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YouTube as a Source for Arabic-Speaking Parent Education on the Oral Hygiene of Children: A Social Media Content Analysis

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ABSTRACT

Introduction: Much primary prevention in public health dentistry depends on parents' having accurate knowledge about pediatric oral health. In areas with minimal education levels and few oral health professionals, information on this topic is available from the widespread use of the social medial resource YouTube. This study assessed the quality and viewer engagement of YouTube Arabic videos on pediatric oral health practices.

Methods: Using standard procedures to search YouTube, we identified Arabic-language pediatric oral health videos. A social media content analysis was conducted and videos analyzed for viewer engagement metrics, country of origin, and creator occupation. The DISCERN instrument was used to evaluate video quality, reliability, and information quality; statistical correlations were examined between these parameters and video statistics.

Results: A majority of the 47 videos that were identified originated from Egypt and were created by pediatric dentists, attracting an average of 13,328.7 views and 218.7 likes. Quality assessment found 61.7% of videos with moderate quality; 63.8% had only medium levels of reliability (63.8%) and 63.8% medium information quality (63.8%); only a minor segment achieving high reliability and information quality. Correlation analysis revealed a positive but weak association between DISCERN scores and viewer engagement metrics (e.g., likes, comments, views), suggesting that while better quality videos tend to engage more viewers, other factors also contribute to engagement. Additionally, a stronger correlation was noted between the overall quality of videos and both information quality and reliability, indicating that videos with higher-quality content were perceived as more reliable and informative by viewers.

Conclusion: While a significant volume of pediatric oral health content is available online, variability in quality highlights the need for stringent evidence-based standards to ensure the provision of reliable, quality educational materials.

1 | Introduction

Dental caries is one of the most prevalent oral diseases of childhood in both developed and developing countries (Peres et al. 2019). The consequences of this oral disease include an increased risk of new caries lesions in both the primary and permanent dentitions, increased hospitalizations and emergency room visits, reduced oral health-related quality of life (American Academy of Pediatric Dentistry 2022), economic burden and high treatment costs (Casamassimo et al. 2009), and poor school performance and attendance (Rebelo et al. 2019). Although dental caries is a preventable oral disease with the availability of basic preventive measures, high rates continue to negatively affect populations and healthcare systems, particularly in developing countries (Loy et al. 2021; Elamin et al. 2021). For children in the Middle East and North Africa (MENA), common determinants have been identified as low maternal education, risky infant feeding practices, low parental involvement, low socioeconomic status, decreased frequency of tooth brushing, poor oral habits, and sugar consumption (Elamin et al. 2021).

Conflicting results suggest that dental caries is decreasing in developed countries and increasing in developing countries; however, a systematic review published in 2015 clarified that the prevalence and incidence of untreated caries remained unchanged in all regions of the world over the 20 years studied (Kassebaum et al. 2015), with a more recent systematic review reporting a global prevalence of early childhood caries of 48% (Uribe et al. 2021). The caries prevalence in MENA had wide variation, ranging from 17.2% to 88.8% (Elamin et al. 2021).

Although dental caries is a preventable disease, the World Health Organization reported that the reduction of oral disease risks is only possible if services are oriented toward primary health care and prevention (Petersen 2003). Preventive dentistry is a fundamental pillar of pediatric dental care and public health practice (Aksoy and Topsakal 2022). The American Academy of Pediatric Dentistry (AAPD) has emphasized the importance of preventive strategies, including early dental visits and the establishment of a dental home, fluoride application, development of healthy dietary habits, pit and fissure sealants, and oral hygiene instructions that involve the parent and the child patient. While initially, oral hygiene is the responsibility of the parent, as the child develops, home care can be performed jointly by the parent and child (American Academy of Pediatric Dentistry 2018). Active support of dental care by parents and the application of preventive measures at home help to improve the dental health of children (Pieper et al. 2012). The oral health behaviors of parents have a direct influence on children's oral health and the number of decayed teeth (Okada et al. 2002). Parents who have a higher educational background have more favorable oral health knowledge than those of other parents, and their children have better oral hygiene behaviors (Chen et al. 2020). The lack of parents' knowledge about oral hygiene is an important reason for high caries prevalence (Duman 2020).

