

Original Paper

Implementation and Evaluation of the Support Program for Mothers to Communicate to Their Children That They Have a Cleft Lip and Palate

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Abstract

The "Support Program for Mothers to Communicate to their Children that they have a Cleft Lip and Palate" (CLP) assists mothers with communicating about CLP to their children before external rhinoplasty at the age of 5-6 years. This study aimed to implement and evaluate a support program for mothers of children with CLP to communicate about it to their children before external rhinoplasty. The subjects were eight mothers of children aged 5-6 years with pre-external rhinoplasty CLP. Eight mothers chose the timing and method best suited for their children and communicated about CLP through two interventions. The mothers' sentiments at that time were the following: [understanding of CLP reassured me] ; [I believe it is important to talk about CLP with my child repeatedly in the future] ; [I was able to break free from remorse and face my child because of the program content] ; and [I was able to inform my child about CLP through the support program intervention]. The program was useful for mothers in communicating about CLP to their children before they underwent external rhinoplasty.

1. Introduction

Cleft lip and/or palate (CLP) is among the most common congenital anomalies, occurring in approximately 1 in 700 children in Japan¹⁾. The lip augmentation is performed at 3 months old and the palatoplasty at approximately 1.5 years of age. Subsequently, external nasal modification is often performed before and after entering elementary school, whereas iliac bone grafting is often performed after entering elementary school²⁾.

Mothers giving birth to children with CLP are shocked to find that their children have external maxillofacial abnormalities³⁾. In addition, functional abnormalities such as difficulty in breastfeeding and speech disorders are associated with CLP, and the risk of CLP occurring in the next generation is increased owing to the multifactorial nature of the disease. Treatment continues from the neonatal period until

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the age of 18 years, and the child grows into adulthood during this long treatment process. As children progress from school age, they transition from a state of not understanding the purpose behind the surgeries they undergo to developing the cognitive capacity to understand the rationale of those surgeries. Although healthcare providers explain various aspects of CLP to children during outpatient consultations and surgeries, whether children understand everything is difficult to discern, considering their cognitive development. Parents make treatment decisions during infancy; however, as children progress from school-age to adolescence, the treatment-decision gets transferred to them. The Convention on the Rights of the Child recognizes the right of children to express their opinions in all matters affecting them and to have those opinions respected⁴⁾. In addition, recent surveys on children's perceptions of illness in the field of pediatric nursing⁵⁻⁸⁾ have emphasized the importance of children making choices about illness and treatment from their own perspectives and in leading their daily lives. Similar ideas are increasingly being applied to children with CLP.

Communicating about CLP to a growing child is essential, and healthcare providers need to take on this role. However, predicting when children will ask questions remains impossible. Waiting for an opportunity to visit a medical institution may result in missed opportunities. Therefore, it is important for the mother to answer the child's questions as soon as they are asked. To this end, mothers must be able to respond to their children's questions whenever asked. Receiving an immediate response to questions enables the child to view CLP positively and can be an empowering force for growth while dealing with CLP.

Support measures for mothers of children with CLP include a support model for mothers who have received prenatal notification⁹⁾ and an early recuperation system through family counseling that starts right after childbirth¹⁰⁾. However, support programs for mothers to communicate CLP to their children have not been proposed. Therefore, we conducted a survey for evaluation using the Support Program for Mothers to Communicate to their Children that they have CLP.

2. Methods

2.1 Support program for mothers to communicate to their children that they have CLP (Figure 1)

The Support Program for Mothers to Communicate to their Children that they have CLP assists mothers in communicating with their children prior to external nasal modification surgery at the age of 5-6 years. The first intervention was conducted after the child's outpatient visit, when the decision was finalized to admit the child. The second intervention was conducted 2 weeks to 1 month prior to admission. The intervention and explanatory tools are described below.

