifestations?

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ABSTRACT

Background: The children's feeding behaviours in the early stages of life determine their eating behaviours in adulthood. It is imperative to understand that the failure in fulfilling hunger in the homeostatic stage is detrimental towards the mother-baby interaction in further stages of feeding. Ergo, it is of paramount importance for the mothers to understand the actual manifestation of homeostatic stage in their daily lives.

Aim: To explore the mother's breastfeeding experience and how they handle the problems.

Methods: This study uses a qualitative research design and hermeneutic phenomenological approach. Sixteen mothers were recruited from the community by purposive sampling. The in-depth interviews conducted were audio-recorded and transcribed. In addition, thematic analysis was done using the interpretative phenomenological analysis method.

Results: The majority of the mothers had yet to understand the effects of rooming-in on the success of breastfeeding. Breastfeeding difficulties and low milk supply occurred in both mothers who had a spontaneous vaginal delivery and caesarean section. The provision of formula milk did not continue on the mothers who regularly breastfed or pumped.

Conclusions: Mothers ought to have ample knowledge on homeostatic stage to improve the breastfeeding process and foster good feeding behaviours from as early as possible.

Keywords: homeostatic stage, breastfeeding, phenomenological study

INTRODUCTION

The lack of nutritional intake in the first 1000 days of life might cause failure to thrive, stunting, cognitive and mental disorders¹ that might remain into adulthood if they are not treated until the age of three². Shonkoff and Phillips even state that *"What happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or fragile stage for what follows"*. Neglectful or harmful parenting can wound or damage a child, limit brain development and create unhealthy beliefs about what love is³.

Feeding interactions are influenced by the child's developmental stages, which are homeostatic, attachment, and individuation stages, as well as the particular tasks required at each stage. Parents and society in general may lack knowledge on these aforementioned developmental stages, which often brings further problems in the feeding process. Parents consider the complementary feeding as the children's initial act eating, so that are fundamental in the establishment of eating behaviours.

The development of autonomous internal regulation of feeding is a task of paramount importance in the first years of life. Since birth, a child no longer receives nutrients through the umbilical cord passively, as they have to receive them from the process of feeding⁴. Infants give a signal in the form of crying when they are hungry, and they cease to suckle to let their caregivers know that they are feeling full⁵. A mother should be able to recognise, respond, and direct such signals in order for

the child to have a good pattern of food intake⁴. In addition, a mother should also respond to them by providing an adequate amount of breast milk to fulfill the hunger.

The baby's difficulties in receiving food intake in the homeostatic stage might lead to feeding difficulties, especially in the transition into solid foods⁵. Continuous feeding difficulties up to the age of three pose the risks of developmental problems and bad health issues in adulthood². Moreover, bad eating habits and behavior are more difficult to treat as a child grows⁶.

Parents should possess an adequate knowledge and awareness of the importance of breastfeeding as a manifestations of feeding process even before the childbirth. In other words, parents and society ought to edify themselves and understand the children's feeding behaviours based on the developmental stages of internal regulation to prevent feeding difficulties in the later years of life.

The current study aims to explore the mother's breastfeeding experience and how they handle the problems.

SUBJECTS AND METHODS

Qualitative design with hermeneutic phenomenology is used in this research to explore and to understand the meanings that mothers assigned to their breastfeeding experiences. Interpretative phenomenological analysis (IPA) is used to look in detail at how the participant makes sense of breastfeeding experience and to give detailed interpretation⁷.

Participants were chosen purposively. The study was conducted on 21 informants, consisting of both working and non-working mothers. The inclusion criteria are as follows: (1) mothers with breastfeeding experience not more than five years ago, (2) mothers who had a spontaneous vaginal delivery or caesarean section, (3) mothers resided in Surabaya. The exclusion criteria are as follows: (1) mothers who were not in a stable physical or mental condition before and after the childbirth, (2) mothers who refuse to be an informant.

The research was conducted using in-depth interviews, each ranging from 60 to 90 minutes. All the interviews were administered in the participants' houses. The results were audio-recorded and transcribed. All activities were carried out after having the participants' and ethical approvals.

Two main questions that were given to the informants are as follows:

- How was your breastfeeding experience?
- How did you manage the breastfeeding difficulty?

RESULTS

Below are the interview results in the form of themes, sub-themes, and categories from 16 participants. Data were analysed using IPA's flexible seven-step approach^{8,9}.

