

# Parenting experiences of mothers of moderate-to-late preterm children in South Korea: a qualitative study

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**Purpose:** This study investigated the parenting experiences of mothers of young children born moderate-to-late preterm (MLPT) in South Korea. **Methods:** In this qualitative study, semi-structured focus group interviews were conducted with 10 mothers of MLPT children from infancy to preschool age. The interviews were video-recorded, transcribed verbatim, and analyzed using qualitative content analysis. **Results:** Four categories resulted from the analysis of parenting experiences of mothers with young MLPT children, as follows: "becoming a mother of an early-born child", "difficulties as the primary caregiver for a high-risk child", "helpful social support, but still a lack of professional support for parenting a high-risk child", and "mothers and children growing together". **Conclusion:** Mothers of young MLPT children experienced difficulties due to concerns about their child's health, growth and development, and insufficient child-rearing support. Therefore, social support systems should be strengthened and more aggressive nursing strategies should be adopted for mothers of young MLPT children.

**Key words:** Child; Mothers; Parenting; Preterm birth; Qualitative research

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## INTRODUCTION

The preterm birth rate in South Korea has steadily increased over the past 25 years from 2.55% in 1995, when Statistics Korea first began reporting data on the preterm birth rate, to 5.92% in 2010 and 8.41% in 2020 [1]. Preterm births can be categorized according to gestational age as early preterm (<32 gestational weeks) and moderate-to-late preterm (MLPT) (32-36 gestational weeks), of which MLPT is more common [1]. Compared to early preterm infants, MLPT infants are more physically mature due to their long gestation, which increases the survival rate and lowers the risk of health problems [2]. Nonetheless, MLPT infants are still at greater risk of health problems and growth and developmental issues than full-term infants [3], and they should be given special attention accordingly.

Preterm infants experience many more medical problems after birth than full-term infants. Therefore, parents of preterm infants experience greater stress than parents of full-term infants due to uncertainty regarding the health of their

children, and mothers, as primary caregivers, tend to experience greater stress than fathers [4]. Mothers of premature babies often experience difficulties in the transition to motherhood caused by feelings of disconnection and incompetence as parents with their babies admitted to the neonatal intensive care unit (NICU), which hinders the establishment of maternal identity or solidarity with children [5]. Depression, stress, anxiety, and post-traumatic stress in mothers following premature birth are interrelated and expose mothers to high levels of psychological problems in the early postpartum period that can persist until the end of the infant's first year of life [6]. MLPT infants have been recognized as similar to full-term infants due to their comparable body size and physical maturity to full-term infants. However, recent studies have reported that MLPT infants experience more health problems (respiratory problems, hypothermia, infection, etc.), are more likely to require care in the NICU, and have longer hospitalizations after birth than full-term infants [3]. Therefore, mothers of MLPT infants are higher risk of emotional distress than mothers of full-term infants after delivery [7].

In general, being a parent is a challenging process during which one feels responsible for the care of a child, experiences anxiety, and struggles to gain confidence [8]. Becoming the parent of a preterm child can require great efforts to overcome high anxiety and low confidence. Mothers of premature infants often feel guilty about the premature birth of their child and experience vague anxiety about the possibility of their children developing growth and developmental delays. They may feel nervous about exposure to infectious diseases for their vulnerable children and are more likely to take their children to the emergency room even for minor symptoms. In other words, they experience the process of becoming a parent in a complex, negative psycho-emotional state [9]. Mothers of premature children have difficulty receiving practical childcare help because there are few parents and caregivers with experience raising premature infants and medical personnel who can empathize with their hardship and negative emotions. It is easy for mothers of premature infants to experience psychological problems such as loneliness, alienation, and emptiness due to abstaining from outdoor activities and alienating themselves from society to prevent their vulnerable children from exposure to infectious diseases [10]. Psychological problems such as emptiness in life and guilt about parenting, in addition to the physical health status of mothers of premature children who reached preschool age, have been reported to strongly influence parenting stress [11]. The psychological problems of mothers whose preterm children reached early childhood have also been found to negatively affect mothers' quality of life [12] and children's development [13].

The well-being and function of the families of premature infants are dependent on infants' health status [14]. Compared to early premature infants, MLPT infants have lower clinical severity at birth and are typically in better health, which can ease the adjustment of the family after premature birth. However, MLPT infants also are vulnerable to diseases and delayed growth and development of cognitive and motor skills, communication skills, and social skills, making parenting difficult during the child's early childhood [3]. Therefore, an in-depth study of the parenting experiences of mothers of young children born MLPT can provide a basis for devising strategies to improve mothers' quality of life and children's outcomes. However, qualitative studies on the parenting experiences of mothers of premature infants have mainly focused on mothers of early preterm infants with high clinical severity [10,15] or mothers of MLPT infants who were in early life after birth [16]. In South Korea, most studies have included mothers of premature infants regardless of infant's gestational period [9,12], and no qualitative studies have examined the experiences of mothers of MLPT infants. Therefore, this study aimed to explore in-depth the parenting expe-

riences of mothers with young MLPT children in South Korea, to understand the meaning of those experiences, and to describe that meaning using qualitative content analysis.