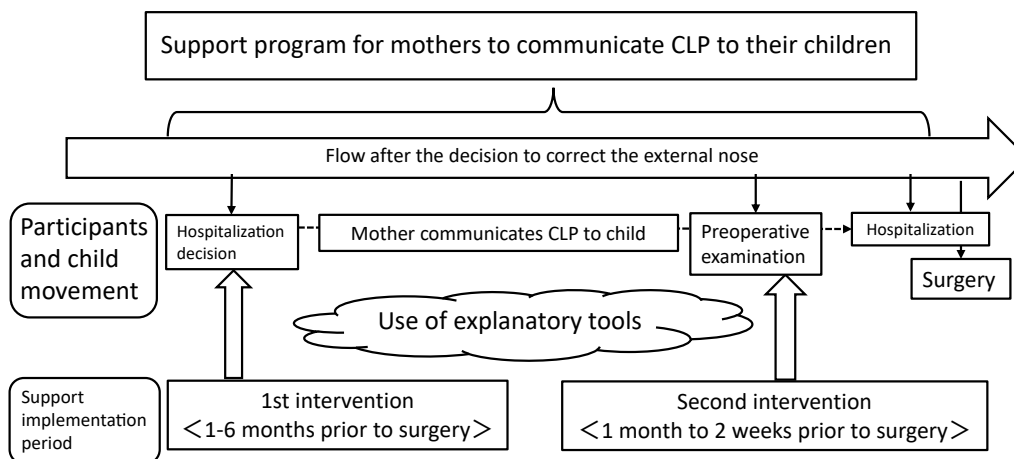


Figure 1 Support program for mothers to communicate CLP to their children

2.1.1 First intervention

The purpose of the first intervention was to motivate mothers to communicate with their children about CLP. Three goals were set: (1) mothers would express their feelings about communicating with their children, (2) mothers would acquire knowledge about communicating with their children, and (3) mothers would learn the appropriate way of communicating with their children. The intervention procedure consisted of an introduction during the first 5 min, in which the mothers introduced themselves and explained how to proceed with the support program. Next, we encouraged mothers to express their feelings about communicating about CLP with their children. The mothers then taught their children the knowledge needed to communicate with them and the methods are presented.

2.1.2 Second intervention

The purpose of the second intervention was to promote mothers' communication about CLP with their children. The goals were to enable mothers to (1) reflect on the content of the first intervention; (2) express their current feelings; and (3) seek support for communicating with their children. The intervention procedure consisted of a greeting, followed by a review of the content of the first intervention to confirm the mother's current situation and feelings. Next, we confirmed the support that the mother needed before hospitalization and provided her with information on this support. The second intervention lasted for 10-20 min.

2.1.3 Description tools

The explanatory tools for mothers were as follows: (1) Please share your current feelings; (2) A message to mothers of children with CLP; (3) Prediction of changes before and after the implementation of the support program; (4) Development of children in infancy and school age; (5) Introduction and use of the explanatory tool for children; (6) Stories of mothers who had told their children about CLP in the past; and (7) The appropriate way of responding to the children's reactions. Each item was printed on an A4-size sheet and placed in a file to create a booklet.

The explanatory tools for children are: (1) "I" and "me" when I was born, (2) Do you know what a cleft lip is? (3) How to make your mouth, and (4) Why do you have a cleft lip? (5) Past surgeries and future treatments, and (6) what type of surgery will I have next? (7) I feel better after having a successful surgical intervention, and (8) to everyone who is going to have a successful surgery. As with the explanatory tool for mothers, each item was printed on an A4-size sheet and placed in a booklet file.

2.2. Research design

The study design was a longitudinal intervention study using a multiple-case study design. A multiple-case study design is a case study in which a single case is carefully analyzed to capture the patient information and individual nursing practice contained in the case in its entirety, and to find commonalities among the abundant information related to multiple cases. In addition, it is a case study that attempts to find some commonalities among the abundant information related to multiple cases. In addition, it is a case study that attempts to find commonalities among the abundant information related to multiple cases. In this study, we will examine the usefulness of the support program from the viewpoint of whether the mothers were able to "communicate with their child about CLP". It is necessary to verify the usefulness of the support program by implementing the program to many mothers of children with CLP, not only to one case. For these reasons, a longitudinal intervention study with a multiple-case study design was selected for this study.

2.3 Definition of terms

In this study, "communicating CLP" was defined as explaining any or all of the following: medical condition, surgery, and name of the birth defect.

2.4 Participants

The subjects were eight mothers of children with CLP who attended Hospital A. The children whose mothers were enrolled in the study were aged 5-6 years and had yet to undergo external rhinoplasty.

2.5 Measurements

The data collection period was from June 2021 to July 2022.