Theme 1: Labor and Delivery Experience

Spontaneous vaginal delivery

"I initially planned to deliver at the practice of the midwife I used to visit. My waters had broken. I was afraid and went to a hospital right away. It turned out my baby had swallowed some fluid." (Participant 1)

"It was 41 weeks already. I noticed some spotting but my cervix had not dilated yet. I was induced, per oral, given twice and it was excruciatingly painful." (Participant 2)

Planned caesarean section (elective)

"I planned a caesarean section because I was already 40. Before that, I gave birth to the older siblings naturally." (Participant 3)

"My husband worried that I would feel extreme pain, so he asked me to have a caesarean section." (Participant 4)

Emergency caesarean section due to failure in spontaneous vaginal delivery

"We attempted for a natural delivery at first, but the baby did not come out. I was induced twice, but it didn't work. Finally, I went for a caesarean section. Consequently, we had to pay double" (Participant 5)

Theme 2: Rooming-In and Post-Delivery Breastfeeding Experiences

Spontaneous vaginal delivery and caesarean section with rooming-in for 24 hours

"There was a baby crib beside my bed, so I had easy access to breastfeed my baby. The flow was good, maybe because I was so happy that I had a daughter." (Participant 6)

"I wanted to breastfeed my baby right away, but the milk didn't come out until the next two days. My breasts were firm, I was feeling feverish, it was painful." (Participant 7)

Spontaneous vaginal delivery and caesarean section with rooming-in for half a day

"In the afternoon, she was in my room, but at night she was placed in the newborn nursery. I had a fairly good supply of breastfeed, but the baby refused to suck. She slept a lot." (Participant 8)

"I intended to breastfeed my baby right away, day and night, but my husband forbade me. He said, 'You wouldn't be able to take a rest'. At night, he drank the pumped breast milk using a baby bottle. He grew up liking these rubber nipples more than direct feeding." (Participant 9)

Spontaneous vaginal delivery and caesarean section without rooming-in

"The baby was brought to my room when it was time to feed. There was only a little amount of breast milk that came out at first, just about three to five drops. She drank it, but half an hour later, she cried. I was afraid she was hungry." (Participant 2)

"The baby was brought to us when she wanted to drink. If we wanted to be with the baby, the hospital let us. I breastfed my baby depending on her, it was quite a smooth experience." (Participant 10)

"People said that I should take a good rest while I was staying at the hospital—rooming-in does not give enough time for the mother to rest. The baby was always sleeping when he was with me, so I didn't know when to breastfeed him." (Participant 4)

Theme 3: Mother's efforts to overcome breastfeeding difficulties

Anumber of participants kept breastfeeding their babies to continue the production of milk.

"After the labour, the milk did not come out, but my nipples protruded following the labour, so I could latch my baby. Whenever she wanted to breastfeed, I did so. The milk slowly came out." (Participant 11)

In the cases where the baby was not able to breastfeed right away, several participants opted for pumping breast milk to prevent the milk production from stopping.

"The nurse always hurried me up when I was breastfeeding my baby, so I pumped my breast milk and store it in the baby bottles." (Participant 1)

"As my baby learnt to breastfeed, I pumped my breast milk using an electric breast pump." (Participant 8)

Formula milk was given due to the mothers' worry and in confidence or due to medical conditions

"Right after my baby finished breastfeeding, she cried so hard. My parents-in-law couldn't see her in that hungry condition, so they asked me to give her formula milk." (Participant 2 and 12)

"I was more stressed because a mother beside me already had her milk coming out, despite the fact that I gave birth to my child first" (Participant 12)

"He weighed 2.3 kg and had a low sugar level. The milk hadn't come out yet, but we had formula milk as a choice. The most important thing is that my baby was safe." (Participant 4)

"My baby had a jaundice a day after the birth, so the doctor suggested for the baby to drink a lot to prevent more yellow discoloration." (Participant 13)

Several participants gave their babies formula milk temporarily.

"At home, I didn't give him formula milk—the baby was healthy and I had a good breast milk supply already." (Participant 1)

Some participants decided to continue giving formula milk.

