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ORIGINAL ARTICLE

INCIDENCE OF DYSPHAGIA IN INDIVIDUALS WITH CLEFT PALATE

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ABSTRACT:

Analyzing the prevalence of digestive disorders in individuals with cleft palates is the objective of this investigation. **Methods:** A cross-sectional study was conducted in Department of Speech and Language Pathology, The Children's Hospital in Lahore for a period of three months. The study encompassed approximately 30 infants with variable degrees of untreated cleft lip and palate. Parental interviews and a swallowing protocol were implemented to evaluate each of these instances. Swallowing disorders are examined in this investigation to determine their prevalence in individuals with cleft palates. **Results:** Out of 30, 28 cases had swallowing disorder in some form while 2 cases were not diagnosed with any form of swallowing disorder. Cough during feeding was present in 10 cases, noisy breath sounds in 11 cases; a history of chest infection was present in 16 cases, drooling was reported in17 cases, regurgitation in 15 cases, choking during feeding was present in 23 cases while 28 of the 30 cases were unable suck during breast feeding. **Conclusion:** This study found that cleft palate predominantly affects males and isn't usually linked to family history. Symptoms such as swallowing difficulties, coughing, drooling, and feeding issues, particularly chest infections, were more prevalent in cases with both cleft lip and palate, while saliva was most prevalent in cases with cleft palate only. **Key Words: Breast-feeding, Cleft lip, Cleft palate, Sucking**

INTRODUCTION:

Swallowing is the process of transporting substances from the mouth to the stomach via the pharynx and esophagus. This procedure is also known as deglutition. (1). A cleft palate is a prevalent congenital anomaly characterized by a fissure or separation in either the soft or hard palate. The palate is a complex structure comprised of bone and muscle, covered by a dense and moist membrane. The palate is the upper surface of the mouth that acts as a barrier between the oral and nasal chambers. Cleft palate is a birth defect marked by the partial fusion failure of the tissues during the maturation of the fetus in the roof of the mouth. Left-handed lip often co-occurs with cleft palate, as both the lip and palate form simultaneously during prenatal development. (2). Furthermore, specific illnesses may manifest with the presence of cleft palate, along with other symptoms. Pierre Robin Sequence is a condition characterized by micrognathia (an unusually small lower jaw), gloss ptosis (the tongue drooping), upper airway blockage, and cleft palate. An etiology of cleft palate is not yet entirely elucidated; however, it is widely hypothesized to arise from a confluence of genetic and environmental influences. (3). Approximately 20% of instances of cleft palate are passed down through genetic inheritance. If one parent is affected by a cleft palate, there is a 2-8% probability that the newborn will also be born with a cleft palate. (4When a cleft palate coexists with a cleft lip, it typically manifests as elongated and slender. Conversely, solitary fissures in the secondary palate manifest as a gap in the shape of a U or V. The main manifestation is characterized by challenges in the process of ingestion and deglutition, in addition to recurrent occurrences of otitis media. (5, 6) During the act of eating, if there is a hole in the palate, food and liquids might move from the mouth into the nose, leading to an inability to suck properly. Babies with a cleft lip on one side face a major obstacle when it comes to nursing, while neonates with cleft lips on both sides may struggle with coordinating their mouth muscles, which might affect their ability to feed. (7). In order to ensure sufficient sustenance for infants with cleft lip and palate (CLP), it is recommended that breastfeeding mothers enhance milk production through breast massage prior to feeding or by using a hand to cover the gap above the cleft lip. A nipple with a wide stem and a substantial cross-section is beneficial for bottle feeding. (8, 9). The Haberman feeder is specifically engineered to accommodate infants with cleft lip and palate. It features an extended nipple that can be compressed to alleviate feeding challenges. (10). It is essential to ensure proper alignment of the baby when feeding, as well as selecting an appropriate nipple and using appropriate procedures. It is recommended that infants with cleft lip and palate be fed in an upright position to ensure that their head and spine are adequately supported. Despite employing many advanced feeding techniques, certain newborns are unable to feed via a nipple. As a result, milk is promptly introduced into their mouth, giving them plenty of chances to consume it. The Lact-aid gadget was specifically created for mothers who desired to exclusively breastfeed. (11, 12). It is recommended to start introducing solid foods to infants when they reach 6 months of age, using the same approach as other infants. Infants with cleft lip and palate should not encounter any difficulties in ingesting liquefied foods with a watery texture when fed with a spoon. Avoid consuming meals with high density as they are more likely to get trapped in narrow spaces. It is recommended to refrain from consuming foods

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that are both adhesive and high in temperature. (12). The purpose of this investigation is to investigate the incidence of dysphagia in patients with cleft palate. The efficient therapy of dysphagia patients with cleft palate would be facilitated.

METHODS:

For a period of three months, cross-sectional research was conducted at the Department of Speech and Language Pathology and Plastic Surgery of the Children's Hospital in Lahore. The study encompassed approximately 30 infants with variable degrees of untreated cleft lip and palate. Parental interviews and a swallowing protocol were implemented to evaluate each of these instances. A self-developed questionnaire with closed-ended questions was used to evaluate them. The data was subsequently analyzed using SPSS 21 to determine the frequencies of various digestive difficulties.