While healthcare practitioners are an important source of health information, unfortunately, up to 80% of physicians' educational teachings are forgotten immediately (Kessels 2003). To make teachings occur at a time convenient to behaviors, parents frequently use the internet to seek health information and have a better understanding of medical conditions (Smyth et al. 2020; Chen et al. 2022). Social media, an internet-based modality for interpersonal health communication, allows the creation of different contents, communicating, sharing, and approval or disapproval of users' contents (Okagbue et al. 2020). The observable growth of various social media platforms has a significant impact on the delivery of education due to their ability to overcome the physical barriers that traditionally hinder access to healthcare resources (Chen et al. 2022; Buyuk et al. 2020; Knösel et al. 2011). YouTube, a website developed to enable video uploading and sharing, was established in 2005. The site's easy access and free online platform have made it the world's second most popular internet website after Google, with almost 5 billion videos watched per day (History of Youtube). In the MENA region, YouTube has a strong presence, with a significant proportion of internet users accessing online video content. For instance, 68% of internet users in Egypt, 71% in the UAE, and 75% in Qatar engage with online video platforms (Online Video Consumption Trends Middle East—Statistics and Trends). In Saudi Arabia, 70% of smartphone users watch videos on social networking websites at least once a week, highlighting the widespread consumption of video content in the region. Additionally, 75% of UAE respondents reported daily video consumption on smartphones, with 79% favoring short-form videos under 10 min (Online Video Consumption Trends Middle East—Statistics and Trends). These statistics emphasize the growing preference for mobile video consumption in the region.

YouTube has been identified as an effective educational tool to disseminate both general and dental health information. The site's capacity to provide information to large numbers of people, especially during the COVID-19 pandemic, has been especially important (Loy et al. 2021; Aksoy and Topsakal 2022). However, one of the challenges of using YouTube as an educational source is the fact that many of the videos are anecdotal and generally unregulated. Content may contain inaccurate, unreliable, or misleading information, with one review identifying 65% of medical videos as containing misleading information (Nason et al. 2016; Okagbue et al. 2020).

The credibility of health information is important, as users are more likely to believe health information created or published by physicians or by well-known medical organizations that create reliable evidence-based information (Okagbue et al. 2020; Dutta-Bergman 2003). However, the YouTube algorithm ranks popular content based on social interactions through likes/dislikes and comments, which are less frequently found in hospital/educational videos; this structure makes such content appear low in the ranked list (Karlsen et al. 2014). The videos also generally lack updates and reviews, which affect content's quality over time (Okagbue et al. 2020).

Several studies have investigated the quality of information in YouTube videos related to oral health, such as early childhood caries, teeth whitening, and root canal treatment (Buyuk et al. 2020; Nason et al. 2016; ElKarmi et al. 2017). A recent systematic review compared oral health educational videos with written patient information for parents or children and found mixed results. Two studies found no statistical significance in knowledge gain, oral health behavior changes, and plaque score improvements between groups, while a third showed significant

improvements in plaque and bleeding scores for both leaflet written instructions and video groups compared to controls (Loy et al. 2021). A fourth English-language prospective cohort pilot study found that videos were an effective method of improving overall oral hygiene knowledge in older children (ages 7–8 years) compared to younger children (ages 6–7 years) at 2 weeks, after watching a peer-led oral hygiene education video (Yeo et al. 2020). Two previous English-language studies analyzing YouTube content related to pediatric oral hygiene instructions found them to be helpful and educational for viewers (Aksoy and Topsakal 2022; Duman 2020).

To date, no study has been conducted to analyze YouTube content related to oral hygiene for children in the Arabic language, a potential population of XX children under the age of something in YY countries. Information about accurate and easily accessible YouTube videos on this topic can provide public health nurses with an important educational resource when working with parents of young children. Therefore, the aim of this study was to conduct an analysis of popular YouTube content targeting Arabic-speaking parents seeking guidance on oral hygiene for Arab children. The objectives were to assess the quality, reliability, and viewer engagement of Arabic-language YouTube videos on pediatric oral health practices, analyze correlations between quality and engagement, and provide recommendations to enhance their effectiveness for Arabic-speaking parents.