"The nurse told me to give the baby formula milk every two hours. They gave me a lot of formula milk as well, but they didn't explain anything about breast milk." (Participant 4)

"I still tried to breastfeed my baby at home, but I had a very low milk supply. I thought I could just give her formula milk, as long as he drank sufficiently." (Participant 12)

Theme 4: Mother's efforts to maintain breastfeeding process

Consuming foods that are believed to increase breast milk production

"I ate a lot more, like a construction worker. I consumed a lot of katuk leaves, soy milk, soup-y foods, water, and mung beans." (Participant 3)

*My portion was normal. I took more vitamins, like E*vit from Aussie, N**ture W**s squalene. I never consumed any Chinese herbal medicine."* (Participant 2)

"I am from Kalimantan, my mum is from Banjarmasin, and my dad is from Kota Baru. There is this method, which quite sounds like nonsense, using pigs' hooves, boiled, and then filtered. The water was then used to drink." (Participant 9)

Avoiding giving harmful foods for the baby

"Fizzy drinks are bad, clams are hazardous, they contain a lot of mercury, it can cause disabilities. Scary." (Participant 2)

"I avoided foods that might trigger allergies, such as peanuts, because my baby's cheeks were red. I also didn't eat foods that were not good for breastfeeding mothers like blackforest that contains rum." (Participant 10)

Developing self-esteem based on previous breastfeeding experiences

"I breastfed my other children before, so I already had the experience." (Participant 3 and 6)

"It's like an inherited trait, because my mum also had a lot of milk supply." (Participant 14)

Learning from previous failures in breastfeeding

"His older siblings breastfed for only one week, because I had a fever and was hospitalised. My breast milk didn't come out anymore. This time, I really take care of my condition." (Participant 9)

"My first child didn't breastfeed because I didn't really understand about it. Now, I understand about breastfeeding better." (Participant 2)

Ability to endure pain from breast and surgical scar

"After the labor, I wasn't allowed to be with my baby right away. The doctor said that I couldn't take care of myself, let alone holding and breastfeeding my baby. That's why I tried my best right away to walk again the next day to get the doctor's approval to hold my baby." (Participant 3)

"Because the milk hadn't come out after three days and I couldn't bear the pain anymore, I went to a lactation clinic. My breasts were massaged and suctioned, uggghhh. It was terribly painful, but the next day, the milk came out well, thank God." (Participant 7)

Asking for other family members' help during the treatment at the hospital

"The baby was with me, they provided a crib, and my husband gave her to me when it's time to breastfeed. My husband took a one-week leave to accompany me." (Participant 15)

"Maybe, she often cried because my nipples were too big. Finally, we stimulate her using my sister's breasts who just gave birth to her child at that time, because her nipples were smaller than mine. We did this so that the baby wouldn't be lazy to breastfeed later. It took only one day of practising with her aunt, the next day I could already breastfeed her." (Participant 16)

DISCUSSION

Breast milk has been widely recognised that breast milk has a plethora of health, nutritional, immunologic, developmental, psychological, social, economic, and developmental benefits¹⁰. Amongst the most contributing factors that affect breastfeeding in hospital care are caesarean section, breastfeeding initiation after two hours, lack of skin-to-skin contact (SSC), separation longer than one/24 hour, and health problems in infants¹¹. Feeling prepared for childbirth is one of the predictors of a successful breastfeeding¹². More than half of the participants had planned a caesarean section meticulously. On the other hand, there were also participants who had a spontaneous vaginal delivery accompanied by stressful events. This fact should be understood by parents, because there is a perception that views natural delivery as trouble-free.

Breastfeeding difficulties often occur on participants with a half-day rooming-in or without rooming-in at all, both on participants who had a spontaneous vaginal delivery and caesarean section. Immediate and uninterrupted skin-to-skin contact (SSC) will support mothers to initiate breastfeeding¹³. Any medical actions should not disregard the attachment relationship between a mother and her baby¹⁴. In a case where a neonate has to undergo a medical treatment that does not allow rooming-in, the mother still has to breastfeed using the kangaroo care method. This aims to maintain the SSC so that the production of oxytocin is not stopped¹⁵.

Healthy mature babies are often treated separately from their mothers and given formula milk without asking for the mother's approval¹⁶. Placing a baby in a separate room might seem like an act that comforts the mother, but the stress experienced by the baby obstructs the attachment and stabilisation aspects. A baby always cries when they meet their mothers, which causes the mother to panic, unconfident, and fail to breastfeed. A postpartum depression induces a breastfeeding failure, but breastfeeding failure per se might cause a postpartum depression¹⁷.