The purpose of this study was to investigate in depth the experiences of mothers with young children who were born MLPT. The main research question of this study was, "What is the experience of raising children born MLPT like for mothers?" Specifically, this study conducted focus group interviews to explore the parenting experiences of mothers of MLPT infants from birth until the child reached preschool age.

## METHODS

**Ethics statement:** This study was approved by the Institutional Review Board (IRB) of Dongyang University (No. 1041495-202012-HR-01-01). Informed consent was obtained from all participants.

### 1. Study Design

This is a qualitative study that used focus group interviews to investigate the parenting experiences of mothers with MLPT children from infancy to preschool age. This study followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) reporting guidelines [17].

### 2. Recruitment of Research Participants

The target subjects of this study in a community setting were mothers raising young children born MLPT. When a child reaches school age, the mother's parenting experience may change substantially due to the child's admission to elementary school; therefore, this study was limited to mothers with young children ranging from infants to preschool-age children. Due to the possibility of regional differences related to raising high-risk children, such as the quality of medical institutions, we attempted to recruit mothers from both metropolitan areas and non-metropolitan areas. After receiving permission from the managers of mom cafes in each region to post about participation in the study, participants were recruited using posts that contained the title of the research study, an explanation of its purpose, the criteria for participating in the study, and the methods for participating. When potential participants expressed the intention to participate in the study by phone, the researcher confirmed their eligibility based on the participation criteria, and the purpose of the research and methods for participating were explained again. On the day of the focus group interview, two people who met the participation criteria were unable to attend the interview

due to personal scheduling conflicts, and a total of 10 people ultimately participated in this study. All participants were given a reward for their participation in the focus group interviews.

### 3. Composition of Research Participants and Focus Groups

In general, the recommended group size for focus group interviews is five to eight people [18]. Therefore, the focus groups in this study consisted of two groups with five participants each. The focus groups were designed to contain one group for mothers of infants and toddlers (group 1) and one group for mothers of preschool-age children (group 2) so that the participants could talk more deeply about their experiences while sharing a common understanding with the other participants since the parenting experience changes as children develop. After reviewing the interview contents following the interviews with the two groups, the researcher confirmed that theoretical saturation of the collected data was reached, and no more additional groups were needed.

Therefore, in this study, data were collected from a total of 10 mothers. The participants ranged in age from 32 to 39 years, and five out of the 10 mothers were employed. Five participants lived in three metropolitan areas, while the other five lived in two non-metropolitan areas in South Korea. Only two out of the 10 participants had two children, while eight had only one child. The participants' children's gestational age indicated MLPT status, ranging from 32 weeks to 36 weeks and 5 days. Six out of 10 of the mother's children were admitted to the NICU after birth, and the children's ages ranged in group 1 from 8 to 21 months and in group 2 from 51 to 81 months (Table 1).

### 4. Data Collection

The focus group interviews were conducted on September

18, 2021, with group 1 and September 25, 2021, with group 2 after approval from the IRB of the research institution. A semi-structured questionnaire was developed based on the broad research question, "What is the experience of raising children born MLPT like for mothers?" The order and contents of the questionnaire are shown in Table 2, and supplementary questions for each question were created to provide in-depth interviews with the participants about their experiences.

The focus group interviews were scheduled based on the scheduling preferences of the participants. Since this study was conducted during the severe stage of the coronavirus disease 2019 (COVID-19) pandemic, when the highest level of the national infectious disease crisis alert system was implemented, all interviews were conducted on an online video conferencing system (<https://zoom.us>). Before the interview, a researcher explained the study purpose and procedures (including information about the recording of the interview) and personal information protection to the subjects over the phone, and obtained written consent to participate in the study through an online questionnaire ([https://www.google.com/intl/en\\_kr/forms/about/](https://www.google.com/intl/en_kr/forms/about/)) was obtained by including it with the survey to collect participants' general characteristics. Focus group interviews were conducted once per group and lasted for 90-120 minutes. Furthermore, when needed, additional data were obtained through a 30-minute individual phone interview with one participant. The contents of the group interviews were recorded and transcribed in detail along with the participants' statement-related actions, facial expressions, and body language.

