



Original Article

Assessing YouTube™ as an Educational Resource for Parents on Feeding Plates in Cleft Lip and Palate Care

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ABSTRACT

The rise of electronic media learning has been driven by rapid technological advances, widespread access to the Internet, and the decreasing cost of mobile devices. Cleft lip and palate (CLP) are common congenital conditions affecting the head and neck area. Numerous studies have highlighted the association between orofacial clefts and challenges such as feeding difficulties and weight loss. As a result, initial treatment for these issues often involves the use of feeding plate obturators to assist with swallowing and feeding. Patients and their families often turn to the Internet to find information on medical topics, and YouTube™ is a popular platform. This study aimed to assess the quality of information available on YouTube™ for parents seeking advice about feeding plate obturators for CLP patients. A systematic search was conducted on YouTube™ using keywords such as “Feeding plate in CLP patients” and “obturators for feeding in CLP patients.” The selected videos were evaluated for their usefulness using a 10-point scoring system. It was found that most of the videos were uploaded by healthcare professionals, but the overall usefulness scores were low. Viewer interaction was not significantly associated with the usefulness of the content. The videos lacked comprehensive information on the importance, fabrication, and proper usage of feeding plates. For more effective educational purposes, videos produced by trusted organizations, such as the Association of Pediatric and Preventive Dentistry, provide more complete and reliable guidance on feeding plate obturators.

Keywords: Cleft lip and palate, Children, Education, Obturators, Parents

Introduction

Cleft lip and palate (CLP) are among the most common congenital deformities in the neck and head area. These conditions are linked to various complex factors, including genetic predisposition and environmental influences, with the frequency of occurrence varying across different races, regions, and socioeconomic groups [1]. It is guessed that orofacial clefts affect approximately 1 in 700 live births, with projections indicating an additional 3,200 new cases each year as the global population increases [2].

Orofacial clefts can manifest as unilateral or bilateral, involving the lip, the palate, or both structures [3, 4]. Children affected by CLP often experience significant challenges when feeding, which increases their risk of malnutrition [3, 4]. Research by Wu *et al.* in 2020 indicated that the growth patterns of infants with CL/P under the age of one significantly deviate from those of their healthy peers. This discrepancy is clinically important as effective weight gain is a prerequisite before surgical intervention for CLP. Feeding obturators are critical tools in resolving feeding difficulties by assisting infants with sucking and enabling proper nutrition intake [5].

A study by Naz *et al.* [6] highlighted that many parents remain unaware of feeding plates, which contributes to a delay in seeking treatment for their newborns with CLP. YouTube™ stands out as one of the most widely used platforms, attracting more than two billion views daily, with users spending an average of 15 minutes per day on the site [7]. According to the Health Information National Trends Survey (HINTS), there has been a marked rise

HOW TO CITE THIS ARTICLE: Tirupathi S, Shetty B, Chauhan RS. Assessing YouTube™ as an Educational Resource for Parents on Feeding Plates in Cleft Lip and Palate Care. Turk J Public Health Dent. 2023;3(1):17-21. <https://doi.org/10.51847/EqZ3YUT1tY>

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Received: 10/03/2023
Accepted: 06/06/2023



in the use of the Internet to gather health-related information [8]. Research also indicates that a significant proportion (80%) of internet users turn to social media to access health content [9]. Given this trend, many parents now consider YouTube™ as an accessible starting point for health-related inquiries, and this study aims to assess the quality of the content available on the platform.

Materials and Methods

YouTube™ search

A search was conducted on YouTube™ (www.youtube.com) up until October 2021 for related videos on the use of obturators in the feeding of cleft lip and palate patients. The search was performed using the platform's default settings, and two different search phrases were applied. The first phrase used was “obturators in the feeding of cleft lip and palate,” and the second was “feeding plate in cleft lip and palate patients.” Studies have shown that 95% of YouTube™ users tend to view no more than the first 60 results from their search, and research typically examines between 60 to 200 videos [10]. For this study, we reviewed and evaluated the first 60 videos returned from each search. Links to all selected videos were saved for further examination.

Selection of videos

An initial review was performed to exclude videos in other languages, not English, advertisements, and those focusing on obturators used for adults. Videos without audio or captions, duplicates, and those deemed irrelevant, such as cartoons or music videos, were also omitted.

Video analysis

Each selected video was individually examined. Information such as the video title, upload date, country of origin, view count, and video length was collected. The videos were uploaded by a variety of sources, including universities, professional organizations, healthcare providers, news outlets, health-related websites, and individual users. Viewer engagement was assessed using the interaction index and view rate [11].

$$\text{Interaction index} = \frac{\text{number of likes} - \text{number of dislikes}}{\text{Total number of views}} \times 100 \quad (1)$$

$$\text{Viewing rate} = \frac{\text{number of views}}{\text{Number of days since upload}} \times 100 \quad (2)$$

A 'usefulness rating' was developed to assess the value of videos in providing accurate information regarding the need, proper care, and usage of obturators. The rating scale, 0-10, was divided into four categories: not useful (score of 0), slightly useful (score of 1-3), moderately useful (score of 4-7), and very useful (score of 8-10) as shown in **Table 1**. In cases where there was disagreement among the researchers about the classification or score of a video, the issue was resolved by reviewing relevant literature and having discussions until an agreement was reached.

