

A Qualitative Study on the Feeding Methods of Filipino Mothers of Children with Cleft Lip and Palate Aged 0 to 24 Months: A Pilot Study

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ABSTRACT

Background. One of the early problems that children born with cleft lip and palate encounter is difficulty in feeding. This affects the child's nutritional needs and the timing of the surgical intervention. Information on the appropriate feeding methods for children with cleft lip and palate will enable mothers to feed their babies properly and facilitate the implementation of appropriate interventions.

Objectives. The study described the feeding problems experienced by children with cleft lip and palate (CLP), and cleft palate (CP) ages 0-24 months, the feeding methods most preferred by Filipino mothers, the methods they found most useful, and the mothers' reactions to the feeding issues their children face.

Methods. The research is a pilot study which used a quantitative, cross-sectional, descriptive mixed method design. Thirty-two (32) mothers of children with cleft lip and palate, and cleft palate answered an 11-item online survey and participated in focused interviews from January to June 2022. Inferential statistics was used specifically frequency distribution to describe the data, and Fishers' Exact Test and Pearson's Chi-Square Test were used to analyze the data quantitatively to determine the significant association between the variables identified.

Results. Results showed that the feeding problems encountered by the children included nasal regurgitation, sucking, aspiration of liquids, latching on nipples, and swallowing. Mothers preferred to use regular feeding bottles (24.3%), specialized feeding bottles for children with cleft (21.6%), breast feeding and dropper (17.6%), syringe (9.5%), cup (6.8%), and spoon feeding (2.7%) methods. They also mentioned that they found the following feeding methods to be the most useful, regular feeding bottles (32.7%), specialized feeding bottles for cleft (23.1%), breast feeding (11.5%), spoon and dropper feeding (7.7%), and syringe feeding (1.9%).



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Conclusion. The feeding problems experienced by Filipino children with CLP and CP mirror those that have been reported in other studies. The study revealed that mothers still prefer to use the traditional regular feeding bottles in feeding their babies and found this to be the most useful. Maternal reactions of the participants to the cleft condition and its feeding issues are similar to reported studies in other countries. The internet has been the primary source of information on cleft and feeding of the participants in the study.

Keywords: feeding problems, feeding methods, cleft lip and palate, mother's reactions

INTRODUCTION

Cleft lip, and cleft lip and palate are two of the more common craniofacial anomalies recorded. In the Philippines, 1 out of 500 live births presents a cleft lip and/or cleft lip and palate.¹ The presence of a cleft lip, cleft palate, and/or cleft lip and palate in a child carries with it a myriad of problems beginning with feeding problems.² Numerous studies on feeding problems encountered by children born with a cleft, its effect on nutrition as well as studies related to feeding interventions have all been documented.³⁻⁵ Parental reactions to clefting and its problems have also been described in various researches.⁶⁻⁸ However, despite the plethora of studies on the matter, very limited information has been put forth regarding what feeding methods were used and found to be effective by mothers or caregivers of children with cleft. Although studies on behavioral responses of mothers to cleft abound,^{9,10} documentation on these has been scarce among Filipino mothers of children with cleft.

METHODS

Objectives

This descriptive cross-sectional mixed method study looked into the feeding issues and feeding methods used by mothers of children with cleft lip, cleft palate, and cleft lip and palate. It also described the responses and reactions of the mothers on the feeding issues they encountered and what they did to address these concerns.

Participants

The study used a purposive sampling design with 32 mothers participated in the study. The participants were members of an online parent support group of children with cleft lip and palate, and parents from a cleft center run by a non-government organization located in the city. Fourteen (43.75%) of the mothers are housewives or stay-at-home mothers, while 18 (56.25%) are employed or working mothers. The age range of mothers is from 20 to 30 years old with a median age of 31.5 years (Table 1).

Inclusion criteria

1. Biological mothers of children with non-syndromic cleft lip and palate, and cleft palate, ages 0-24 months,
2. Children who were diagnosed with non-syndromic cleft palate and cleft lip and cleft palate.

Exclusion criteria

1. Mothers whose children were diagnosed with other craniofacial conditions or other development issues,
2. Children who were diagnosed with syndromic cleft palate, and cleft lip and cleft palate,
3. Children who presented with other development issues.

The cleft types were divided into two groups, cleft palate (8), and cleft lip and palate (24) (Table 1).

The study initially recruited 100 participants, however, upon the research team's scrutiny of the demographic information, some of the participants failed to meet the inclusion criteria. For those who were included, some of them left some items in the questionnaire unanswered, and others did not return the completed questionnaire. These participants were automatically excluded from the study.

Data Collection

The third author facilitated the recruitment as well as obtaining the online signed consent forms from the participants. The participants were recruited from a cleft center in the city of Manila operated by a non-government organization and from an advocacy group for cleft through the social media platform. Permission was granted by the cleft center's medical director to access their patient database. The administrator of the advocacy group allowed the research team to post invitations to participate in their social media page.

The recruitment for participants took two months before the researchers were able to identify the participants in the study. A total of 100 possible participants were identified. However, only an initial 50 possible participants responded both from the clinic database and the social media page invitation. The participants were contacted and sent the link to the online consent and survey form. The completed survey forms were automatically encoded in the Google Sheet attached to the Google survey form. However, upon scrutiny of the survey forms, some participants left some questions unanswered. This automatically nullified their responses and they were dropped from the list. The final number of study participants was 32.