A participant who lacked understanding had a spontaneous vaginal delivery and a 24-hour rooming-in experienced a breast engorgement so that the baby could not breastfeed for two days. In contrast, several participants kept pumping their breast milk even when the breastfeeding process had not started, hence the good flow of breast milk. This shows that rooming-in for 24 hours does not guarantee a smooth breastfeeding

experience when the mother does not breastfeed or pump the milk regularly.

Several participants also maintained a good supply of breast milk by breastfeeding and pumping breast milk despite the fact that the baby consumed formula milk. Formula milk consumption in the first few days after birth does not obstruct the breastfeeding experience, with conditions as follows: (1) formula milk is given in a limited amount (10 ml) after breastfeeding, (2) formula milk is only given to a baby with dehydration >5% within the first 48 hours of life, (3) formula milk does not affect the frequency of breastfeeding, which is 8 to 12 times in 24 hours, (4) formula milk has to be stopped immediately after breast milk is sufficient, (5) the recommended type of formula milk is the extensively-hydrolyzed formula¹⁸⁻¹⁹. Some babies of the participants eventually refused to breastfeed because they received pumped milk through bottles, therefore it is advised to give formula milk using a syringe to avoid nipple confusion.

Several participants overcame the pain in order to take care of the baby. During a skin-to-skin contact between a mother and her baby, the mother's brains release beta-endorphin, which is an analgesic hormone that helps her respond to the newborn baby, increase happiness during the interaction²⁰. The epidural use of lidocaine and bupivacaine is safe because the big molecules cannot cross through the milk ducts²¹.

A mother's breastfeeding self-efficacy also correlates positively with birth satisfaction, number of children, and partner support¹². A participant stated that she had a very good amount of breast milk because she felt happy due to the birth of her daughter. There is no difference in confidence in the mother with and without breastfeeding experiences²². Another participant who had her first labour grew confidence because she felt that the good supply of breast milk was a trait inherited from her mother. An accompaniment from family members are the form of support that helps the participant. Family and sociocultural influences (beliefs, myths) might be a risk factor or resilience for a mother in breastfeeding²³.

A mother should enrich their knowledge and understanding about breastfeeding and strengthen the mental support to develop a confidence in breastfeeding. The goal should be to make the parents attached emotionally to their baby, so that the baby is off to a good start in life¹².

Limitations of the Study: A qualitative research cannot generalise the results. The participants were chosen from an urban area with a diverse socioeconomic and cultural aspect which might not be suitable with the condition in rural areas and small towns with a relatively homogeneous society. However, every baby undergoes homeostatic stage and needs sufficient breast milk, so this current study intends to edify mothers and parents in general to prepare the early lives of their babies as well as possible.

CONCLUSIONS

Mother's effort to ensure the availability of breast milk is focused on her preparation in undergoing the process of labor, the understanding on the importance of rooming-in,

and the awareness on giving formula milk. Mothers must have adequate knowledge on homeostatic stage to improve the breastfeeding process to develop good feeding behaviours as early as possible.