### 5. Data Analysis

The focus group interview transcription data were analyzed using the content analysis method of Elo and Kyngas [19]. Content analysis is suited to identifying hidden intentions in the expressions of individuals or groups, and it is a

**Table 1.** General Characteristics of the Study Participants (N=10)

Group*	No.	Age (year)	Employment status	Area of residence	No. of children	GA of preterm child (week+day)	Age of child (month)	NICU admission of the child
1	1	39	No	Incheon	1	32+0	21	Yes
	2	34	Yes	Incheon	2	35+0	8	No
	3	32	No	Incheon	1	34+5	12	Yes
	4	32	Yes	Pohang	1	35+0	11	No
	5	34	No	Anyang	1	36+1	14	No
2	1	38	Yes	Pohang	2	34+4	51	Yes
	2	35	No	Andong	1	35+5	54	No
	3	34	Yes	Pohang	1	36+5	59	Yes
	4	39	Yes	Bucheon	1	35+5	81	Yes
	5	39	No	Incheon	1	35+1	69	Yes

\*Group 1 included mothers of infants and toddlers, Group 2 included mothers of preschoolers; GA, gestational age; NICU, neonatal intensive care unit.

**Table 2.** Question Domains and Key Questions in Focus Group Interviews for Parenting Experiences of Mothers of Moderate-to-Late Preterm

Question domains	Key questions
Starting question	· Please introduce yourself briefly.
Introduction question	· You gave birth a little earlier than the due date. Can you explain a little bit about the situation?
Transition question	· How did you feel when you had a baby earlier than your due date?
Core questions	<ul style="list-style-type: none"> <li>· Please let me know if there is anything that you feel is particularly difficult or special while raising your child.</li> <li>· Please let me know if you have had any health-related experiences or concerns about raising a child who was born a little early.</li> <li>· Compared to your full-term or near-full-term children, what do you think is the difference when raising a premature child?</li> <li>· How do you think preterm birth has affected your relationship with your children?</li> </ul>
Closing question	· If someone you knew was raising a preterm child for the first time, what advice would you like to give them?

method that reveals patterns and content topics through a coding process, which is a systematic classification method based on a holistic understanding of the collected data. Therefore, in this study, data analysis was performed using the inductive methods of open coding, categorization, and abstraction of focus group interview data. First, the transcription material was read repeatedly, and meaningful sentences or paragraphs were extracted and open-coded. The open-coded categories were then grouped into subcategories by grouping similar or different categories into higher-level categories. Subcategories were abstracted into more comprehensive categories in which similar topics were grouped into a single category.

### 6. Ensuring the Reliability and Validity of the Research

This study was conducted based on the four criteria of truth value, applicability, consistency, and neutrality suggested by Guba and Lincoln [20] to evaluate the rigor of the qualitative research. The research process was designed to ensure reliability and validity. In order to secure the true value of the study, participants who had abundant experience with phenomena related to the research topic and who could explain their experiences and thoughts well were selected. Omissions and distortion of data were minimized through the process of mutual comparison by recording notes about the environment of the interviews, such as non-verbal expressions, and comparing them to written records. To ensure that the analysis results accurately depicted the participant's experiences, the triangulation method was used.

In order to ensure the applicability of the research, the general characteristics of the participants and the characteristics related to the research question were presented in detail. In order to ensure sufficient data on the experience of raising young children, an equal number of mothers with children

ranging from infancy to preschool age were included. The focus groups consisted of a group of mothers of infants and a group of mothers of preschoolers so that mothers of children with similar developmental stages could express their child-rearing experiences more freely and in greater detail. The interviews with each group were conducted until no new content was derived, and when needed, additional data were obtained by an individual phone interview with one participant. The transcriptions of the focus group interviews were read repeatedly to extract and categorize concise units of meaning by summarizing the contents of the interviews without losing their core meanings, ensuring that the participants' experiences were sufficiently reflected in the analysis results without distortion.

To ensure consistency, the research method and analysis process were described in detail, and the results of the analysis of categories and subcategories and interview data that served as the basis for the analysis were presented as quotations. This was done to ensure neutrality by minimizing the researcher's biases and prejudices throughout the entire research process, including during the interviews and data analysis stages.