The actual survey was conducted online since the study was done at the beginning of the COVID-19 pandemic in 2020. Data gathering was done in two phases. The first phase involved the conduct of an online survey with a constructed questionnaire. The second phase was the guided interview of the participants on their reactions and responses to the feeding issues encountered.

All the interview transcripts, forms, and recorded interviews were stored in a dedicated Google folder. Each participant was de-identified and assigned specific code for easy identification and documentation. Access to the folder was limited to the research team only.

Materials

An online questionnaire using Google Form consisting of 11 multiple-choice items was constructed and validated for the study. The survey questionnaire was constructed by the research team after conducting literature search on survey instruments focusing on similar or related topic. The initial form was a 15-item survey form which was written in English. Two independent professional speech-language pathologists were invited to conduct the translation and

back translation of the English form into Filipino language. However, upon scrutiny of the translators, they found that four items were similar or overlapping. The survey tool was returned to the research team for revision prior to the translation. The translation of the Filipino form was coherent with the English form both in form and content. After the translation process, both forms underwent a face validation process using the Content Validation Index (CVI).¹¹ Fifteen professional speech pathologists were invited to evaluate the form in terms of the following (1) understanding of terminologies used, (2) ease of accomplishing, (3) relevance of the items to study objective, (4) significance of each item, and (5) overall appearance. The CVI is a representation of the validity and exactness of the questionnaire items as well as the instrument.¹¹ A CVI score of 1.0 is indicative of a valid instrument. The process involves the aggregation of evaluators agreement on each item in the survey tool. A score of 1.0 on an item means it is acceptable to the evaluator, a score of 0.0 means the item is not acceptable. To compute for the CVI, the following formula was used:

Example:

Item 1 $(1+1+0+1+0+1+1+1+1+1)/10$ (evaluators) = .8 CVI score.

An acceptable CVI score for an item and therefore for the entire survey instrument should be at least .78 or higher. The study's instrument obtained a CVI score of .91, making the survey instrument content valid and appropriate for the study.

The questionnaire had three sections: the first part was the introduction and instruction section, the second section contained the demographic/personal information of the participant, and the third section contained the 11 multiple-choice items (Appendix A). The researchers made two versions of the questionnaire, one in English and another in Filipino (Appendix B). Follow-up interviews were conducted to further explore the participants' insights on their responses and reactions to the feeding issues they encountered (Appendix C).

Data Analysis

Descriptive statistics, specifically frequency distribution, was used to present the cleft type categories, demographic characteristics of the participants, and the preliminary data on the feeding problems, preferred feeding methods, and useful feeding methods. For the participants data, results were presented in frequency counts and percentages. While the feeding data sets were expressed in percentages.

Inferential statistics was done specifically Fishers' Exact Test for Count Data and Pearson's Chi-Square Test to determine any association between variables. A p-value of .05 was considered to have a significant association among identified variables. The variables considered were cleft type, feeding problems, and feeding methods. Interview responses were analyzed thematically (Appendix D).

Ethical Considerations

The study underwent a technical review process with the UPM College of Allied Medical Professions, College Research Committee (UPM-CAMP CRC). It also underwent an ethics review by the UPM National Institutes of Health Research Ethics Board (UPM-NIH REB).

RESULTS

Cleft Categories and Parent Participants

Table 1 shows the demographic information of the participants.

Feeding Issues Encountered

The data is divided into four categories: Feeding Problems, Feeding Methods Most Preferred, Most Useful Feeding Methods, and the Responses and Reactions of Parents to the child's condition. Each data set was analyzed quantitatively using descriptive and inferential statistics, specifically Chi Square Test and Fisher's Exact Test of Independence. The fourth data set was analyzed qualitatively using a Thematic Analysis method.

In both groups and combined group, sucking problems and nasal regurgitation are two of the most common feeding problems encountered by infants born with cleft lip and palate. Using Fischer's Exact Test, a P-value of 0.4326 was obtained meaning that there was no significant correlation between the feeding problems and the cleft type (Table 2).

Feeding Methods Most Preferred

Table 3 shows the top four feeding methods preferred by the study participants. Despite the presence of feeding problems such as sucking, nipple latching, and nasal regurgitation, the participants reported that they still used feeding bottles and breastfeeding as methods of choice. A P-value of 0.7894 rendered the data to have no dependency between cleft type and feeding methods used.

Table 1. Demographic Information of the Participants

	No. of participants	%
Cleft Types		
Cleft Palate	8	21.05
Cleft Lip and Palate	24	63.16
Age Range (years)		
20-24	5	11.90
25-29	8	19.04
30-34	9	21.42
35-39	10	26.32
Total		
Median = 31.5		
Employment Status		
Housewife	14	43.75
Employed	18	56.25
Total	32	

Table 2. Feeding Problems Encountered (P value = 0.4326)

Cleft Palate (N=8)	%	Cleft Lip and Palate (N=24)	%	Combined Group (N=32)	%
Nasal Regurgitation	57.1	Sucking	30.4	Nasal Regurgitation	35.5
Sucking	28.6	Nasal Regurgitation	26.1	Sucking	29.0
Latching on Nipples	14.3	Aspiration of Liquids	26.1	Aspiration of Liquids	22.6
		Latching on Nipples	8.7	Latching on Nipples	9.7
		Swallowing	8.7	Swallowing	3.2

Table 3. Feeding Methods Preferred (P value = 0.7894)