Data were collected to evaluate the "Support Program for Mothers to Communicate to Their Children about CLP," which was offered to mothers who wished to participate in the study. The evaluation was based on data obtained from (1) a record sheet at the time of tool use, (2) a questionnaire survey on "concerns regarding communicating CLP to children," and (3) semi-constructive interviews conducted after the intervention of the support program. The content of each is described below.

2.5.1 Recording form for tool use

The form was designed to record the date, time, content, and method of communicating the illness to the child as well as the child's response.

The form was handed to the mothers after the first intervention; the mothers filled it out when they told their children about CLP and collected it during semi-structured interviews.

2.5.2 Survey of concerns about communicating CLP to children

The mothers were asked 13 questions¹¹⁾ about the concerns related to communicating CLP to their children. The questionnaire was rated on a 5-point scale: 1 = yes, 2 = somewhat so, 3 = neither, 4 = somewhat unusual, and 5 = not. The mothers were asked to respond to the questionnaire before the first and after the second intervention during hospitalization.

2.5.3 Semi-constructive interview

Semi-constructive interviews were conducted with mothers after the intervention. Semi-structured interviews were conducted using an interview guide. The interview guide consisted of (1) attributes (age, number and age of children, family structure, occupation, family history, age, sex, name of birth defect, and surgical history of the child with CLP); (2) details of CLP communicated to the child before the intervention; (3) opinions on the content, timing, and method of the first intervention, opinions on the content of the leaflet for the mother, and opinions on the content of the leaflet for the child; (4) opinions on the content, timing, and method of the second intervention; (5) whether the mother was able to inform the child about CLP; (6) when, how, and how often the child was informed about CLP as well as the child's response; (7) changes in feelings after communicating CLP to the child; and (8) opinions on the support program. The interviews lasted for approximately 30 min and were recorded with the consent of the subjects.

2.5.4 Ensuring truthfulness

Four criteria for ensuring the truthfulness of qualitative descriptive research were ensured: credibility, clarity, transferability, and confirmability¹²⁾. In addition, to prevent spurious analysis during the process of analysis, the study was supervised by expert pediatric nurse researchers and nursing researchers.

2.6 Statistical analysis

2.6.1 Recording form for tool use

From the "Record of the time when the tool was used" form, we discerned the period when the support program was implemented and when the mother informed the child of CLP after the implementation of the support program. CLP communicated to children were divided into the following categories: medical conditions, surgery, and name of birth defect.

2.6.2 Survey of concerns about communicating CLP to children (before and after intervention)

To observe the change in distress in communicating CLP to children due to the intervention, the "questionnaire on distress in communicating CLP to children" was tabulated by classifying those with decreased distress as "positive change," those with increased distress as "negative change," and those with no change as "no change." The "no change" category was further classified into: 4 or more, 3, and 2 or less. Wilcoxon signed-rank tests were conducted on the pre- and post-intervention scores for each question.

2.6.3 Semi-constructive interview

The verbatim transcripts created based on the audio data were closely read, and the information on what was said about the mother's feelings after she told her child about CLP was extracted and coded in sentence units. Similar codes were collected, and subcategories and categories were generated by increasing the abstraction level. The study was supervised by a researcher with experience in qualitative research and familiarity with pediatric nursing during the analysis process to ensure the reliability and validity of the data.

2.6.4 Individual analysis

For each case, the following data were presented: (1) the situation of explanation to the child before the intervention, (2) the situation of explanation to the child using the explanation tool for children, (3) the mother's feelings after telling the child about CLP, (4) self-evaluation of her worries when telling the child about CLP, and (5) changes in the mother's behavior. Based on the various data, we evaluated the support program with the result that the mothers were able to tell their children about CLP.

3. Results

3.1 Background of the participants (Table 1)

Nine mothers were approached and all were willing to participate in the study. Eight mothers were included in the study because one mother had to postpone surgery due to infection. One mother was in her 20s, five were in their 30s, one was in her 40s, and one was in her 50s. Six children had a unilateral CLP, one had a unilateral cleft lip and jaw, and one had a unilateral cleft lip.