2 | Methods

2.1 | YouTube Search Procedures

In December 2023, a search for YouTube videos was carried out using the terms 'child tooth brushing,' 'children's oral hygiene,' 'dental hygiene child,' and 'teeth cleaning for child.' Of note is the fact that previous studies have indicated that, when conducting an online search on YouTube, there is a higher probability of exclusively watching videos among the first 60 video results of the sought terms (Gimenez-Perez et al. 2020; Sampson et al. 2013; Karlsen et al. 2013; Loeb et al. 2019; Enver et al. 2020; Malik et al. 2019; Meng et al. 2019). For this study, modifications were made to the YouTube settings to rank videos from the most viewed to the least viewed, and the top 100 highest-rated videos were selected from the outcome of the search. Each search term was entered individually, and consequently, for every search term, we reviewed and assessed the first 100 videos. The exclusion criteria were videos in languages other than Arabic, those deemed irrelevant, videos lacking sound or headings, duplicates, content associated with cartoons, videos accompanied by a musical background, commercials, videos lacking informational content, or those exceeding a duration of 15 min. The search closely adhered to the 2016 methodology described by (Nason et al. 2016). The stages in Figure 1 guided the screening process of these videos.

The search was conducted in incognito mode to avoid personalized results. Data were recorded and downloaded into an Excel table for analysis. Both the search and data collection were completed on the same day to ensure consistency.

2.2 | Video Sources

Three dental professionals conducted independent evaluations of the remaining videos using a blinded review approach. They collected descriptive information about each video, including its link, title, country of origin, upload date, duration, view count, comments, likes, and dislikes, as part of their analysis. The evaluators categorized the speakers into pediatric dentist, general dentist, other dental specialties, dental hygienists, dental technician, doctor, influencers, unknown, and others. They also classified the videos into two main categories: educational and experiential, and identified the source of each video using classifications of profit organization, non-profit organization, individual user, TV channel, and radio station. Discrepancies or disagreements that arose among the evaluators were resolved through discussion. Reviewers assessed the accuracy and reliability of the oral health information in the videos with the DISCERN tool (Charnock 1998; Charnock and Shepperd 2004), which was designed to assist both healthcare professionals and the general public in evaluating the quality and credibility of health-related information available on the Internet.

The evaluators, fluent in Arabic and proficient in diverse dialects, accounted for potential challenges posed by dialectal variations. The analysis focused on universally understood aspects of video content, such as accuracy, reliability, and alignment with evidence-based oral health practices, rather than colloquial language or regional expressions. Regular discussions among evaluators ensured consistency and mitigated any potential inconsistencies arising from linguistic differences.

2.3 | DISCERN Tool

DISCERN comprises a standardized questionnaire featuring 16 items that are rated on a Likert scale ranging from 1 to 5. A rating of 1 signifies a definite "NO," while 5 indicates a definite "YES." Intermediate ratings of 2, 3, or 4 suggest the presence of certain elements specified in the question to varying degrees. Items are divided into three sections:

Section 1 (questions 1–8) focuses on assessing the *reliability*, *trustworthiness*, and dependability of a website; Section 2 (questions 9–15) addresses the *quality of the information* provided; Section 3 (question 16) appraises the *overall quality* rating of the online media using a continuous rating scale. Ratings ranging from 1 to 2 indicate a video of low quality with "serious shortcomings," while a rating of 3 signifies a video of moderate quality with "certain limitations". Ratings of 4 to 5 indicate a video of high quality or one that serves as a 'useful source.' The cumulative scores for all 16 questions were computed. The DISCERN tool includes three predefined thresholds that define different levels of video quality, with possible scores ranging from a minimum of 16 to a maximum of 80. Videos are classified as low quality if they score between 16 and 37.6, medium quality falls within the range of 37.7 to 58.9, and high quality encompasses scores between 59 and 80.

Video *reliability* was determined by calculating the average of the first eight questions (1 to 8), while questions 9 to 15 were averaged to assess the *quality* of the information. To mitigate bias, each video underwent evaluation by three subject matter