Cleft Palate (N=8)	%	Cleft Lip and Palate (N=24)	%	Combined Group (N=32)	%
Regular Feeding Bottles	40.0	Specialized Feeding Bottles	29.5	Regular Feeding Bottles	24.3
Breast Feeding	20.0	Dropper	22.7	Specialized Feeding Bottles	21.6
Specialized Feeding Bottles	13.3	Regular Feeding Bottles	20.5	Breast Feeding	17.6
Dropper	13.3	Breast Feeding	11.4	Dropper	17.6
Syringe	6.7	Syringe	11.4	Syringe	9.5
Cup	6.7	Cup	4.5	Cup	6.8
				Spoon	2.7

Table 4. Most Useful Feeding Methods (P value = 0.04526)

Cleft Palate (N=8)	%	Cleft Lip and Palate (N=24)	%	Combined Group (N=32)	%
Regular Feeding Bottles	40.0	Regular Feeding Bottles	30.3	Regular Feeding Bottles	32.7
Specialized Feeding Bottles	13.3	Specialized Feeding Bottles	27.3	Specialized Feeding Bottles	23.1
		Cup	18.2	Cup	15.4
		Spoon	9.1	Breast Feeding	11.5
		Dropper	9.1	Spoon	7.7
		Breast Feeding	3.0	Dropper	7.7
		Syringe	3.0	Syringe	1.9

Feeding Methods Found Most Useful

Table 4 describes the different feeding methods found by the participants to be most useful. Despite the availability of other feeding methods, the participants still found the use of regular feeding bottles to be the most useful method of choice. The relationship between cleft type and feeding method found to be useful showed a p-value of .04526. This data suggests that there is a significant relationship between the feeding methods found to be more useful and cleft groups.

Parental Reactions to the Feeding Issues

The study also looked into the reactions and responses of mothers to their children’s feeding concerns. Follow-up interviews with the respondents were scheduled. Despite repeated attempts to contact the survey participants, only 18 out of the 38 parents were able to attend the interview schedules (Figure 1).

The researchers focused on the following questions during the interviews – How did you feel when your child exhibited feeding problems? What did you do when you realized that the child exhibited feeding problems? What effect did you think the feeding problem will have on your relationship with your child?

How did you feel when your child exhibited feeding problems?

Sadness

Most of the respondents felt emotional when they found out that their children were having feeding problems.

“Yung pagkasilang ko po sa kanya, nakita ko pa na may bingot siya. Masakit po para sa akin at di ko po napiligang hindi umiyak. Syempre po nalungkot po ako.”

(When I gave birth to my child, I saw that she had a cleft lip and palate. It was difficult for me to accept that, of course I cried and felt very sad.)

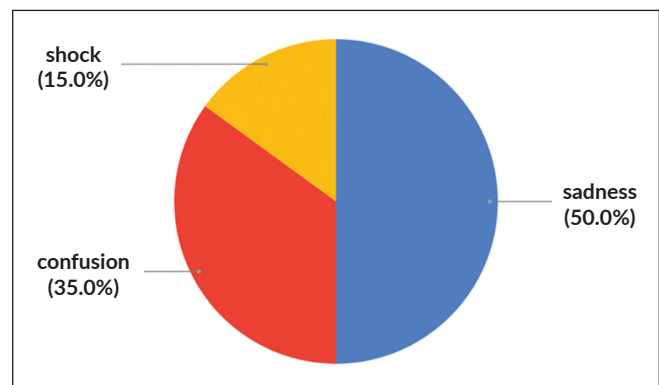


Figure 1. Mothers’ reactions to the birth of their child, N=18.

“My baby was delivered via caesarian section pero I only saw him after two days. Nung nakita ko sya, naka NGT at nasa NICU. So na shock po ako, lungkot na lungkot ako nun.”

(My baby was delivered via caesarian section but I only got to see him two days later. When I visited the NICU, he had an NGT inserted and I was totally shocked and very sad when I saw him.)

“Nalungkot ako kasi nakita ko na hindi sya makadede ng mabuti.”

(I felt sad because I saw that she was having a hard time drinking/sucking milk.)

“I cried. I was sad.”

Confusion

Many were confused as to what to do next and how to go about addressing the issues.

“I was initially prepared but when he came out, we were at a loss as to how to feed him; then I researched.”

“It was difficult feeding the child; it was difficult to accept that he was different from other children.”

“Disappointed, lost, asking questions.”

“The first thing that crossed my mind was “how will the child eat?” I didn’t know where to start. My friends gave me advice to join a support group of parents. Of course, I felt sad.”

Shock

“Shock. We don’t have a history of cleft in the family. We asked around and many said it’s hereditary. But since we don’t have a history, we could not figure out how or why. Others say it’s because of pregnancy craving. Regardless, I felt bad. I thought that it would have been better if only the lip was affected not the palate. I was told that with a lip cleft, it’s easier to operate; also the pedia said that there is a required weight to be achieved before surgery.”

“Na-shock ako nung una. Naisip ko agad papaano sya makaka-dede. Dun na lungkot na ako”

(My initial reaction was shock. I was primarily concerned about feeding. That made me feel sad.)

What did you do when you realized that the child exhibited feeding problems?

While the initial effect of the situation caused a myriad of reactions, many of the mothers sought help from friends and family, and were quite proactive in their responses to the situation.

“Nagtanong-tanong ako sa Facebook group ng cleft. Nagtanong ako sa mga magulang.”

(I asked my friends in a Facebook group of parents with cleft children. I asked some of the parents for help.)

“I somehow knew my son would have feeding issues, so I went to the internet and saw some videos on YouTube and read some articles online about feeding children with cleft lip and palate.”