Table 1 Background of the participants

Participants	Mother		Child	
	Age	Age	Gender	Birth defect
A	20s	5	male	unilateral cleft lip and palate
B	40s	6	male	unilateral cleft lip and palate
C	30s	6	female	unilateral cleft lip and palate
D	30s	5	male	unilateral cleft lip and palate
E	30s	5	female	unilateral cleft lip and palate
F	50s	5	female	unilateral cleft lip and jaw
G	30s	5	female	unilateral cleft lip and palate
H	30s	5	male	unilateral cleft lip

3.2 Time of intervention with mothers and time and frequency of communicating CLP to children (Figure 2)

The timing of the first intervention with the mothers varied from 1-4 months before hospitalization, with three mothers intervening 4 months before and two mothers intervening 3 months before. All eight mothers communicated CLP to their children. The frequency of mothers informing their children about CLP

was one time for four mothers, three times for three mothers and four times for one mother, respectively.

Of the mothers who informed their children once, two were able to explain after the first intervention and two were able to explain after the second intervention.

All of the mothers who had told their children more than once explained the first intervention to their children immediately after the first intervention and again after the second intervention.

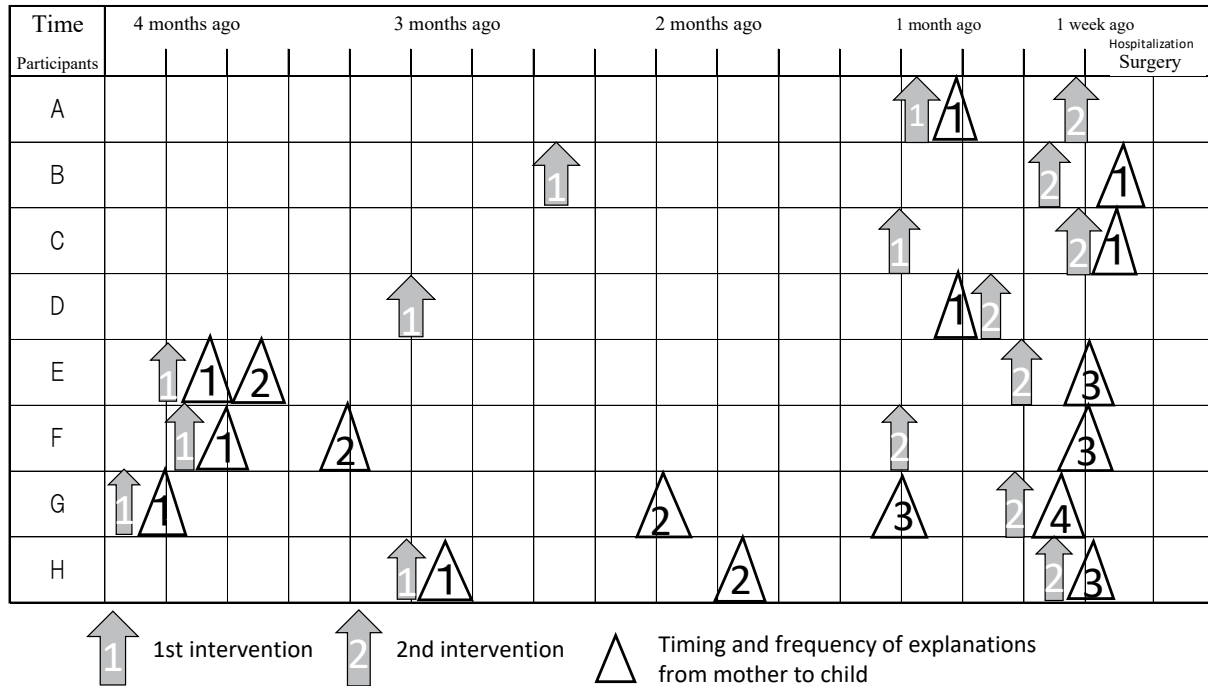


Figure 2 Time of intervention with mothers and time and frequency of communicating CLP to children

3.3 Changes in the content of communicating CLP to children due to intervention (Table 2)

The contents of the explanation of CLP to the child before the intervention were: "No explanation at all," "I told the child that he/she was going to be hospitalized," "I told the child only about the medical condition," "I told the child about the medical condition, CLP," "I told the child about the medical condition and the surgery," and "I told the child about the medical condition, CLP, and the surgery." One respondent "told all about the medical condition, CLP, and the surgery." After the intervention, all mothers were able to explain

Table 2 Changes in the content of communicating CLP to the child due to the intervention

Participants	Before intervention	After intervention
	What we were telling them	I told him
A	Condition of CLP	Medical condition + surgery + disease
B	Hospitalization schedule	Medical condition + surgery + disease
C	Hospitalization schedule	Medical condition + surgery + disease
D	No explanation	Medical condition + surgery + disease
E	Medical condition + name of birth defect	Medical condition + surgery + disease
F	Medical conditions + surgery	Medical condition + surgery + disease
G	Medical condition + surgery + birth defect	Medical condition + surgery + disease
H	Condition of CLP	Medical condition + surgery + disease

their medical condition, surgery, and CLP to their children.