## RESULTS

The mothers endured a time of uncertainty about whether their children would achieve optimal growth and development and eventually grew alongside their children. Therefore, the parenting experiences of the mothers of MLPT children in this study could be described as "enduring a time of anxiety and growing with the child". As a result, we derived four categories and nine subcategories of the parenting experiences of mother of MLPT children. The four categories extracted were: "becoming a mother of an early-born child", "difficulties as the primary caregiver for a high-risk child",

**Table 3.** The Parenting Experiences of Mothers of Moderate-to-Late Preterm Children

Categories	Subcategories	Condensed meaning units
Becoming a mother of an early-born child	Fear due to being a parent of a small and weak child	<ul style="list-style-type: none"> <li>· NICU admission of the child after birth</li> <li>· Raising such a small child</li> <li>· A child who is often sick and weak</li> </ul>
	One's physical and psychological problems after preterm birth	<ul style="list-style-type: none"> <li>· Fear throughout preterm birth and slow postpartum recovery</li> <li>· Emptiness due to the child's absence and guilt after preterm birth</li> </ul>
Difficulties as the primary caregiver for a high-risk child	Anxiety about the child's health problems or growth and development delays	<ul style="list-style-type: none"> <li>· Concerns about the child's health problems</li> <li>· Stress about the child's growth and development delays</li> </ul>
	The unfamiliarity and isolation of parenting a MLPT child	<ul style="list-style-type: none"> <li>· Raising a child for the first time</li> <li>· Parenting alone without anyone's help</li> <li>· Difficulty sharing one's MLPT child parenting experience</li> </ul>
	The burden of raising a small and weak child well	<ul style="list-style-type: none"> <li>· An impatient fixation on raising the child well</li> <li>· Finding answers to parenting questions</li> <li>· Feeding the child always feeling like homework</li> </ul>
Helpful social support, but still a lack of professional support for parenting a high-risk child	Support of friends and family and policy services for raising a child	<ul style="list-style-type: none"> <li>· Parenting help from friends, family members and postpartum assistants</li> <li>· Policy support for raising premature babies</li> </ul>
	An insufficient professional support system for the rearing of MLPT infants	<ul style="list-style-type: none"> <li>· Insufficient infant health check-ups for premature babies</li> <li>· Poor local pediatric medical environment</li> <li>· An insufficient childcare support system for premature infants</li> </ul>
Mothers and children growing together	Relief due to the child's healthy growth	<ul style="list-style-type: none"> <li>· The child's recovery from health problems</li> <li>· The child's smooth growth</li> </ul>
	Believing in the child and making efforts to raise them well	<ul style="list-style-type: none"> <li>· Believing in the child's appropriate growth</li> <li>· Making efforts to raise them well</li> </ul>

MLPT, moderate-to-late preterm; NICU, neonatal intensive care unit.

"helpful social support, but still a lack of professional support for parenting a high-risk child", and "mothers and children growing together". The results are presented in detail in Table 3.

### 1. Becoming a Mother of an Early-born Child

#### 1) Fear due to being a parent of a small and weak child

Admission to the NICU immediately after birth was a major factor that caused anxiety and concern among the participants. In particular, due to limited NICU visiting hours (non-face-to-face visits using photos or videos) during the COVID-19 pandemic, it was more difficult for the mothers to see their children in person, which resulted in greater concern. They were comforted by their husbands, who reassured them that the child was in good condition like any other full-term infant. When their infants were discharged from the hospital, they found them to be much smaller than they had imagined and had fears about parenting. It broke their hearts to routinely visit the hospital to have their preterm infants checked for retinopathy of prematurity. Growing up, compared to oth-

er children, the infants required more attention due to health problems such as frequent pneumonia or vomiting and spitting up. When comorbidities were present, such as atrial septal defect, the mother's worries and parenting burden were further aggravated.

When my baby came home from the hospital, I was so scared. The baby was way smaller than the others and weighed only 2.1 kg. So I was afraid to leave the baby with a postpartum care assistant. (Group 1, Participant 3)

Until the [child's] age of 36 months, I often thought, "The baby has a very weak immune system." Because, although hand, foot, and mouth disease is common among children, my kid had it three times in just one season, which means it stayed with the baby all summer. I didn't bring the baby to a swimming pool or do anything like that. I just took the baby to the playground, but the baby had the disease. For diseases that cold medicine will treat for other kids, my kid ended up having bronchitis or pneumonia and had to be admitted to the hospital. (Group 2, Participant 3)

## 2) One's physical and psychological problems after preterm birth

The participants of this study experienced greater stress than joy related to childbirth due to the unexpected, sudden onset of labor and their slow recovery after childbirth. Using an ambulance to deliver a child was a difficult process, and the mothers' family members hurt them emotionally by asking why their births could not just be normal. The mothers with children admitted to the NICU after birth felt empty since they did not have their children in front of them to see and felt sorry for their children who were alone in the hospital. In addition, the mothers felt guilty and like the premature birth was their fault.