“Nagtanong ako sa mga kaibigan ko. Humingi ako ng payo para matulungan nila mabawasan yung nararamdaman ko”

(I asked my friends for advice on how to deal with my emotions and what I was going through.)

Other mothers expressed varied concerns about their child. Foremost was their concern about feeding, weight gain, and the effect on mother and child bonding. The presence of a deformity in the mouth immediately brought about questions on how to feed their babies.

“Napaisip ako kung papaano kakain kung open ang palate? Lalabas ba sa ilong ung gatas?”

(I thought about how the child would drink milk since the palate was open. Will the milk go out of the nose?)

“Nag worry ako kasi yung sa weight requirement nya, kasi sabi ng pedia mabagal din yung weight nya dahil merong feeding problems.”

(I was worried about the weight requirement because my pediatrician said that she would have difficulty gaining weight because of feeding problems.)

“Worried about the child’s weight. The pedia confirmed weight gain is slow. I was breastfeeding but his weight did not improve.”

“Initially, I felt it would affect our bonding.”

What effect did you think the feeding problem will have on your relationship with your child?

The majority of the parents felt that the bonding between them and their children was going to be affected primarily because of the child’s inability to suck milk during breastfeeding.

“Yes, I wanted to breastfeed and I tried it but the baby could not latch. I had to pump my breastmilk so that at least I was the one supplying milk to the baby. I felt that the initial bonding was affected because of the feeding, so I would just carry him as often as I can to establish physical contact with him.”

“Mas close po yung baby ko sa husband ko, kasi kabit nagpupump po ako ng breastmilk, kakaunti lang po ang lumalabas so yung husband ko po ang nagpapadede using formula. Dun ko po napansin na pag ako ang nagpapadede, umiiyak po siya, pero kung yung husband ko po, mas tabimik po siya dumedede.”

(My baby is closer to my husband even if I pump my milk. Since I could only produce a small amount of milk, we would feed him with formula milk and my husband would be the one feeding him. I noticed that when I try bottle-feeding the baby, he would cry incessantly, but if it was my husband, he seemed more relaxed.)

“To be honest, yes. Since I knew that he wouldn’t be able to breastfeed which will be the most effective bond between moms and their babies.”

Some parents felt that their bonding with their child was not affected;

“Nung una oo kasi nahihirapan po, andun yung time na naiinis ka, pero naisip ko natural lang po yon. Parang wala naman pong nagbago pagtagal.”

(At first, it was difficult, there were times when I get frustrated but I thought it was a natural reaction. Eventually, the bonding became evident as if nothing has changed.)

“Yung bonding namin nag-improve nung nakakadeda na sya ng mas mabuti, lalo na nung narwala na ung anxiety ko.”

(Our bonding improved especially when the child was able to feed properly and when my anxiety disappeared.)

“Hindi naman po, kasi inisip ko lang na ang mas kailangan niya ay ang pagmamahal ng isang ina kasi nga wala pong pwedge umunawa sa kanya kundi ako.”

(I did not think of that. All I knew was that my child needs the love and care of a mother and no one can provide that except me.)

It was also reported that bonding was affected because of the children’s inability to express themselves to their parents;

“Syempre lalo na nung lumalaki na siya kasi hindi siya makapagsalita...ung interaction naming dalarwa apektado talaga.”

(Of course, it got affected especially when the child was beginning to talk and I could not understand what he was saying. Our interaction got affected by the speech problem.)

Parental Responses to the Feeding Issues

Many of the interviewees sought help from people to address the feeding issues. Others reached out to friends

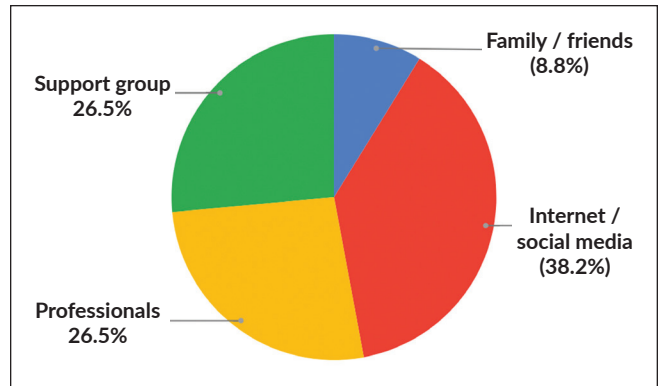


Figure 2. Distribution of information sources used by mothers, N=17.

and relatives to help them deal with the emotional trauma that they experienced. Consequently, technology plays a vital role in the process. Many mothers sought information from the internet. Social media platforms became the sources of support and advice.

Figure 2 shows the distribution of information sources used by the participants regarding clefting and feeding methods. Among the 17 participants who were interviewed, 13 (38.2%) used the internet to research ways to feed their children and to get additional information about cleft lip and palate. Nine (26.5%) participants consulted professionals and a parent support group of children with cleft while three (8.8%) participants asked their family and friends for information on how to feed their children with CP/CLP.