RESULTS:

Table 1: Demographics and Participants

Demographics		Frequency	Percentage
Age range	0-9months	15	
	9-18 months	15	
Family history	Present	2	
	Absent	28	
Type of palate	Cleft lip palate both	11	
	Cleft palate only	11	
	Partial cleft palate	8	
Gender	Male	21	70
	Female	9	30
Diagnosis	Swallowing disorder present	28	93.3
	Swallowing disorder absent	2	6.7

Out of 30, 21(70%) were male while 9(30%) were female. 28 cases had no previous family history of cleft palate while 2 cases had. 11 cases had complete cleft palate only, 11 had both cleft lip and palate while 8 had a partial cleft palate. Out of 30, 28 cases had swallowing disorder in some form while 2 cases were not diagnosed with any form of swallowing disorder. Swallowing disorders in cleft palate were studied using a sample of 30 children of age range from 0-18 months out of which 15 were from age range of 0-9 months while 15 were falling in the age range 9- 18 month. i.e. Table 1

Table 2: Frequency of Swallowing Disorder Symptoms in Cleft Palate

Symptoms	Frequency		Percentage	
	Yes	**No**	**Yes**	**no**
Cough during Feeding	10	20	33.3	67.7
Noisy Breath Sounds	11	19	36.7	63.3
Hx. Of chest infections	16	14	53.3	46.7
Drooling	17	13	56.7	43.3
Regurgitation	15	15	50	50
Choking during Feeding	23	7	76.7	23.3
Breast feeding	2	28	6.7	93.3

Table 2 shows that out of 30, Cough during feeding was present in 10 cases, noisy breath sounds in 11 cases; a history of chest infection was present in 16 cases, drooling was reported in17 cases, regurgitation in 15 cases, choking during feeding was present in 23 cases while 28 of the 30 cases were unable suck during breast feeding.

Table-3: Frequency of Symptoms of Swallowing Disorders in Different Types of palate

Symptoms	Cleft lip &palate	Cleft palate only	Partial cleft palate
choking during feeding	2	4	1
noisy breath sounds	3	7	1
Drooling	7	8	2
Regurgitation	8	5	2
Hx. Of chest infection	10	5	1
Cough during feeding	6	2	2
Breast feeding	0	0	2

Table 3 shows the frequency of different symptoms of swallowing disorder in different type of cleft palate. It was observed that most of the symptoms were prevalent in cases with both cleft lip and palate with the highest frequency of history of chest infection. While cases with partial cleft palate showed relatively few symptoms. Drooling was observed highest in cases with cleft palate only.

DISCUSSION:

The study investigated the feeding and swallowing complications experienced by children with a congenital cleft palate, specifically concentrating on their difficulty in properly sucking and the presence of an aperture in the top region of their oral cavity. They may display symptoms such as increased salivation, regurgitation, suffocation, recurring respiratory infections, or other signs of respiratory distress. Out of the total of thirty patients, twenty-three experienced choking during feeding, while seventeen had issues with drooling. Out of the total sample, fifteen individuals experienced nasal regurgitation, whereas sixteen patients had a chronic history of chest sickness. It was demonstrated that the symptoms were frequently present in cases with both cleft lip and palate, with the highest prevalence being a history of respiratory illness. The symptoms were, in fact, quite minor, despite the presence of partial cleft palate. In a separate study, it was discovered that individuals with a full cleft lip and palate have a significant deficiency in the occurrence of breastfeeding due to their inability to suckle correctly. (13) A different report has confirmed that infants with congenital fissures and a perception of taste experience difficulties with feeding and swallowing due to their limited ability to form a seal with their lips and maintain stability during areolar pull and milk transport. When disorders are present, the process of resolving issues can become more complex. (14) A study that was conducted independently suggested the use of therapy type-P to improve the feeding behavior of neonates diagnosed with cleft lip and palate. (15) An additional investigation revealed that children with smaller clefts had normal amounts of suction and compression during feeding, in contrast to infants with bigger clefts. (16) Cleft palate is the result of a combination of genetic and environmental factors, according to a recent study. The capacity to consume and retain food is contingent upon the palate's elongation and the aperture's width. (17) A recent study has not discovered a significant correlation between the prevalence of nutrition issues and gender, birth weight, or gestational age, in contrast to a previous study. (18)

CONCLUSION:

This study concluded that, Cleft palate mostly present in males. Family history is not cause of cleft palate. Mostly, cases had swallowing disorders, cough, drooling, regurgitation and choking during feeding and also some was unable to suck so that causes chest infection. It was observed that most of the symptoms were prevalent in cases with both cleft lip and palate with the highest frequency of history of chest infection. While cases with partial cleft palate showed relatively few symptoms. Drooling was observed highest in cases with cleft palate only.

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