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Comparison Between Two Types of Feeding Obturators in Cleft Palate Babies

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ABSTRACT

Abstract: This article compares clinical function rehabilitation of two different types of feeding device 1. Ready made obturator & 2. Custom obturator. Material and methods: 10 neonates baby reported to the Department of Pediatrics department alhammadi hospital KSA with congenital cleft palate will be selected for study. Feeding device will be constructed for each baby & readymade feeding bottle will be getting. Comparison between both is done by fixing volume & measuring feeding time

INTRODUCTION

Child with cleft palate faces many trouble e.g. Sucking milk coming through his nose during feeding, obturator, small acrylic or plastic plate that fits into the roof of babies mouth and covers the cleft during feeding [1] Neonates born with cleft palate have difficulty in eating, which may lead to failure to thrive[2]. the oronasal communication diminishes ability to create negative pressure, wich is necessary for sucking [3] .to compensate, the baby presses the nipple between the tongue and the hard palate to squeeze out the milk, but this mechanism is insufficient if the cleft is wide and the nipple gets trapped inside the defect[4]. The oronasal communication diminishes the ability to create negative Pressure, which is necessary for suckling.[5-8] to compensate, The baby presses the nipple between the tongue and The hard palate to squeeze out the liquid, but this mechanism is insufficient if the cleft is wide and the nipple gets trapped inside the defect.[6] The feeding process is also complicated by nasal regurgitation of food[4,5,7,9] excessive air intake that requires frequent burping[3,5,7]. Feeding time is significantly longer

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and fatigues both baby and parent.[5,9] As might be expected, these feeding complications can be a source of parental anxiety[4,9]. There are different approaches to address the problems associated with feeding cleft palate babies. The literature suggests that the use of specially designed nipples with enlarged openings can increase the ejection of milk with reduced effort.[4, 9, 10] However, this option is not sufficient for all patients. Orogastric and nasogastric tubes can be effective but should be used only for a limited length of time.[9] Surgery may completely close the oronasal communication and resolve the problems associated with the cleft. However, timing of surgery differs significantly between medical centers and may be as early as 10 to 12 weeks of age 9 or 12 to 18 months [4] or even well past 12 months of age.[11]

The feeding obturator is a prosthetic aid that is designed to obturate the cleft and restore the separation between the oral and nasal cavities. It creates a rigid platform toward which the baby can press the nipple and extract milk.[5,12] It facilitates feeding & reduces nasal regurgitation,[4,6,7,13] reduces the incidence of choking,[4] and shortens the length of time required for feeding.[4,5,7,14] The obturator also prevents the tongue from entering the defect[4,5,7,13] and interfering with the spontaneous growth of the palatal shelves toward the midline. It also helps to position the tongue in the correct position to perform its functional role in the development of the jaws,[13] The obturator reduces the passage of food into the nasopharynx, reducing the incidence of otitis media and nasopharyngeal infections.[5,13] The literature also shows the feeding obturator to be effective in reducing parents' frustration over the feeding problems[4,19] and in relieving anxiety related to the birth of a child with this pathology. The fabrication of an obturator demonstrates to parents that help is available and that the problem can be addressed[5, 13].

TECHNIQUE

1. To create a preliminary impression tray, cut a piece of light cure-polymerizing acrylic resin to the approximate size of the hard palate. Use a finger to insert it into the baby's mouth and press the material over the hard palate and into the buccal and labial vestibules. Remove the material and light polymerize it extra orally.

2. A preliminary impression was made with an impression compound material

3. A cast was poured on the preliminary impression obtained and custom tray was then fabricated by using self-cure acrylic resin Add a small handle to the tray to make it easier to manipulate

4. With the help of the custom tray, a secondary impression was made using rubber base impression material while the baby is held face toward the floor, in order to prevent aspiration in the event of vomiting and asphyxiation due to airway obstruction.