DISCUSSION

The study showed that for most children with CP/CLP, nasal regurgitation, sucking, and aspiration of liquids are the prevailing feeding issues encountered. The results of the study showed similar outcomes described by Lindburg and Berglund.¹¹ These feeding problems are related to the deformity and functionality of the oral structures in children with CP/CLP. The obvious result of such feeding issues will affect the child’s nutritional intake. The effects of feeding issues among children with CP/CLP have been extensively documented.⁴

Participants in the study showed a preference for a particular feeding method however, the preference may not necessarily mean that it is the most effective method. By effective, the researchers mean that the method facilitates ease of feeding and consequently an appropriate higher volume of milk intake. The use of regular feeding bottles seems to be the method of choice by most mothers (24.3%), despite the difficulty that most children would have to suck through a nipple. The availability of specialized feeding bottles for cleft like the Habermann feeding bottle or the Mead Johnson Nursers may have affected the preference of the mothers. Specialized feeding bottles for children with cleft are not

readily available in local pharmacies and if they are, they are costly for the average Filipino mother. There is also the perception that feeding bottles whether regular or specialized provide more milk than any other feeding method. Many mothers still try to breastfeed their babies despite the obvious difficulty with sucking from a nipple. The preference for this type of method stems from the mothers' awareness of the nutritional value of breast milk to infants as well as the bonding that is established during breastfeeding. However, despite the attempts at breastfeeding, studies have shown that very few experienced positive results with breastfeeding on children with CLP and CP.³ Different techniques of feeding infants born with cleft have already been recommended and are being used in different communities. However, because there is a dearth of lactation nurses or infant feeding advocates in most hospitals in the country, especially in the rural areas, proper instructions and education on feeding children born with cleft are not conducted. The lack of information from professionals contributes to the mothers' unawareness of the different feeding methods and implements. Often these parents are left on their own to search and ask around for help.

Overall, the mothers still found the use of regular feeding bottles (32.7%) and specialized feeding bottles (23.1%) as the most effective. Because feeding bottles come in varying sizes which correspond to the volume of liquid or milk they provide, mothers use them as a measure of the amount of milk the child can drink during a feeding session. Consequently, mothers also found cup feeding to be an effective method (15.4%) for the same reason. Despite the difficulty in latching, sucking, and problems with aspiration, mothers still believe that breastfeeding is one of the effective methods. This may have no relation to the ease of feeding but their awareness and knowledge of the nutritional benefits of breast milk. Breastfeeding for infants with CP/CLP is highly encouraged despite the obvious difficulty it presents. However, the advocacy for its use is to encourage milk production in the mother and to establish mother and child bonding.^{3,11} Breastfeeding in children with CP/CLP is no longer a challenge with the introduction of various positioning techniques to facilitate breastfeeding.¹² Again, the preference for bottle-feeding albeit the child's difficulty in sucking can be traced to the lack of knowledge of the mothers on the other available methods, positioning of the child for feeding, their perception of the amount of intake of milk, and the unavailability of specialized feeding bottles for children born with clefts.

Several studies show that the birth of a child with a facial deformity causes a myriad of emotional reactions from the mothers such as sadness, frustration, and guilt.^{6,13} After the initial shock brought by the emotional reaction, the realization of the issues that the condition brings begins to set in, such as confusion as to how the child was born with a deformity, sadness over the realization that the child's facial features are not normal,^{14,15} and anxiety over the feeding problems that the infants will experience. The reactions of the participants

in the study and their concerns about the feeding issues mirror those found in the literature.⁸

Thirteen of the 32 participants were interviewed regarding their initial reactions to their child's cleft and feeding problems. Most of them reported expressing intense initial emotional setbacks. The results show similarities to studies conducted by Dapaah et al.⁶ and Nguyen and Jagomägi¹⁵. Aside from sadness due to the unexpected news, there were feelings of not knowing what to do and who to talk to. On the other hand, some mentioned that there were professionals in the hospitals like nurses and pediatricians who informed them of the child's condition or what to do after birth. There seems to be a lack of a uniform or standardized process in health care facilities when it comes to cleft care.

In their attempts to address their emotional issues and their questions regarding feeding, parents resorted to various sources to get information. The internet proved to be the most sought-after source of information. Five participants (38.2%) used the internet to search for information on feeding methods and techniques. Three (26.5%) mothers joined a parent support group, while another three (26.5%) consulted professional health care workers. Two participants (8.8%) sought support from family and friends.

CONCLUSION

The study showed that children born with cleft palate, and cleft lip and palate experienced nasal regurgitation, sucking difficulty, and aspiration of liquids, as the top three feeding problems. Mothers of children born with cleft palate and cleft lip and palate preferred to use regular feeding bottles, specialized feeding bottles, and despite having latching on nipple problems, still preferred breast feeding their babies. Despite their preference for specific feeding methods, the mothers still found the use of regular feeding bottles to be the most useful method, followed by specialized feeding bottles, whenever they are available, and cup feeding. The mothers also reported feeling sad, confused, and shocked upon the discovery of their child's condition. The top three sources of information regarding cleft palate that the mothers consulted were the internet, health professionals, and online parent support groups.

Limitations of the Study

The current research poses some limitations. First, the study has a small sample size limiting its inherent capacity to generalize the results outside of the study. Second, the study did not seek to inquire the reasons behind the choice of feeding methods, and third, the proponents did not specifically describe the feeding problems listed in the study.

Recommendations

Further research may be conducted to determine the reasons behind the mothers' preference of feeding methods and the ways by which they adapted to the feeding problems

of their children. Likewise, determining which information from available sources proved to be beneficial for them could be further examined.

Statement of Authorship

FACL contributed in the conceptualization of work, acquisition of data, drafting and revising of manuscript, and final approval of the version to be published. PECB contributed in the conceptualization of work and acquisition of data. KMGB contributed in the acquisition of data.

Author Disclosure

All authors declared no conflicts of interest.