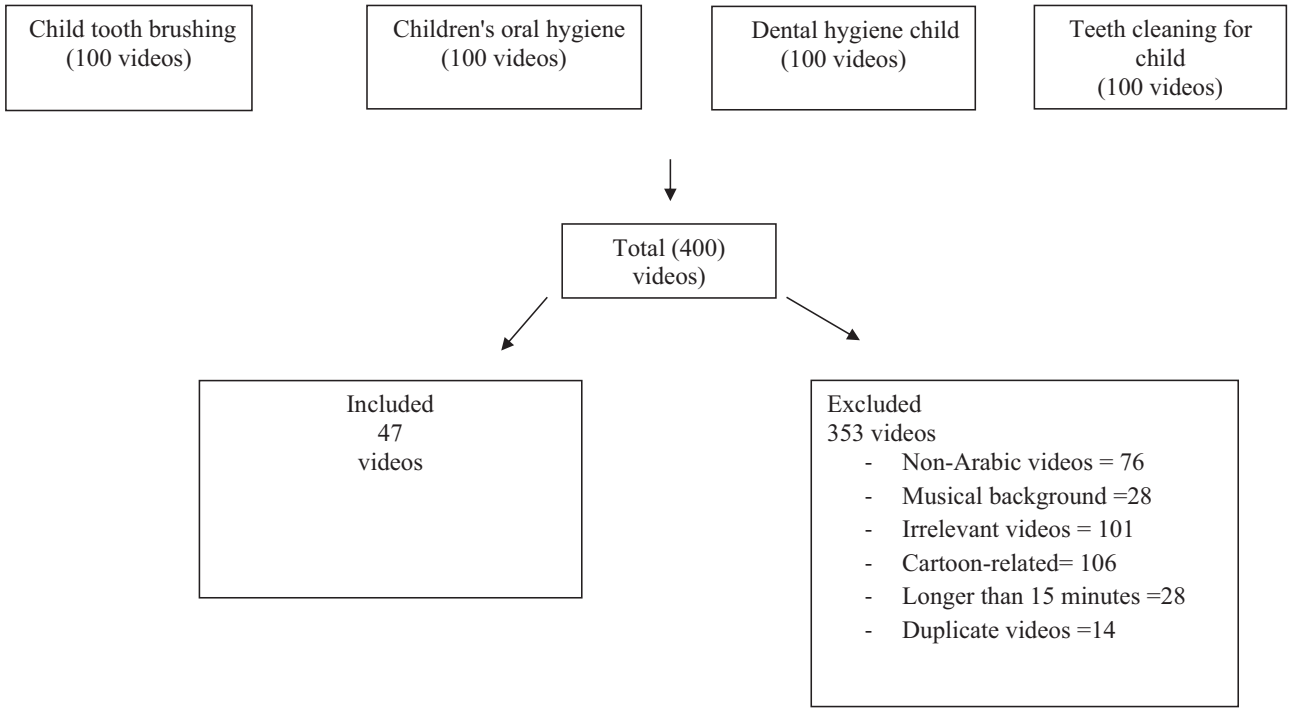

FIGURE 1 | Detailed workflow diagram.

experts employing a blinded review approach. The average of their evaluations was computed using Excel.

2.4 | Statistical Analysis

The data underwent statistical analysis using the Statistical Package IBM-SPSS. Video characteristics such as view count, duration in minutes, comment count, like count, and dislike count were presented as mean ± standard deviation (SD), along with minimum and maximum counts. The normality of the data distribution was assessed utilizing the Kolmogorov–Smirnov test. Associations between the categorical data of speaker category, message type, information source, and video quality were investigated using the DISCERN tool through X^2 tests. To analyze the correlation between quality assessment variables (evaluated using the DISCERN tool) and video characteristics, Spearman's rho was employed, as the data did not exhibit a normal distribution. Statistical significance was defined at a p value of less than 0.05.

2.5 | Ethics Approval

The study's observational nature, utilization of publicly available data on YouTube, and lack of human subjects meant that IRB was not acquired.

3 | Results

A total of 47 videos discussing pediatric oral health topics were included for evaluation in this study. The videos had an average number of views 13,328.7 (±32,330.6 SD), an average number of comments 22.6 (±68.7 SD), and an average number of likes 218.7 (± 576.7 SD); the maximum number of likes reported was 2800. The average length of videos was 6:44 min (±4:29 SD, range 0.34 s-16.28 min) (Table 1).

TABLE 1 | Descriptive statistics for videos included in the current study ($n = 47$).

Video statistics	$M \pm$ SD	Range (min., max.)
Number of views	13,328.7 ± 32,330.6	(25, 192,000)
Number of comments	22.6 ± 68.7	(0, 349)
Number of likes	218.7 ± 576.7	(0, 2800)
Number of dislikes	0	—
Length time of the video (*mm:ss*)	6:44 ± 4:29	(0:34, 16.28)

Videos were uploaded from a total of 12 countries. Egypt had the highest share of evaluated videos ($n = 28/59.6\%$), followed by the Kingdom of Saudi Arabia with ($n = 6/12.8\%$), then the other 10 countries from the Arab region share the remaining percentage (Figure 2).