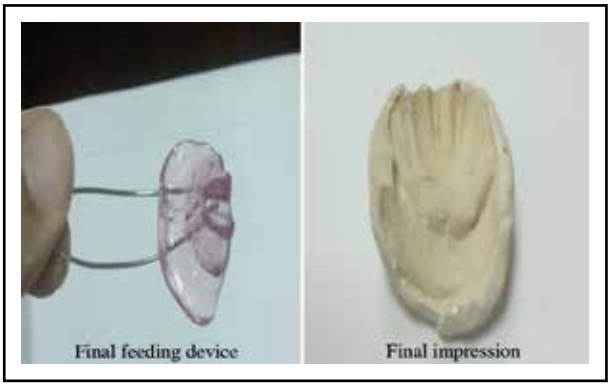
5. Pour the impression in Type III dental stone (Yellow Stone) and fabricate a custom obturator from heat cure polymerizing acrylic resin. Place the posterior border of the obturator between the hamular notches. Do not attempt to include the cleft area of the soft palate. Extend the borders into the vestibule and add a metal wire handle any sharp edges should be smooth. Finish and polish the prosthesis.

6. Evaluate all surface of the obturator intraoral for determine pressure area by using pressure indicator pest.

7. Parent instruction care given, how to insert, remove and how to clean.

8. Each baby use readymade feeding bottle & manufacture feeding device each time 100cc of milk / time. Data is collected & statistical analysis done.

New porn baby with Cleft palate



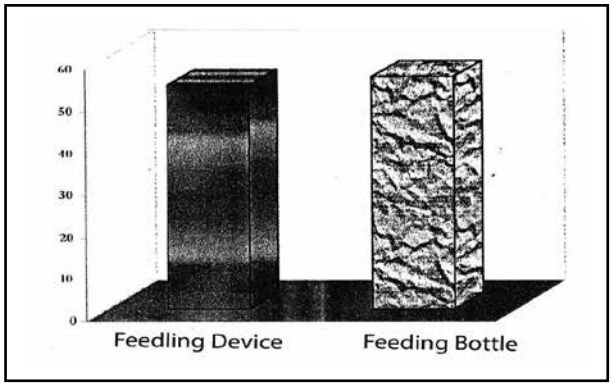
RESULT

By comparison between result of feeding device & feeding bottle statistical analysis was tabled in this table

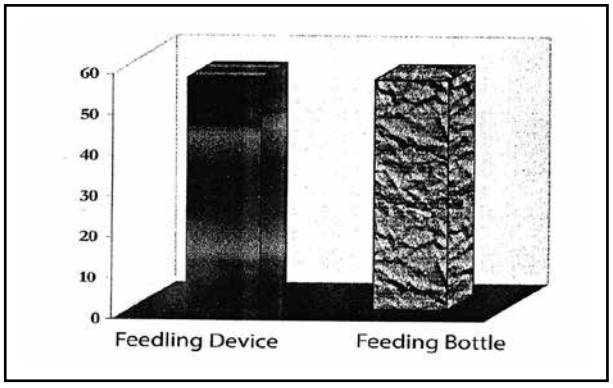
Table (1) The mean ,standard deviation and p value the of two groups of babys

Distance	At delivery			After one week			After 2 weeks			After 3 weeks			After 4 weeks			After 5 weeks		
	Mean	SD	P-value	Mean	SD	P-value	Mean	SD	P-value	Mean	SD	P-value	Mean	SD	P-value	Mean	SD	P-value
Group A feeding bottles	2	0.9	0.5	2	0.9	0.5	1.85	.85	0.45	1.75	0.8	0.41	1.6	.72	0.35	1.3	.6	0.28
Group B feeding obturators	7	.95	0.5	7	.95	0,5	7	.95	0.5	6.8	.92	0.48	6.6	.89	0.44	6.3	.83	0.4