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REFERENCES

- Murray JC, Daack-Hirsch S, Buetow KH, Munger R, Espina L, Paglinawan N, et al. Clinical and epidemiologic studies of cleft lip and palate in the Philippines. *Cleft Palate Craniofac J*. 1997 Jan;34(1):7-10. doi: 10.1597/1545-1569_1997_034_0007_caesoc_2.3.co_2.
- Amstalden-Mendes LG, Magna LA, Gil-da-Silva-Lopes VL. Neonatal care of infants with cleft lip and/or palate: feeding orientation and evolution of weight gain in a nonspecialized Brazilian hospital. *Cleft Palate Craniofac J*. 2007 May;44(3):329-34. doi: 10.1597/05-177.
- Wijekoon P, Herath T, Mahendran R. Awareness of feeding, growth and development among mothers of infants with cleft lip and/or palate. *Heliyon*. 2019 Dec;5(12):e02900. doi: 10.1016/j.heliyon.2019.e02900.
- Tungotyo M, Atwine D, Nanjebe D, Hodges A, Situma M. The prevalence and factors associated with malnutrition among infants with cleft palate and/or lip at a hospital in Uganda: a cross-sectional study. *BMC Pediatr*. 2017 Jan 13;17(1):17. doi:10.1186/s12887-016-0775-7
- da Silva Freitas J, de Almeida Freitas Cardoso MC. Symptoms of dysphagia in children with cleft lip and/or palate pre- and post-surgical correction. *Codas*. 2018 Mar;30(1):e20170018. doi: 10.1590/2317-1782/20182017018
- Dapaah JM, Addo B, Effe JP. Mothers' reactions to seeing their children with cleft for the first time: a qualitative study in Ghana. *Cleft Palate Craniofac J*. 2021 Jul;58(7):854-63. doi: 10.1177/1055665620965407.
- Barden RC, Ford ME, Jensen AG, Rogers-Salyer M, Salyer KE. Effects of craniofacial deformity in infancy on the quality of mother-infant interactions. *Child Dev*. 1989 Aug;60(4):819-24. doi: 10.1111/j.1467-8624.1989.tb03513.x.
- Grollemund B, Dissaux C, Gavelle P, Martinez CP, Mullaert J, Alfaiate T, et al. The impact of having a baby with cleft lip and palate on parents and on parent-baby relationship: the first French perspective multicenter study. *BMC Pediatr*. 2020 May;20(1):230. doi: 10.1186/s12887-020-02118-5. doi.org/10.1186/s12887-020-02118-5
- Hazanpour M, Ghazavi Z, Keshavarz S. Feeding behavioral assessment in children with cleft lip and/or palate and parental responses to behavior problems. *Iran J Nurs Midwifery Res*. 2017 Mar-Apr;22(2):135-9. doi: 10.4103/ijnmr.IJNMR_39_15.
- Snyder M, Ruscello DM. Parent perceptions of initial feeding experiences of children born with cleft palate in a rural locale. *Cleft Palate Craniofac J*. 2019 Aug;56(7):908-917. doi: 10.1177/1055665618820754.
- Lindberg N, Berglund A. Mother's experiences of feeding babies born with cleft lip lip and palate. *Scand J Caring Sci*. 2014 Mar;28(1):66-73. doi: 10.1111/scs.12048.
- Yusoff MSB. ABC of content validation and content validity index calculation. *Education in Medicine Journal*. 2019;11(2):49-54. doi: 10.21315/eimj2019.11.2.6
- Kucukguven A, Calis M, Ozgur F. Assessment of nutrition and feeding interventions in Turkish infants with cleft lip and/or palate. *J Pediatr Nurs*. 2020 Mar-Apr;51:e39-e44. doi: 10.1016/j.pedn.2019.05.024.
- Madhoun LL, Crerand C, Keim L, Baylis AL. Breast milk feeding practices and barriers and supports experienced by mother-infant dyads with cleft lip and/or palate. *Cleft Palate Craniofac J*. 2020 Apr;57(4):477-86. doi: 10.1177/1055665619878972. doi.org/10.1177/1055665619878972
- Nguyen VT, Jagomägi T. Maternal experiences on having a child with a cleft. *J Otol Rhinol*. 2018;7:5. doi: 10.4172/2324-8785.1000343

APPENDICES

Appendix A. Survey Form – English

Feeding Methods of Parents of Children with Cleft Lip and Palate Aged 0 to 24 months

I. Personal Information

Name of Parent: _____

Age: _____

Occupation: _____

Address: _____

Name of Child: _____

Age: _____

What type of cleft does your child have?

- A. Unilateral Cleft Lip
- B. Bilateral Cleft Lip
- C. Unilateral Cleft Palate
- D. Bilateral Cleft Palate
- E. Cleft Lip and Palate
- F. Others (specify) _____

Date of Operation: Cleft Lip: _____ Cleft Palate: _____

Name of hospital where operation was done: _____

II. Survey Questions

1. What problems did your child encounter when drinking milk?

Check all that apply.