Even when I gave birth [to my child]... honestly, I was not that happy because I had this fear about how I could recover from this. And the recovery was so slow that I even wondered whether I would be able to walk again. I was so serious that my professor even warned me, "You may suffer depression soon. Be careful." (Group 2, Participant 5)

I was in tears. I blamed myself for the premature birth, the birth of the small, premature baby, and stayed in the NICU for about a week like that. (Group 2, Participant 4)

## 2. Difficulties as the Primary Caregiver for a High-risk Child

### 1) Anxiety about the child's health problems or growth and development delays

The participants cared for their children and were anxious that their weak child could get sick at any time and lag behind other children in terms of their growth and development. Even when the child looked slightly sick, they went to the hospital right away or requested frequent health check-ups. They were so concerned about the weak immune system of their child that they requested their child to get vaccinated in two separate sessions for vaccines normally given in one dose. Out of concern for their weak child, they looked into various insurance policies. However, at the same time, they did not feel good about receiving too many expressions of concern from other people about their prematurely born child.

They regularly experienced concern about whether their children were growing at the same pace as other children and frequently made assessments to determine if there were any problems with the child's development. When their premature children seemed small or slow in development compared to their peers or siblings who were born full-term, they experienced substantial stress. The growth level assessment parents received every health check-up also caused substantial stress. Even when they felt satisfied with the child's growth, they be-

came upset when they saw other full-term babies developing so quickly. It hurt their feelings when people remarked that the child was small, and they were upset about the common misconception that larger children are healthier.

I think I pay more attention to my baby's health because of the fact the baby was born a little earlier. If there is something strange about eating, I go to the hospital and ask questions about it right away. (Group 1, Participant 4)

Even for trivial developmental delays, I wonder whether it is because the kid is small or if there is some problem. About my kid having X-shaped legs, I suspected it was associated with preterm birth. I asked the K Hospital about it, and they said it was normal. But since I have no other kids to compare, I always question and look for whether something is wrong with my kid. (Group 2, Participant 2)

### 2) The unfamiliarity and isolation related to parenting a moderate-to-late preterm child

For most of the participants in the current study, it was their first childbirth, so it was difficult to take care of the child without any previous parenting experience. To make things worse, if there was no one to help with childcare, such as on weekends or when the mothers' parents lived far away, the mother had to bear the burden of childcare entirely and deal with psychological difficulties on her own. After giving birth, they had to take care of infants who may have undergone procedures such as heart surgery at the hospital, sometimes before their bodies had fully recovered after giving birth. The reality of parenting was too harsh despite the determination of the participants to be good mothers like they wanted to be before childbirth.

It was difficult for the mothers to share the hardship caused by premature birth with the medical personnel of the hospital where the child was admitted or with the people around them. This was because MLPT infants are larger and have less serious health problems than early preterm infants. Comfort from people who had never experienced premature birth did not help them, and the posts of mothers of premature infants in internet cafes were not helpful and instead made them more concerned due to frequent posts depicting negative experiences related to preterm infants. Thus, the mothers felt frustrated with the ambiguity in how to interpret and understand the characteristics of their preterm children and whether they understood these characteristics correctly. They therefore expressed a need for professional education on parenting premature infants and meetups and communication networks with other mothers with similar premature birth ex-

periences. These young mothers also preferred to meet and talk in person rather than through online channels such as mom cafes, which are limited to one-way communication. They said that, once the COVID-19 pandemic was over, they could relieve their frustration and impatience through face-to-face communication.

It was because I had no experience. Even though I searched the internet, read books, and studied, I wondered if I was doing right. I just followed what I heard because I was so worried. (Group 2, Participant 4)

People do not think that late preterm birth is much different from full-term birth. Because it was not early preterm... But actually, [my child] had to take a lot of tests in less than a month after birth. Well, I have to say, I was really concerned... But people around me said it was nothing since the baby was born close to the full term. They seemed to take it lightly, and it was only me who was concerned. I felt lonely because no one around me related to my concern. (Group 2, Participant 5)

### 3) The burden of raising a small and weak child well

The participants felt impatient about wanting their MLPT children to grow at the same rate as other children born full-term. In particular, they wanted their infants to grow bigger, and even when the height and weight of their infants were increasing at a healthy rate, the mothers wished their children would grow more. They felt impatient when their babies did not eat enough to keep up with the growth of babies who were larger and then blamed themselves for not being relaxed. In other words, feeding a child born prematurely was the most important thing for mothers to ensure they would grow up healthy and big. Based on the belief that breast milk is good for premature babies, they sometimes breastfed excessively and developed "breastfeeding obsession disorder." Feeding infants appropriately for their health felt like homework to the mothers. The participants of this study also felt that it was difficult to identify the daily or medical needs of children in the early stages of childcare and respond appropriately. Thus, for any questions about the child's health or childcare, they visited hospitals, sought advice from acquaintances, or searched for information online to resolve their questions.