Table 2 shows the distribution of evaluated video clips in terms of speaker's occupation, topic, and source from which videos were found. More than one-third of the videos were created by pediatric dentists ($n = 18/38.3\%$), followed by general dentists ($n = 14/29.8\%$). All evaluated video clips were classified as educational type videos, with more than half created by individual users ($n = 27/57.4\%$), followed by TV channels ($n = 11/23.4\%$), and non-profit organizations ($n = 5/10.6\%$).

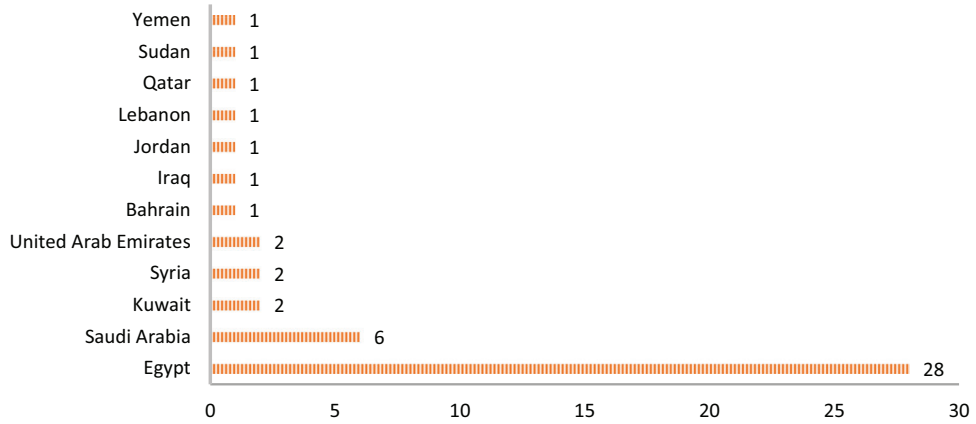

FIGURE 2 | Distribution of videos under study according to country of origin ($n = 47$). [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 2 | Distribution of video details according to speaker's occupation, video type, and source ($n = 47$).

Video details	*n* (%)
Speaker's occupation	
Pediatric dentist	18 (38.3%)
General dentist	14 (29.8%)
Doctor	4 (8.6%)
Unknown	4 (8.6%)
Dental hygienist	2 (4.3%)
Dental technician	1 (2.1%)
Influencer	1 (2.1%)
Other dental specialties (orthodontist)	1 (2.1%)
Others, pharmacists	1 (2.1%)
Others, children's education specialist	1 (2.1%)
Video type	
Educational	47 (100.0%)
experiential	0
Video source	
Individual user	27 (57.4%)
TV channel	11 (23.4%)
Non-profit organization	5 (10.6%)
Profit organization	3 (6.4%)
Radio station	1 (2.1%)

Table 3 summarizes the *quality* assessment of the evaluated videos by speaker's occupation ($n = 47$); based on the *total* score, 61.7% had moderate quality and 10.6% had high quality. In terms of *reliability*, 63.8% of had low levels and only 4.3% had high levels. In terms of *information quality*, 63.8% had low scores and 8.5% had high scores. More than two-thirds of videos (70.2%) had low and 4.3% had high *overall quality* level. The videos *reliability* assessment and videos *overall quality* assessment were statistically significant ($p = 0.014, 0.005$).

In the 18 videos created by pediatric dentists, 55.6% of the videos had moderate and 11.1% had high *quality* based on the video's *total* score; 66.7% of these videos had low and 5.5% had high *reliability* levels; 66.7% had low and 11.1% high *information quality* levels; more than two-thirds (72.2%) of the videos evaluated low and 5.6% had high *overall quality* levels.

Table 4 summarizes the quality assessment of the evaluated videos using DISCERN instrument according to the video's source ($n = 47$). Results show that 59.3% of the videos assessed with moderate quality based on the *total* score for videos created by individual users, while 18.5% of the videos were evaluated as high quality. In terms of *reliability*, 51.9% of videos were evaluated with low levels for videos created by individual users compared to 7.4% evaluated with high levels. In addition, for videos created by individual users, 48.2% had low information compared to 14.8% evaluated with high *information quality* levels; these videos had 55.6% evaluated with low compared to 7.4% evaluated with high *overall quality* levels.