- A. Sucking difficulty
- B. Latching on the nipple
- C. Swallowing
- D. Aspiration on liquids
- E. Nasal regurgitation
- F. Others (specify) _____

2. What method/s have you used before to make your child drink milk? Check all that apply.

- A. Breast feeding
- B. Regular bottle feeding
- C. Special bottle feeding
- D. Syringe
- E. Dropper
- F. Cup
- G. Spoon
- H. Others (specify) _____

3. Why did you use these method/s before to make your child drink milk? Check all that apply.

- A. Easy for the child to drink
- B. Did not required any special instrument/utensils
- C. Easy for me to apply
- D. Did not cause spillage of wastage of milk
- E. Don't know any other methods
- F. Others (specify) _____

4. What method/s are you currently using to make your child drink milk? Check all that apply.

- A. Breast feeding
- B. Regular bottle feeding
- C. Special bottle feeding
- D. Syringe
- E. Dropper
- F. Cup
- G. Spoon
- H. Others (specify) _____

5. Why are you currently using these method/s to make your child drink milk? Check all that apply.

- A. Easy for the child to drink
- B. Did not required any special instrument/utensils

C. Easy for me to apply

D. Did not cause spillage of wastage of milk

E. Don't know any other method

F. Others (specify) _____

6. When did you start using these method/s? Check accordingly.

0-3 mos. 3-6 mos. 6-9 mos 9-12 mos.

- | | | | | |
|---------------------------|-----|-----|-----|-----|
| A. Breast feeding | [] | [] | [] | [] |
| B. Regular bottle feeding | [] | [] | [] | [] |
| C. Special bottle feeding | [] | [] | [] | [] |
| D. Syringe | [] | [] | [] | [] |
| E. Dropper | [] | [] | [] | [] |
| F. Cup | [] | [] | [] | [] |
| G. Spoon | [] | [] | [] | [] |
| H. Others (specify) _____ | [] | [] | [] | [] |

7. Who is your primary source of information about using these method/s?

- A. Doctor
- B. Nurse
- C. Midwife
- D. Parent
- E. Friend/Neighbor
- F. Spouse
- G. Internet
- H. Others (specify) _____

8. Which of these methods helped your child drink milk better? Check all that apply.

- A. Breast feeding
- B. Regular Bottle feeding
- C. Special Bottle feeding
- D. Syringe
- E. Dropper
- F. Cup
- G. Spoon
- H. None of the above
- I. Others (specify) _____

9. How satisfied are you with the method/s you used or you are using?

- A. Very Satisfied
- B. Satisfied
- C. Uncertain
- D. Unsatisfied
- E. Very Unsatisfied

Why? _____

10. What effect do you think will happen on your child if he/she is not able to drink milk properly? Check all that apply.

- A. Malnutrition
- B. Poor muscle/physical development
- C. Poor mental development
- D. Poor mother-child bonding
- E. Poor self-confidence
- F. Others (specify) _____

11. How aware are you of the signs and symptoms of malnutrition?

- A. Very aware
- B. Aware
- C. Uncertain
- D. Unaware
- E. Very unaware

Appendix B. Survey Form – Filipino

Feeding Methods of Parents of Children with Cleft Lip and Palate Aged 0 to 24 months

I. Personal na Impormasyon

Edad ng magulang:
 Trabaho ng magulang:
 Tirahan:
 Cellphone/Email address:
 Pangalan ng bata:
 Edad ng bata:
 Anong uri ng cleft o bingot mayroon ang inyong anak?
 What type of cleft does your child have?
 A. Unilateral Cleft Lip
 B. Bilateral Cleft Lip
 C. Unilateral Cleft Palate
 D. Bilateral Cleft Palate
 E. Cleft Lip and Palate
 F. Iba pa (specify) _____
 Petsa ng operasyon: Cleft Lip: _____ Cleft Palate: _____
 Pangalan ng ospital kung saan ginawa ang operasyon? _____

II. Survey Questions

- Anong mga problema sa pagpapainom ang naranasan ng inyong anak? Maaaring pumili ng higit sa isa.
 - Hirap sumipsip
 - Hirap sa pagsuso
 - Hirap sa paglunok
 - Nasasamid kapag umiinom
 - Lumalabas sa ilong ang gatas
 - Iba pa (specify) _____
- Anong pamamaraan ng pagpapainom ng gatas ang inyong ginamit noon? Maaaring pumili ng higit sa isa.
 - Breast feeding
 - Regular Bottle Feeding
 - Special Bottle Feeding
 - Syringe/Injection
 - Dropper
 - Baso
 - Kutsara
 - Iba pa (specify) _____
- Bakit ito ang inyong napiling pamamaraan ng pagpapainom noon? Maaaring pumili ng higit sa isa?
 - Madali para sa bata ang makainom
 - Hindi kailangan ng espesyal o kakaibang kagamitan
 - Madali itong gamitin
 - Hindi nasasayang ang gatas
 - Iba pa (specify) _____
- Anong pamamaraan ng pagpapainom ng gatas ang inyong ginagamit ngayon? Maaaring pumili ng higit sa isa.
 - Breast feeding
 - Regular Bottle Feeding
 - Special Bottle Feeding
 - Syringe/Injection
 - Dropper
 - Baso
 - Kutsara
 - Iba pa (specify) _____
- Bakit ito ang inyong napiling pamamaraan ng pagpapainom ngayon? Maaaring pumili ng higit sa isa.
 - Madali para sa bata ang makainom
 - Hindi kailangan ng espesyal o kakaibang kagamitan
 - Madali itong gamitin
 - Hindi nasasayang ang gatas

- Wala ng ibang alam na paraan
 - Iba pa (specify) _____
- Kailan ninyo sinimulan gamitin ang pamamaraan na ito? Maaaring pumili ng higit sa isa.