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REFERENCES

1. Pem D. Factors affecting early childhood growth and development: Golden 1000 days. *Journal of Advanced Practices in Nursing* 2015; 1(1):1-7.
2. Chatoor I, Schaefer S, Dickson L, Egan J, 1984. Non-organic failure to thrive: A developmental perspective. *Pediatrics Annals* 1984;13:829-43.
3. Slaughter CW, Bryant AH. Hungry for love: the feeding relationship in the psychological development of young children. *The Permanente Journal* 2004;8(1): 23-9.
4. Steinberg, C. Feeding disorders of infants, toddlers, and preschoolers. *BC medical journal* 2007;49(4): 183-6.
5. Chatoor I. Eating disorders in infancy and early childhood. *The oxford handbook of childhood of child and adolescent eating disorders: developmental perspectives* 2011; 1-30.
6. Katzman D, Norris M, Zucker N. Avoidant restrictive food intake disorder. *Psychiatr Clin N Am* 2018; 1-13.
7. Tuffour I. A critical overview of interpretative phenomenological analysis: A contemporary qualitative research approach. *Journal of Healthcare Communication* 2017;2(4):1-5.
8. Smith JA. Participants and researchers searching for meaning: Conceptual developments for interpretative phenomenological analysis. *Qual Res Psychol* 2019;16(2):166-81.
9. Korstjens I and Moser A. Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *Eur J Gen Pract* 2018;24(1):120-4.
10. El-Gilany A, Shady E, Helal, R. Exclusive breastfeeding in Al-Hassa, Saudi Arabia. *Breastfeeding Medicine* 2011; 6(4):209-13.
11. Mikiel-Kostyra K, Mazur J, Bołtrusko I. Effect of early skin-to-skin contact after delivery on duration of breastfeeding: a prospective cohort study. *Acta Paediatr* 2002; 91(12):1301-6.
12. Hinc K. Predictors of breastfeeding confidence in the early postpartum period. *JOGNN* 2016; 1-12.
13. Crenshaw J. Keep mother and newborn together – It's best for mother, newborn, and breastfeeding. *The Journal of Perinatal Education* 2019;28(2): 108-15.
14. Bergman J, Bergman N. Whose choice? Advocating birthing practices according to baby's biological needs. *Winter* 2013; 22(1): 8-13.
15. Kenari R, Aziznejad-roshan P, Mojaveri M, Hajian-Tilaki K. Comparing the effect of kangaroo mother care and field massage on serum bilirubin level of term neonates with hyperbilirubinemia under phototherapy in the neonatal ward. *Caspian J Intern Med* 2020;11(1): 34-40.
16. Albokhary A, James J. Does cesarean section have an impact on the successful initiation of breastfeeding in Saudi Arabia? *Saudi Med J* 2014; 35(11):1400-3.
17. Figueiredo B, Canario C, Field T. Breastfeeding is negatively affected by prenatal depression and reduces postpartum depression. *Psychological Medicine* 2014;44:927-36.
18. Stranak Z, Feyereislova S, Cern, M, Kollarova J, Feyereisl J. Limited amount of formula may facilitate breastfeeding: Randomized, controlled trial to compare standard clinical practice versus limited supplemental feeding. *PLoS One* 2016;11(2): e0150053.

19. Flaherman V, Cabana M, McCulloch C, Paul I. Effect of early limited formula on breastfeeding duration in the first year of life. *JAMA Pediatr* 2019;173(8): 720-35.
20. Dudeja S, Sikkaz P, Jains K, Suriz V, Kumari P. Improving first-hour breastfeeding initiation rate after cesarean deliveries: A Quality improvement study. *Indian Pediatrics* 2018;55:761-4.
21. Cobb B, Liu R, Valentine E, Onuoha, O. Breastfeeding after anesthesia: A review for anesthesia providers regarding the transfer of medications into breastmilk. *Transl Perioper Pain Med* 2015;1(2):1-7.
22. Kingston D, Dennis C, Sword W. Exploring breastfeeding self-efficacy. *Journal of Perinatal and Neonatal Nursing* 2007;21(3): 207-15.
23. Berlin K, Davies WH, Lobato DJ, Silverman AH. A biopsychosocial model of normative and problematic pediatric feeding. *Children's Health Care* 2009;38(4):263-82.

Table 1: Characteristics of the Participants

Participant	Childbearing Age (yo)*	Ethnicity	Education background	Occupation	Mode of Delivery
1	29	Javanese	SHS	Housewife	SP**
2	35	Chinese	SHS	Housewife	SP**
3	40	Chinese	Bachelor-Psychology	SHS counselor	SC***
4	31	Chinese	Bachelor-Food Technology	Housewife	SC***
5	31	Balinese	Bachelor -Physical Education	Kindergarten teacher	SC***
6	34	Javanese	Bachelor-Education	Public servant	SP**
7	29	Javanese	Diploma	Private employee	SP**
8	25	Chinese-Javanese	Master-Notarial Law	Notary	SP**
9	36	Chinese	SHS	Entrepreneur	SC***
10	36	Chinese	S1-Akuntansi	Private employee	SC***
11	34	Javanese	Diploma	Private employee	SP**
12	32	Chinese	Bachelor-Business	Housewife	SC***
13	35	Chinese	Bachelor-Chemical Technology	Entrepreneur	SC***
14	34	Chinese	Dentistry	Dentist	SP**
15	35	Chinese	Bachelor-Pharmacy	Private employee	SC***
16	34	Javanese	Bachelor-Architecture	Private employee	SC***

*yo:years old

**SP: Spontaneous Delivery

***SC: Section Cesarean Delivery