3.4 Change in distress in communicating CLP to children due to intervention (Table 3)

The worries for each question item were compared before and after the intervention, and a Wilcoxon signed-rank test was conducted for each worry item. (4) "I wonder if my child will perceive me negatively if I tell him that he is different from others," (5) "I do not know how to tell him about CLP," (6) "I do not know when to tell him about CLP," (7) "I do not know what triggers me to tell him about CLP," and (8) "I think it was my fault that he has CLP". Significant differences ($p < 0.05$) were observed in the items (2) "I fear that my child will react negatively if I tell him or her about CLP" and (10) "I am not prepared to tell my child about CLP".

Table 3 Pre-and post-intervention comparison of concerns by question item

Q	Item	Before intervention		After intervention		Wilcoxon signed-rank test	
		average	±SD	average	±SD		
1	Thinks they may react negatively to seeing a child with the same disorder.	4.25	±1.09	4.88	±0.03	0.18	
2	I fear that my child will react negatively if I tell him or her about CLP.	3.13	±1.53	4.50	±1.00	0.06	†
3	Think of the child's shock reaction to showing birth photos.	3.50	±1.73	4.12	±1.36	0.10	
4	I wonder if my child will perceive me negatively if I tell him that he is different from others.	3.38	±0.99	4.38	±0.70	0.04	*
5	I do not know how to tell him about his CLP.	3.00	±1.54	4.71	±4.33	0.02	*
6	I do not know when to tell him about his CLP.	3.38	±1.32	4.50	±1.00	0.02	*
7	I do not know what triggers me to tell him about his CLP.	3.38	±1.49	4.38	±0.99	0.04	*
8	I think it was my fault that he has CLP.	2.63	±0.70	3.25	±0.66	0.03	*
9	Worried about being able to communicate positively about the painful experience of childbirth and child rearing.	3.75	±0.83	4.00	±1.12	0.48	
10	I am not prepared to tell my child about CLP.	3.38	±1.41	4.50	±0.71	0.07	†
11	I am not sure if I should tell my child that he is having surgery.	4.88	±0.33	5.00	±0.00	0.32	
12	If it is not visible and can be hidden, they want to hide it.	4.50	±1.00	4.88	±0.33	0.32	
13	I am wondering if I can explain the bullying in a way that will help my child cope with it.	3.00	±1.32	3.25	±0.97	0.48	

* $p < 0.05$ † $p < 0.1$

3.5 Thoughts of mothers who received nursing intervention with support programs (Table 4)

As a result of the analysis, four categories and nine subcategories were extracted from 19 codes as the thoughts of mothers who received the nursing intervention with the support program. (Table 4) The categories are indicated in **[]**, subcategories in **<>**, representative narratives of mothers in *"italics,"* and verbal supplements in parentheses ().

3.5.1 **[The mother's peace of mind came from her understanding CLP]**

The mother felt the need to tell her child about the treatment they were about to receive, *"I feel lighter now that I can say that something is a bit touchy and needs to be said, but it needs to be said."* The thoughts **<I feel better now that I have told my child about CLP.>** were extracted. In addition, by seeing the child's reaction after telling him about CLP, *"I felt a little better. I think he was satisfied with this. I'm glad."* The thought **<I am glad I told the child because he/she showed understanding>** was extracted.