	0-3 mos.	3-6 mos.	6-9 mos.	9-12 mos.
A. Breast feeding	[]	[]	[]	[]
B. Regular bottle feeding	[]	[]	[]	[]
C. Special bottle feeding	[]	[]	[]	[]
D. Syringe	[]	[]	[]	[]
E. Dropper	[]	[]	[]	[]
F. Baso	[]	[]	[]	[]
G. Kutsara	[]	[]	[]	[]
H. Iba pa (specify) _____	[]	[]	[]	[]
 - Kanino ninyo unang natutunan kung paano gamitin ang pamamaraan ng pagpapainom ng gatas?
 - Doktor
 - Nars
 - Midwife/Kumadrona
 - Magulang
 - Kaibigan/Kapitbahay
 - Asawa
 - Nakita sa internet
 - Iba pa (specify) _____
 - Alin sa mga pamamaraan sa ibaba ang nakatulong para makainom ng mabuti ang inyong anak? Maaaring pumili ng higit sa isa.
 - Breast feeding
 - Regular Bottle Feeding
 - Special Bottle Feeding
 - Syringe/Injection
 - Dropper
 - Baso
 - Kutsara
 - Iba pa (specify) _____
 - Gaano ka nasisiyahan sa paraan ng pagpapainom na inyong ginamit o ginagamit?
 - Lubos na nasisiyahan
 - Nasisiyahan
 - Hindi sigurado
 - Hindi nasisiyahan
 - Lubos na hindi nasisiyahan
 Base sa iyong sagot sa #9, bakit? _____
 - Ano sa tingin ninyo ang maaaring magiging resulta o epekto kung hindi sapat ang natatanggap na nutrisyon ng isang bata? Maaaring pumili ng higit sa isa.
 - Malnutrisyon (kulang ang pagkain at sustansya na nakukuha ng katawan)
 - Poor muscle/physical development (mabagal ang pagdeblop ng pangangatawan)
 - Poor mental development (mabagal ang pagdeblop ng kaisipan)
 - Poor mother-child bonding (maapektuhan ang relasyon ng nanay at anak)
 - Poor self-confidence (kulang ang tiwala sa sarili)
 - Iba pa (specify)
 - Gaano mo kaalam ang senyales ng malnutrisyon?
 - Lubos na may kaalaman
 - May kaalaman
 - Hindi sigurado
 - Walang kaalaman
 - Lubos na walang kaalaman

Appendix C. Interview Guide for Study Participants

- Q1: What/how did you feel when your child exhibited feeding problems?
- When did you realize that feeding was a problem? What did you do? How did you feel?
 - Did these feeding problems cause you anxieties? Worry?
 - How did you deal with what you were feeling?
 - Did you feel that these problems would affect your bonding with your child?
- Q2: What effects did your child exhibit when you changed your feeding method? How did you feel about these changes?
- When you started changing your feeding methods, how did the child respond? Was feeding improved? Did the child gain weight?
 - How did you feel when all these positive changes were happening?
 - Were there any negative changes that happen when you changed your feeding methods?
 - How did these changes affect your relationship with your child?
- Q3: Why did you start using your current method at this point only?
- What do you think would have been the effect if you used the method earlier? Or if not at all?
- Q4: Why did you choose to seek this person for information about cleft and feeding?
- Q5: How did you know this? Where did you get your information?

Appendix D. Thematic Analysis of Interviews

Questions	Themes
Q1: What/How did you feel when your child exhibited feeding problems?	Frustration, emotional, confusion, difficult to accept, unexpected, worry (about weight), knowledge about the condition makes it easier to accept/absence of information causes anxiety, feeding is an initial concern
When you realized that feeding was a problem, what did you do? How did you feel?	Confusion, being proactive, practical, anxious, primary concern
Did these feeding problems cause you anxieties? Worry?	Physical and emotional difficulties experienced just to feed the child; lack of information causes anxiety, guilt; external support helps ease the anxieties
How did you deal with what you were feeling?	Positive thinking, information helps, diversion/distraction, proactivity, support system (family, professionals)
Did you feel that these problems would affect your bonding with your child?	Stress in feeding can affect bonding, physical contact is important, knowledge about the condition can help/absence, disconnected, communication difficulties can cause disconnection, breastfeeding helps create a bond
Q2: What effects/changes did your child exhibit when you changed your feeding method? How did you feel about these changes?	Improvements in feeding, appropriate feeding methods create better feeding outcomes, trial and error, observing for changes, specialized bottles, positive feeding outcomes cause positive attitude/behavior, weight gain, fulfilled, encouraged, tendency to look at prospective outcomes and set aside personal feelings, increased expectations
When you started changing your feeding methods, how did the child respond? Was feeding improved? Did the child gain weight?	
How did you feel when all these positive changes were happening?	
Were any negative changes happen when you change your feeding methods?	
How did these changes affect your relationship with your child?	If physical bonding is established earlier, it will bring positive results
Q3: Why did you start using your current method at this point only?	Changes would be more evident if method was used earlier, lack of information can be deterrent to progress, proper timing of use of feeding method, parental perception regarding feeding methods help, awareness of different feeding methods as well as consequences is useful, compliance to instructions usually produces good results, parents tend to think about what they should/could have done
What do you think would have been the effect if you used the method earlier? Or if not at all?	
Q4: Why did you choose to seek this person for information about cleft and feeding?	Professionals are more knowledgeable, research confirms what you know and what you do not know, internet, family and professionals provide moral support, social media, support group of parents of children with cleft, fear of being ostracized is a motivation to search for answers, lack of information limits one's confidence
Q5: How did you know this? Where did you get your information?	