There were no statistically significant differences found in videos' *quality assessment total* score, *reliability*, *information quality*, and *overall quality assessment* between different video sources.

Table 5 summarizes the results of Spearman's rho correlation coefficients between the quality assessment variables using DISCERN instrument and video statistics ($n = 47$) at significance level of (0.05). Results show that the total score of DISCERN instrument for evaluated videos was statistically positively correlated with the length "time" of the video with $r = 0.397$, $p < 0.01$, the number of views with $r = 0.308$, $p < 0.05$, and the number of likes with $r = 0.376$, $p < 0.01$. In terms of association strength, the relationship between the total score and the three mentioned video statistics classified as low.

The overall *quality* variable was statistically positively correlated with videos' *information quality* with $r = 0.789$, $p < 0.01$, and *reliability* with $r = 0.618$, $p < 0.01$. In terms of association strength, the relationship between the videos' *overall quality* and *information quality* classified as high, while the relationship between *overall quality* and *reliability* classified as moderate.

TABLE 3 | Quality assessment of the videos using DISCERN instrument according to the speaker's occupation ($n = 47$).

Variable	Total score			Reliability			Information quality			Overall quality		
	L (%)	*M* (%)	*H* (%)	*L* (%)	*M* (%)	*H* (%)	*L* (%)	*M* (%)	*H* (%)	*L* (%)	*M* (%)	*H* (%)
Speaker (overall)	13 (27.7)	29 (61.7)	5 (10.6)	30 (63.8)	15 (31.9)	2 (4.3)	30 (63.8)	13 (27.7)	4 (8.5)	33 (70.2)	12 (25.5)	2 (4.3)
Dental hygienist	1 (50)	1 (50)	0 (0)	2 (100)	0 (0)	0 (0)	1 (50)	1 (50)	0 (0)	2 (100)	0 (0)	0 (0)
Dental technician	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)
Doctor	0 (0)	4 (100)	0 (0)	1 (25)	3 (75)	0 (0)	2 (50)	2 (50)	0 (0)	1 (25)	3 (75)	0 (0)
General dentist	3 (21.4)	10 (71.4)	1 (7.2)	10 (71.4)	4 (28.6)	0 (0)	10 (71.4)	3 (21.4)	1 (7.2)	12 (85.7)	2 (14.3)	0 (0)
Influencer	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)
Orthodontist	0 (0)	0 (0)	1 (100)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	1 (100)	0 (0)
Others[a]	0 (0)	1 (100)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)
Pediatric dentist	6 (33.3)	10 (55.6)	2 (11.1)	12 (66.7)	5 (27.8)	1 (5.5)	12 (66.7)	4 (22.2)	2 (11.1)	13 (72.2)	4 (22.2)	1 (5.6)
Pharmacists	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	1 (100)
Unknown	2 (50)	2 (50)	0 (0)	3 (75)	1 (25)	0 (0)	3 (75)	1 (25)	0 (0)	3 (75)	1 (25)	0 (0)
p value[b]		0.102			0.014			0.331			0.005	

[a]Children's education specialist.
[b]Chi-Square test, significance level (0.05).

TABLE 4 | Quality assessment of the videos using DISCERN instrument according to the video source ($n = 47$).

Variable	Total score			Reliability			Information quality			Overall quality		
	L (%)	*M* (%)	*H* (%)	*L* (%)	*M* (%)	*H* (%)	*L* (%)	*M* (%)	*H* (%)	*L* (%)	*M* (%)	*H* (%)
Video source (overall)	13 (27.7)	29 (61.7)	5 (10.6)	30 (63.8)	15 (31.9)	2 (4.3)	30 (63.8)	13 (27.7)	4 (8.5)	33 (70.2)	12 (25.5)	2 (4.3)
Individual user	6 (22.2)	16 (59.3)	5 (18.5)	14 (51.9)	11 (40.7)	2 (7.4)	13 (48.2)	10 (37)	4 (14.8)	1 (55.6)	10 (37)	2 (7.4)
Non-profit organization	3 (60)	2 (40)	0 (0)	4 (80)	1 (20)	0 (0)	5 (100)	0 (0)	0 (0)	5 (100)	0 (0)	0 (0)
Profit organization	2 (66.7)	1 (33.3)	0 (0)	2 (66.7)	1 (33.3)	0 (0)	2 (66.7)	1 (33.3)	0 (0)	2 (66.7)	1 (33.3)	0 (0)
Radio station	0 (0)	1 (100)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)
TV channel	2 (18.2)	9 (81.8)	0 (0)	9 (81.8)	2 (18.2)	0 (0)	9 (81.8)	2 (18.2)	0 (0)	10 (90.9)	1 (9.1)	0 (0)
p value[a]		0.270			0.767			0.368			0.442	

[a]Chi-Square test, significance level (0.05).