Table 4 Mothers' thoughts on nursing interventions via support programs

Code	Subcategory	Category
It was easier for me to say (tell the child about CLP) (A)	I feel better about telling my child about CLP	The mother's peace of mind came from the child's understanding of her CLP.
I felt lighter because I was able to say that I had to tell my child about something that I shouldn't mention, but that it was necessary. (F)	I am glad that I told my child because he/she showed understanding	
I didn't have anything negative to say. (I'm glad I used it (to talk about it). (G)	Need to talk about it repeatedly in the future	I felt the need to talk to my child repeatedly in the future.
I feel a little better. I think he was satisfied with it. I'm glad. (D)	Anxiety about the future	
Surprisingly, he didn't think so much of it. (F)	Feeling sorry for the child	The program content enabled the mother to break free from self-blame and face her child.
(I was able to convey the message), but it's not over yet, and there's still a long way to go. (B)	Relief from self-blame	
(A) I think I have to tell him again in the future because he still doesn't understand. (When I tell him next time) I think it will be easier to tell him now that I've told him once. (A)	Convinced that now is the time to tell my child	
I feel like we are still in the middle of the process. I don't really know how long it will be before I know what's going to happen again. I don't think I can see it yet. (B)	Explanation tool for children helped me to explain to them	The intervention of the support program enabled the mother to communicate CLP to her child.
(Reason for hesitating to explain CLP to the child) I feel sorry for the child. I also feel sorry for them. (B)		
I feel a little lighter now that you wrote in the explanation tool that it was not the mother's fault. (F)		
(I thought I would have to tell the child later, but it didn't take long at all. (B)		
I felt that the time had finally come. I felt that the time had come to tell them. (C)		
I had been thinking about when I would have the opportunity to tell them, so it was easy to have this opportunity to tell them. (D)		
It's not easy because I can't do it myself. I would like to do it for them, but this opportunity made it much easier. It was good. (E)		
The pamphlet made it easier for me to explain things properly. Without the pamphlet, I probably would have left some things vague. Yes, I think it was good. (C)		
I think it was good to have a mediator or an opportunity like this, so that the person can easily remember it. (E)		
I was very grateful for the advice on using tools and talking to the children according to their growth, because I realized that it would be easier for them to understand if I communicated with them more. (F)		
It was easy to communicate, and the support was good. (C)		
It wasn't just me, but the nurses, teachers, and others who supported me. I really felt supported. (E)	Felt supported by medical professionals	

3.5.2 *[I felt the need to talk to my children repeatedly in the future.]*

The mother experienced the feeling that "I was able to convey), but it is not over yet, and there is still a long way to go." The thought extracted was, «We need to talk about this repeatedly in the future.» She added, "I feel like I am still in the middle of it. I do not know how long it will take and I do not yet have a good grasp of what is out there. I do not think I can see this." The respondents were «anxious about the future.»

3.5.3 *[The program content helped me break free from self-doubt and face my children.]*

One mother shared, "(Reason for hesitating to explain CLP to the child) *I feel sorry for the child. I also feel sorry for them*" «Feeling sorry for the child». The mother stated her reason for hesitating to explain CLP to her child. "I feel a little lighter now that you wrote that it was not the mother's fault," indicating that the mother was not the cause of the child's CLP, which led to her feeling of «Relief from self-blame». This was the first time the mother had been informed that the child's CLP was not her fault.

3.5.4 *[The intervention of the support program helped to communicate CLP to the child.]*

The mother said, "I felt that the time had come for me to tell my child." The mother was «Convinced that now is the time to tell my child» after receiving the intervention of the support program. She also commented, "The pamphlet made it easier for me to explain things properly. Without the pamphlet, I probably would have left some things vague. Yes, I think it was a good thing." The participants also expressed that «Explanation tool for children helped me to explain to them». Furthermore, "It was not just me, but the nurses, doctors, and others who supported me. I really felt supported" «Felt supported by medical professionals».

4. Discussion

4.1 *Research participants in support programs*

All eight participants in the support program were able to communicate CLP to their children after the intervention. The mothers' concerns about the method, timing, and triggers of communicating CLP, the children's negative perceptions of CLP, and their feelings of remorse changed positively after the intervention. Mothers' pre-intervention communication about CLP to their children differed, but the support program enabled all mothers to communicate with their children in a similar manner. These findings suggest that the support program was useful.

All the mothers approached were willing to participate in this study. This indicates that many mothers desired to receive medical help when communicating CLP to their children prior to surgery. Intervention in the support program was requested by the mothers, indicating that there was a need. The need for preoperative preparation of children by medical personnel is widespread¹³⁾. This support program aimed to not only help parents and children prepare for surgery but also to create an environment in which children are informed about their CLP and their coping skills are elicited. Many mothers first tell their children about CLP themselves¹⁴⁾. Therefore, information must be provided to mothers before they inform their children about their CLP. Nurses must be aware that it is necessary to inform the mother of CLP when the child undergoes surgery before entering school; it is important to consider that CLP is a congenital abnormality and that it is an external surface abnormality and to ask the mother if she needs help. Depending on the treatment course, external rhinoplasty may be unnecessary. When children enter elementary school, they are likely to be in the same class as other children with whom they have had no previous relationships. There have been reports¹⁵⁾ of confusion when asked about CLP by others at school; therefore, it is advisable that nurses talk to all children and confirm the need for intervention in support programs.