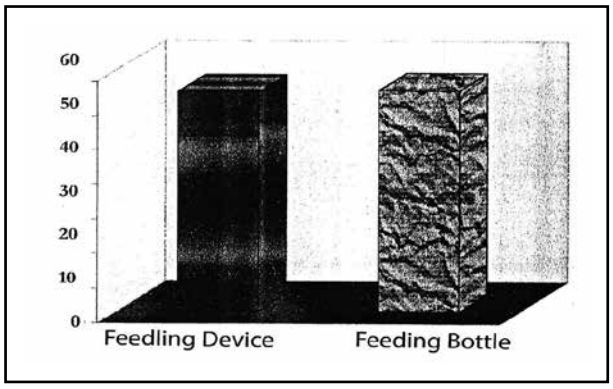
S.D=standard deviation *Significant different at($p<0.05$)*



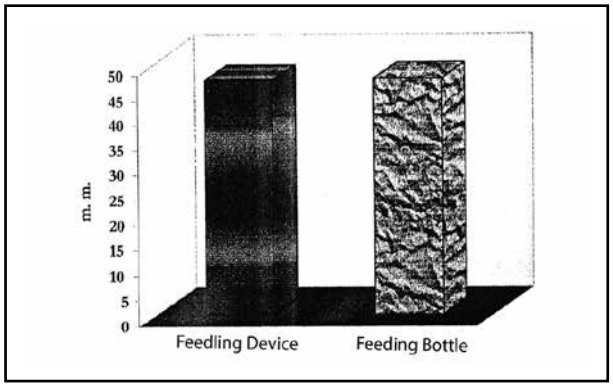
Frist Week



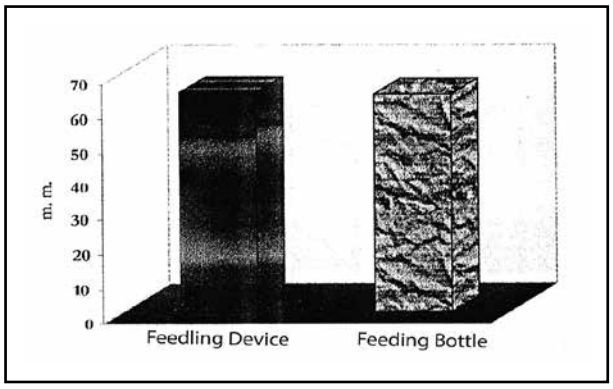
Second Week



Third Week



Fourth Week



Fifth Week

DESCUSSION

The main purpose of this study was to compare between two types of feeding obturators to review feeding interventions recommended for infants with cleft palate conditions and to determine the good feeding appliance. feeding strategies nor interventions specifically designed for infants with comorbidity such as cleft palate, which require specific feeding management not common to infants with cleft palate conditions, were included in the review. Ideally, only experimental trials would have been included in this article, because these are considered the best form of evidence for evaluating an intervention [13]. However, this review was not restricted in this way for two reasons. First, only a relatively small body of feeding intervention literature with few well-executed controlled trials exists. Second, in a field where commonly used interventions are underpinned by such a paucity of scientific evaluation, it is important to illustrate in those studies where interventions were evaluated, more than one intervention was frequently included (e.g., bottle and nipple type combined with general feeding and nutritional advice), and it was difficult to determine which aspect of the feeding intervention might have accounted for the improvement. Analytic epidemiological studies are required to address these intervention questions if they remain relevant subsequent to descriptive epidemiological work [9].

Outcomes can improve such as weight gain, feed velocity, and fluid intake for cleft infants. Additionally, a number of feeding equipment combinations was shown to positively influence growth, particularly weight gain. These were compressible bottles used with orthodontic nipple[11].

When researchers interested in cleft palate evaluate feeding interventions with appropriate methodological rigor, the findings may confidently be used to inform clinical practice. Ideally, feeding interventions should reduce stress experienced by the family and infant, promote growth and development, and facilitate a normal feeding pattern[20].

CONCLUSION

This study describes comparison of two types of feeding obturators:

1. Feeding bottle

2. Feeding obturators, because it affective in overcoming feeding problems associated with cleft palate. Readymade obturator is less feeding time then feeding bottle.

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