TABLE 5 | Spearman's Rho correlation coefficients between quality assessment variables using DISCERN instrument and video statistics ($n = 47$).

Variable	1. Length time of the video	2. Number of views	3. Number of comments	4. Number of likes	5. Reliability classification	6. Information quality classification	7. Overall quality classification	8. Total score class
1	1.000	−0.009	−0.083	0.006	0.127	0.463[a]	0.459[a]	0.397[a]
2		1.000	0.625[a]	0.831[a]	0.400[a]	0.299[b]	0.396[a]	0.308[b]
3			1.000	0.748[a]	0.282	0.206	0.293[b]	0.186
4				1.000	0.473[a]	0.373[a]	0.461[a]	0.376[a]
5					1.000	0.429[a]	0.618[a]	0.531[a]
6						1.000	0.789[a]	0.634[a]
7							1.000	0.582[a]
8								1.000

[a]Correlation is significant at the 0.01 level,.
[b]Correlation is significant at the 0.05 level.

4 | Discussion

This study assessed the quality of 47 educational videos covering primary prevention of pediatric oral health care topics. The videos predominantly originated from Egypt, accounting for nearly 60% of the total content, followed by Saudi Arabia at almost 13%. When analyzing the creators of the content, pediatric dentists were the primary source of these videos, followed by general dentists, with individual users responsible for the largest portion of video creation.

Quality assessments of the videos using the DISCERN instrument revealed a mixed picture. While a majority (61.7%) were deemed of moderate quality, only a small fraction (10.6%) reached the high-quality threshold. The rest fell into lower quality brackets, with the majority evaluated as having low reliability and information quality. Over two-thirds of the videos were judged to have low overall quality. These findings resonate with a broader concern identified in the literature regarding the quality of oral health information available online. Previous studies (Olkun et al. 2019; Patel and Cobourne 2011; Parekh and Gill 2014; McMorrow and Millett 2016; Livas et al. 2013; Verhoef et al. 2015) across various domains of dental health information on the internet have similarly reported findings of poor to moderate quality using different assessment tools. This consistency across studies highlights a pervasive challenge that patients face in accessing reliable health information online. This challenge is mainly due to the difficulty in distinguishing quality content from misinformation. The use of established evaluation tools such as DISCERN has been suggested to assist professionals in directing patients toward more accurate resources (McMorrow and Millett 2016; Aldairy et al. 2012).

The study's finding of significant differences in the reliability and overall quality of pediatric oral health videos highlights inconsistencies that could influence patient education and decision-making. Despite this, the content creators were not significantly associated with the quality assessments. This finding aligns with the results of health educational videos reported in (Benajiba et al. 2023), where the quality of online health information varied and was not necessarily linked to the credibility of the source, whether individual creators, non-profits, or for-profit entities. While the professionalism of the content presenter might impact perceived quality, it does not consistently translate into more reliable or higher-quality information. As healthcare professionals increasingly use the internet to disseminate information, the lack of significant associations between video quality and the presenter's profession or video source underscores the need for established guidelines to ensure the provision of high-quality, evidence-based health information online. The broad range of quality noted in the study echoes the mixed findings of previous content analyses and highlights the urgent need for clear standards in the digital communication of health information (Benajiba et al. 2023). In this regard, adherence to established frameworks, such as the Australian National Digital Health Strategy (2021) and the WHO Global Strategy on Digital Health (2020–2025) (World Health Organization 2020), will be crucial in enhancing the quality and trustworthiness of digital health content. These strategies emphasize creating safe, secure, and evidence-based digital health environments, which are vital for improving the quality of online health information.