Table 1. Table representing scoring criteria

Sno	Scoring item	Description	Score
1.	Necessity	If planned, when should they be planned (immediately after birth)	1
		Who is the concerned person? Pediatric Dentist	1
		What frequency it should be changed	1
		How should it be used- only during feeding	1
2.	Use of obturator in infants with cleft palate.	Position	1
		Usage with the feeding bottle	1
		Stabilization during feeding	1
		Methods to check for damage to the oral mucosa	1
3.	Care of obturator	Cleaning and storage of palatal obturator	1
		Check-up of obturator	1
		Time of change of obturator	1

Score 0 = Not Very useful; Score 1–3 = Slightly useful; Score 4–7 = Moderately useful; Score 8–10 = Very useful

Statistical methods

To analyze categorical data, the chi-square test was employed, when the t-test was used for continuous variables. Correlations between variables were assessed using Pearson's test. A P-value of less than 0.05 was considered statistically significant.

Results and Discussion

Demographics of videos

Of the 60 videos initially assessed, 9 were selected for inclusion, with 51 being excluded. Among the selected videos, 6 (66.6%) were uploaded by healthcare providers, and the remaining 3 (33.3%) featured testimonials from parents of patients. The average video length for those related to feeding obturators in CLP patients was 10.14 minutes, with a range from 2.45 to 51.23 minutes and a median length of 5.59 minutes.

Usefulness and viewer engagement

The mean interaction index score was 0.72 ± 0.6 , ranging from 0.22–2.46%, with the median score at 0.44%. The average usefulness rating of the videos was 1.88 ± 1.3 , with values between 0 and 4. No significant relationships were found between video characteristics—such as viewing rate ($r = 0.12$, $P > 0.05$), interaction index score ($r = 0.043$, $P > 0.05$), or duration ($r = 0.26$, $P > 0.05$)—and the usefulness ratings.

A descriptive analysis of the data is presented in **Table 2**.

Table 2. Descriptive analysis of the data

Descriptive analysis					
Characteristics	N	Mean	Standard deviation	Median	Range
Usefulness score	9	1.88	1.36	2.00	0.00-4.00
Interaction index	9	0.727	0.692	0.440	0.22-2.46
Viewing rate	9	2480	2035	2496	301-6666
Length of time (in min)	9	10.14	15.49	5.59	2.45-51.23

Table 3 shows the correlation between the variables.

Table 3. Table showing the correlation between the variable

Pearson's correlation test		
Characteristics	R-value	Significance
Usefulness score	0.238	0.48
Interaction index	0.043	0.91
Viewing rate	0.126	0.74
Length of time	0.262	0.49

Children with palate and cleft lip, along with their parents, encounter several difficulties, with nutritional concerns being among the most significant. If the tongue is unable to create a proper seal against the palate due to the cleft, it affects the swallowing mechanism, leading to various complications. To manage these issues, a team including the child, dental surgeon, and parent collaborates under the Palliative Pedodontics specialty.

The first feeding challenges these children to experience include choking, vomiting, inefficiency in sucking, extended feeding times, and nasal regurgitation. These problems are often the result of food or liquid passing through the cleft or the inability of the palate to form a seal during feeding [12]. Traditional feeding techniques such as breastfeeding, bottle feeding, and spoon or cup feeding are commonly used [13]. Nasogastric tubing is another method that prevents fluids from entering the cleft; however, it carries risks such as potential perforation, internal injury, bleeding, discomfort, bacterial infection, and the loss of the sucking reflex [14]. A widely used solution for covering the cleft during feeding is the obturator or nasopalveolar molding. These devices help the infant feed by creating a seal between the oral and nasal cavities [15].

Platforms like YouTube™ serve as popular media-sharing websites, offering diverse social networking features for sharing, watching, and embedding digital content. These platforms also incorporate profile pages, comments, connections, and private messaging, making them user-friendly and accessible. They offer free basic accounts and can be known on both mobile devices and desktops or computers.

In the field of dentistry, media-sharing platforms can be valuable tools for education, fostering community engagement, and promoting marketing and branding efforts. YouTube™, as an accessed video-sharing platform has been the subject of several studies across various medical topics. However, there is limited research focused on dental-related content, such as hygiene of oral, root canal therapy, orthodontics, and oral habits [16]. To the best of our knowledge, this study represents the first attempt to evaluate the educational quality of YouTube™ videos for parents of cleft lip and palate patients regarding the use of feeding plates.

The results revealed that the average length of the selected videos was 10.14 minutes, with an average interaction index score of 0.72%. The overall usefulness score was 1.88, which suggests that the videos offered only a modest level of helpfulness based on the established criteria. Of the 9 videos analyzed, six (66.6%) were uploaded by doctors, while the remaining three (33.3%) were testimonials from parents of patients. Interestingly, there was no significant correlation between the usefulness scores and any of the videos, including the number of views, interaction index score, or video length ($r = 0.11$, $P > 0.05$). No video received the highest possible usefulness score of 10. Additionally, the video with the highest view count, which was a parent's testimonial, only achieved a usefulness score of 2, indicating that its content provided minimal benefit.

The analysis of YouTube™ videos related to the use of obturators in cleft lip and palate patients revealed a lack of quality content. None of the videos reviewed provided useful information, and there were no valuable resources available for viewers. Consequently, patients searching for information on YouTube™ about feeding plates for cleft lip and palate patients may encounter challenges in finding reliable, informative videos to guide their decisions about the content's credibility and usefulness.

Similar to previous research on YouTube™ videos addressing oral health topics, this study was limited by the ever-evolving nature of YouTube™ content, where new videos are uploaded while others are removed daily. Therefore, the findings of this study are dependent on the timing of the search. Long-term or more dynamic research approaches could be better in identifying relevant and informative videos on this platform.

Conclusion

The analysis of the study revealed that the most popular videos about obturators for CLP patients lack comprehensive details about their significance, creation, and proper usage. Videos originating from trustworthy and credible sources, such as respected national and global pediatric and preventive dentistry organizations, would offer more valuable and thorough information on feeding plate obturators.

Acknowledgments: None

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

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