4.2 *Support and implementation methods*

4.2.1 *Description tools*

In the support program, an explanatory tool for mothers and children was created. These tools prepared

mothers to communicate CLP to their children, and the explanatory tool became a concrete method for communicating CLP to the children. Therefore, the introduction of this support program could alleviate mothers' concerns about communicating CLP to their children. The present support program showed a significant difference in the acquisition of methods for communicating CLP to children, and we believe that it is useful to present an explanatory tool for children to mothers.

As an explanatory tool, the mother was guided to an understanding of what CLP was. However, during the interview, the mother commented on her feelings of remorse. It is difficult to eliminate feelings of remorse after childbirth. In addition, they may reappear owing to life events and other factors¹⁶⁾. Psychological support for feelings of remorse is important in helping mothers accept them during pregnancy or early after childbirth⁹⁾. The present support program reduced the mother's distress by explaining that it was not the mother's fault that her child had CLP. However, some mothers still experienced deep-seated feelings of remorse. We believe that by continuing to provide acceptance support, listening to mothers' feelings, and repeatedly explaining that it was not the mother's fault, feelings of remorse may gradually change into positive feelings.

4.2.2 Implementation timing and intervention methods

The mothers who reported that they could not tell their children about their CLP because they did not know when to tell their children about their CLP were able to recognize that the time to tell their children about their CLP was before the external nose was modified by the implementation of the support program. Mothers raising children with CLP tend to doubt themselves and be overly involved with their children¹⁷⁾. Through the support program, mothers who did not know when to inform their children about their CLP were able to recognize that the correct time was before the external rhinoplasty. Mothers tended to underestimate their children's development and viewed their children as entities they must protect. By presenting the child as capable of understanding when he/she is old enough to undergo external rhinoplasty, mothers can make appropriate developmental assessments and communicate about CLP to the child. We believe that the support program included this information, which created an opportunity for the mothers to communicate about CLP and that the mother was able to accept the time to communicate about CLP.

There were two patterns in the number of times the child was told of CLP: once and multiple times. Mothers who informed their children of their CLP more than once had been provided with the intervention 3-4 months earlier. Mothers need time to prepare themselves when telling their children about their CLP. Mothers who had a longer period between the intervention and surgery took multiple actions to inform their children of CLP, suggesting that an earlier intervention was effective. In recent years, it has become important in nursing to respect the child's right to know. The lack of reports on disturbing situations in children during the study suggests the possibility of early intervention for children with CLP. It is important that the "Child Explanation Tool" is used as a method of communicating CLP to the child multiple times. The fact that the tool could be used repeatedly and that mothers were able to read it to their children, as well as the fact that the children were able to read it on their own, were also considered useful.

There were two interventions in the support program, and some mothers were able to tell their children about their CLP for the first time after the two interventions. Therefore, it is necessary to conduct at least two interventions.

4.2.3 Research challenges

Although this intervention was conducted at only one facility, it is necessary to examine whether the program could be adapted to other facilities. In the future, it will be necessary to disseminate this support program to a large number of mothers. Furthermore, since this study was conducted immediately after the implementation of the support program, it is necessary to evaluate how mothers and children are affected by the passage of years in the future.

Ethical considerations

This study was approved by the ethics review committee of the institution where the study was conducted (5231-01, 21-003). The study was explained to the attending physician, who was asked to refer the child to the research participants and their consent to participate in the study was obtained. Research participants were informed orally and in writing of the purpose and methods of the study, participation of their own free will, no disadvantages due to non-participation or discontinuation of participation, protection of anonymity, publication of results, and non-use of data for purposes other than research. They were requested to sign a consent form.

There are no conflicts of interest related to this study.

We would like to express our sincere appreciation to the eight mothers who participated in the support program.

This study is a partial revision and addition to the doctoral dissertation of the Department of Health and Nursing Science, Graduate School of Health and Welfare, Kawasaki University of Health and Welfare, in the year 2022.

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