The study's exploration of the relationship between video statistics and quality scores revealed a positive yet weak correlation between the videos' DISCERN total score and their length, views, and likes. This suggests that while longer, more-viewed, and liked videos tend to have slightly higher quality scores, these metrics are not strong indicators of content quality. This observation aligns with the findings of Ozsoy-Unubol and Alanbay-Yagci (2021), who also reported a positive association between video duration and quality scores. Similarly, Kharbat and Abu Daabes (2021) found that some highly viewed and liked videos on herbal cancer treatments were actually low in quality. Additionally, research by Narain et al. (2023) highlighted that misleading videos could attract higher engagement, potentially due to sensational content, despite lacking trustworthiness. This pattern raises concerns about viewer discernment and the appeal of non-evidence–based information.

In terms of the content's perceived quality, a stronger correlation was noted between the videos' overall quality and their information quality and reliability. This indicates that videos offering reliable and accurate information are generally perceived as higher quality. However, the findings of Krakowiak et al. (2021) suggest that the most engaging videos did not necessarily provide high-quality educational content, highlighting a disconnect between what is popular and what is pedagogically valuable.

Given the significant variability in the quality of online health information, this study provides valuable insights into the importance of developing and adhering to evidence-based standards for educational content on social media platforms. Although the videos evaluated provide a starting point for online health education, there is a clear need for better regulation and guidelines to ensure the dissemination of accurate and reliable information. Health educators, including public health nurses, can use these findings to better understand the challenges parents face when seeking trustworthy health content online, and this can guide the creation of improved educational materials. Additionally, studies such as Rathnayaka Mudiyanselage et al., which evaluated YouTube videos on brain, head, and neck cancer, further support the need for consistent standards in evaluating health-related content on YouTube (Mudiyanselage et al. 2024).

While this paper successfully achieved its research objectives by analyzing YouTube as a source for Arabic-speaking parent education on children's oral hygiene, several limitations were present. First, this study focused on Arabic-language videos, which limits the generalizability of the findings to other languages and regions. The language constraint may hinder a broader understanding of global educational resources on pediatric oral health. Additionally, as new videos are continuously uploaded, the landscape of online pediatric oral health content is constantly evolving. Thus, the findings represent a snapshot that may not capture ongoing changes in content quality. A longitudinal assessment would provide a more comprehensive understanding of trends and developments in online educational resources.

Another limitation is the subjective nature of the DISCERN instrument, which could introduce potential biases in evaluating video quality and information reliability. The absence of user perspectives and a comparison group further limits the study's ability to assess the overall effectiveness of YouTube as an educational

resource. Despite these limitations, the study underscores the importance of continuing to improve the quality of online health education.

5 | Conclusion

The assessment of pediatric oral health care Arabic videos revealed a prevalent issue of moderate to low-quality information availability. The professional background of content creators showed no direct correlation to the informational quality of the videos. This emphasizes that professional expertise alone does not guarantee the production of high-quality educational content online.

A recommendation from the findings is the need to develop universal standards for online health information, encouraging professionals to collaborate in creating accurate and engaging content, and educating the public on evaluating the reliability of such information. Traditional metrics of engagement like views and likes are not indicative of content quality, suggesting that quality assurance should not be solely based on popularity. Likewise, findings suggest the need for continuous monitoring of online health information and proactive measures to promote credible sources. Innovative and trustworthy content creation should be paired with initiatives aimed at enhancing public health literacy. This approach will help combat misinformation and ensure that individuals can make informed decisions regarding their health.

Public health nurses recognize the vast potential of the internet as an educational tool. However, benefits of this tool for all health professionals can only be fully realized through concerted efforts to improve the quality of health education materials available. Such efforts would lead to a more informed public, equipped with the knowledge to make sound health decisions.

Author Contributions

Maram Ali M. Alwadi and Basil H. Aboul-Enein conceptualized the study, formulated the research question, and designed the data collection tool. Maram Ali M. Alwadi, AlBandary Hassan AlJameel, Munirah Mohammed A. Alaskar, Saleha Ali Alzahrani, Fatmah Almoayad, and Basil H. Aboul-Enein conducted data analysis, design of the study, and carried out data analysis, wrote up and drafted the manuscript. Maram Ali M. Alwadi, AlBandary Hassan AlJameel, Munirah Mohammed A. Alaskar, Saleha Ali Alzahrani, Fatmah Almoayad, Basil H. Aboul-Enein, and Patricia J. Kelly participated in the supervision of data collection, data analysis, writing up, and reviewing the manuscript. All authors read and approved the final version of the manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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