I try to feed more, but just because I feed more doesn't mean my child is eating well. It's like homework. It may be better to have a relaxed mind. Unless the baby is too far behind, we should focus on giving them what they like. (Group 1, Participant 4)

## 3. Helpful Social Support, but Still a Lack of Professional Support for Parenting a High-risk Child

### 1) Support of friends and family and policy services for raising a child

The participants of this study had to bear the burden of childcare even when they were physically and psychologically exhausted due to delayed physical recovery after childbirth and postpartum depression. However, they were able to recover from physical and psychological hardship in the early postpartum period with the help of family members including husbands, parents, and parents-in-law, as well as postpartum assistants. Even after the early postpartum period, childcare support services were available for them to receive help with parenting, and government financial support for medical expenses for premature birth and childcare was considered beneficial.

I got a lot of help from my parents. And I have two younger siblings, who helped me a lot. Above all, the postpartum helper was really nice. Because while she was looking after the baby from 9 to 6, I could read books, exercise, and do whatever I wanted to do, so I don't think I had any depression. (Group 2, Participant 3)

### 2) An insufficient professional support system for the rearing of moderate-to-late preterm infants

The participants of this study wanted to know exactly whether their MLPT infants were growing well or had any other diseases through the national early childhood health examinations, but most mothers agreed that these health examinations were mostly used to assess the child's level of growth and were not as helpful as they had expected. Medical personnel did not take into account the premature births, so they underrated the child's physical growth and told the mothers that the baby was too small and must be fed more. Even the growth evaluation results differed from doctor to doctor, confusing the mothers. Since some areas where the mothers resided had no medical institutions where intensive care for newborns was provided, some of the mothers had to give birth urgently, aware that the survival of the newborn after birth was not guaranteed. Due to the absence of a children's hospital for thorough examinations in some areas, mothers who lived in these areas had to either give up seeing a doctor while raising the child or had to travel to a large hospital located far from their residence.

The mothers felt a lack of professional parenting support for raising premature infants. Accordingly, they strongly expressed a need for a postpartum helper with specialized knowledge on preterm childcare, professional help for caring

for premature infants through infant health check-ups specifically for premature infants, and more information and education from professionals related to parenting preterm infants.

Without taking into account my kid being a premature infant... the baby was born on the fourth of September and was premature since the baby was due in October. Compared to normal children born on September fourth, its [growth] was 50%. The university hospital I used to go to for infant check-ups said it's okay, but the clinic in my neighborhood suddenly said, "[The baby is] small. Consider baby food as supplementary to formula. You should feed 1,000 mL of formula or more. The baby should gain a kilo by the next check-up." I felt pressured and was doubtful whether the doctor considered that my kid was a premature baby. (Group 1, Participant 3)

My kid continued to have a stomachache, and the pediatrician found something using a stethoscope and recommended the baby should get an ultrasound. So I was thinking of going to a local clinic to get an ultrasound, but it occurred to me that they would not accept patients requiring surgery. There are only two pediatricians in Pohang that offer ultrasounds. So I went to see them and got the feeling that they were uncomfortable about seeing children who might need surgery. Maybe it's because we live in a rural area. (Group 2, Participant 3)

#### 4. Mothers and Children Growing Together

##### 1) Relief due to the child's healthy growth

Despite the mothers' concerns and anxiety about their children, various health problems resolved naturally as the child grew up. Along with the healthy growth of the children, mothers' psychological difficulties also improved, and they felt relieved to see their children growing up better than their efforts alone could have accounted for and also felt grateful and proud. Many participants reported that the healthy growth of their child was a factor that improved their psychological state, thereby facilitating their attachment relationship with their children.

Although I did my best [to raise the kid well], I am rather very grateful that the kid has grown better than my efforts. (Group 1, Participant 2)

##### 2) Believing in the child and making efforts to raise them well

The mothers tried to believe their children were growing up healthily without comparing them to other children, understand how their children would feel, and build emotional connections with their children. Some mothers also received

psychiatric counseling to prevent their anxiety or psychological problems about their children from being passed on to them. The mothers promised that they would make efforts to help their children grow mentally and physically healthy.

[While raising the child,] I was very frustrated, but now that the [child] is a little older, I don't have much to worry about whether the kid is hurt or things like this. So I am now psychologically much [better, and with the kid] we have developed a relationship where we can communicate with each other. (Group 2, Participant 5)

## DISCUSSION

This study extracted four categories through qualitative content analysis with focus group interviews conducted to explore the meaning of parenting experiences of mothers of MLPT children in South Korea.

The mothers who participated in this study experienced the double burden of beginning MLPT child rearing after a premature birth before their bodies had fully recovered, resulting in the category of "becoming a mother of an early-born child." The slow recovery after childbirth and the burden of childcare following the unexpected and sudden childbirth led to severe stress in some mothers to the extent that they did not want to even look at their own children during the early postpartum period. When infants were hospitalized in the NICU, mothers particularly suffered from a negative psychological state due to concerns, worry, anxiety, and guilt about the child left alone in the hospital and feelings of emptiness due to the child's absence. This finding is consistent with those of several previous studies that examined the psychological problems of mothers who gave premature birth [4,6,10] and underscores the importance of psychological support after childbirth for mothers who experienced preterm birth.

The mothers who participated in this study recalled that, when they brought their children home from the neonatal unit or NICU, they felt fear and anxiety about whether they would be able to take care of their children, who appeared small and weak. They reported that they desperately needed childcare help and professional support. In a study of parents of premature infants admitted to the NICU [14], parents felt unambiguously happy when their children were discharged from the NICU; however, at the same time, they experienced complex emotions. They worried about the uncertainty of the child's health and various medical problems. Therefore, it was suggested that individual information about the child be provided to parents before the child's discharge from the NICU and parents should be encouraged to participate in childcare while staying in the hospital to enhance their parenting confi-

dence. Furthermore, professional parenting support for mothers of premature infants during the early postpartum period should be considered, including visiting nurse services linked to childbirth hospitals, early infant health check-ups, and increasing the number of postpartum helpers with a deep understanding of care for preterm children.

The study participants, as the primary caregivers of MLPT children, had to experience unfamiliarity, isolation, and burdens related to raising a high-risk child, including worries about a child's health and developmental problems, resulting in the category of "difficulties as the primary caregiver for a high-risk child." The participants in this study were highly concerned and anxious about the possibility of their preterm children catching infectious diseases easily due to their low immunity and susceptibility to infection and feared they would lag behind other children due to the high risk of growth and developmental delays. A previous qualitative study also found that parents of premature infants admitted to the NICU experienced complex, negative psycho-emotional states while taking care of their children due to feelings of guilt about premature birth and vague anxiety about the possibility of their children experiencing delayed growth and development or catching infectious diseases [9]. This previous study [9] was based on in-depth interviews with the parents of 12 children who were born early preterm, at an average gestational age of 29 weeks and 3 days ( $\pm 2.9$ ). Even though our findings were based on mothers of MLPT children, the mothers of MLPT children did not differ substantially from those of early preterm children in that they raised their children amid vague anxiety about their children's disease, delayed growth and development, and a sense of guilt.

The participants of this study provided the best childcare they could in context as the main caregivers despite their lack of prior experience with raising children. They searched for information online and asked acquaintances and hospital staff members whenever they had questions about childcare or the health of the child. In addition, many of them tried to do almost everything (including breastfeeding) related to childcare by themselves. However, while raising a child, the mothers sometimes wanted to confirm and share whether they made a correct decision and felt frustrated because there was no opportunity or no other person to rely on to support their decision-making. A study of mothers of late preterm infants [16] suggested that the confidence of mothers in terms of caregiving increases when mothers receive support for their parenting-related decisions such as making the transition from breastfeeding to formula feeding, helping them not feel guilty about their decisions and providing them with empathetic support. Therefore, mothers of MLPT infants would benefit from sharing their parenting experiences and receiving sup-

port through self-help group gatherings of mothers of MLPT children [21].

The participants in this study felt that feeding their children was like homework since their children were small compared to their peers and did not eat well. They tried everything to feed their children and ensure good health. It was also stressful for the mothers to hear from other adults that their children looked skinny even though they were not actually underweight, possibly due to the distorted social perception that larger children are healthier. In a domestic study [22] on the perceptions of mothers of children below school age about their children's physiques, mothers perceived overweight to be ideal and believed that their children were thinner than they actually were. In a previous study [23], mothers of healthy or overweight children perceived their children's weights to be less than they actually were. Misconceptions about children's physiques may cause mothers of premature children to make distorted judgments about their child's physique and obsess over having a chubbier child. However, extremely rapid growth in MLPT infants may increase the risk of developing cardiovascular and metabolic diseases due to excessive fat accumulation [24]. Therefore, it is necessary to improve the awareness of parents of premature children, as well as public awareness in general, regarding healthy body types for children.

The study participants felt frustration due to the insufficient professional support system for raising MLPT children, although it was very helpful for child rearing to receive support from friends or family, resulting in the category of "helpful social support, but still a lack of professional support for parenting a high-risk child." An earlier study [12] investigating the factors that affected the quality of life of mothers of premature infants at the corrected age of 2 to 12 months reported that social support from family members and friends significantly improved mothers' quality of life. In a previous study of mothers of MLPT infants, the support and childcare help of people close to them, such as family and friends, as well as medical and professional support, was crucial for reducing the parenting burden and adapting to the role of a caregiver in the early stages following the infant's discharge from the NICU [16]. In the current study, childcare support from family members and postpartum helpers was a major factor that helped the mothers overcome difficulties in the early postpartum period and undergo a smooth transition to motherhood.

As such, a system should be established in South Korea to support the mothers of premature infants with parenting. The lack of a support system for raising preterm infants has been described in other qualitative studies in South Korea [9] in which the participants identified a lack of a support system di-

rectly related to parenting other than support with medical expenses. According to the mothers in this study, in addition to medical expense support, postpartum helpers and childcare support programs in the early postpartum period were helpful when raising children, but they suggested that more specialized parenting help should be provided for mothers of preterm children. Therefore, a specialized childcare support system should be established so that mothers of preterm children can access help from professionals with understanding and experience related to raising preterm children. In particular, in this study, the focus group interviews included not only mothers who lived in metropolitan areas, but also mothers who lived in non-metropolitan areas, who faced additional difficulties with preterm childbirth and childcare when it came to finding hospitals that specialized in treating infants or young children and had to travel long distances to receive treatment for their children. In South Korea, a regional gap exists in access to health care services, since medical facilities, especially pediatric hospitals, are concentrated in metropolitan areas [25]. Therefore, solutions to resolve regional differences in pediatric medical treatment are needed.

The mothers who participated in this study typically considered the growth percentile, which they were informed of at every national early childhood health examination, as the child's growth rank. As a result, they became fixated on the child's growth percentile and felt pressure. Furthermore, they were told during these health examinations that, since the child was behind in growth, they should feed the child extra to make them plumper even though the growth level was appropriate, because the medical personnel simply assessed the growth level of the child based on the date of birth without considering whether they were born preterm. The mothers in this study expected health examinations to be a good opportunity to get advice from medical professionals regarding their concerns about the child; instead, they were disappointed that, in practice, the focus tended to be on the growth percentile rather than on helpful advice. In a previous study [26] that conducted in-depth interviews with mothers of early childhood children on their experiences of national early childhood health examinations, mothers pointed out that examinations made them overly concerned about their children's health and development, for reasons including unprofessional and overly formal examinations. Therefore, health examinations and professional counseling tailored to high-risk children with different needs from other children, including MLPT infants, should be included in national early childhood health examinations.

The mothers in this study felt relieved that their children grew well despite their worries about their children. Mothers believed in their children and made efforts to raise them well,

resulting in the category of "mothers and children growing together." The mothers experienced significant stress from children who were often sick (frequent vomiting and throwing-up and repeated diagnoses with respiratory and infectious diseases) and were always on edge due to the fear of their children getting sick. However, as the children grew older, their health conditions improved, and they did not get sick as severely or frequently, the mothers naturally felt at ease. A similar finding was reported in a previous study that found that parenting stress was significantly higher in parents of premature infants compared to parents of full-term infants in the early years of life, while the stress level became more similar as the children reached the age of 2 to 3 years [4]. In other words, the improvement of mothers' uncertainty about the healthy growth of their children alongside the improvement of children's health can be said to have a positive effect on the psychological state of mothers. Since the health status of children born prematurely mostly improves along with the effects of physical maturation as they grow, the anxiety of mothers concerning their children's healthy growth should be mitigated by providing them with information and education that can help them predict their children's growth.

There are limitations when generalizing the results of this study due to the nature of qualitative studies in which only a small number of participants report their parenting experiences after delivering MLPT infants. However, this study is significant since it identified possible regional differences in the parenting experiences of mothers of preterm infants by including participants from both metropolitan areas and non-metropolitan areas, in addition to being one of few studies from South Korea to examine the experiences of mothers of MLPT births in-depth. Furthermore, we cannot rule out the possibility that there were differences in the statements between the two groups about the parenting experiences of mothers of MLPT children due to the variance in the age of the children in group 1 and group 2. Therefore, in future studies, it will be necessary to intensively explore the parenting experiences of the mothers of MLPT children at similar ages.

## CONCLUSION

Based on the results of our qualitative content analysis examining the parenting experiences of mothers of MLPT infants through focus group interviews, we derived four categories: "becoming a mother of an early-born child", "difficulties as the primary caregiver for a high-risk child", "helpful social support, but still a lack of professional support for parenting a high-risk child", and "mothers and children growing together." The mothers of MLPT children experienced various burdens of raising their MLPT infants in addition to the gen-

eral difficulties associated with childbearing and parenting. Therefore, more aggressive nursing programs such as parenting counseling and education programs for mothers of MLPT infants should be developed to alleviate the burden of raising preterm children. Self-help groups for mothers should also be created, in addition to further reinforcement of the social support system.

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## Authors' contribution

All the work was done by Sangmi Lee.

## Conflict of interest

No existing or potential conflict of interest relevant to this article was reported.

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## Data availability

Please contact the corresponding author for data availability.

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