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Evaluating the Quality of YouTube Videos on Dental Implants: A Methodological Approach

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Abstract

Background: Patients frequently use the internet and video-sharing platforms to obtain health-related information. YouTube is a commonly preferred tool for patient education because of its audiovisual format, accessibility, and lack of subscription requirements. Patients awareness of dental implants is crucial, and knowledge gaps are common. This study aimed to evaluate the quality of Turkish YouTube videos on dental implants and to assess their potential usefulness as educational tools for patients.

Methods: Using the keyword "diş implantı" (dental implant), identified via Google Trends as the most searched term by the public, a search was conducted on YouTube on May 1, 2025. Of the first 200 videos listed, 58 met the inclusion criteria and were analyzed. The videos were evaluated using a usefulness score (0–9) and the Global Quality Scale (GQS, 1–5). The observer scored each video based on 9 content domains. Statistical analyses were performed using the Kruskal–Wallis tests, one-way ANOVA, and Spearman correlation ($P < .05$).

Results: The mean usefulness score was 3.28 ± 1.68, and the mean GQS was 2.48 ± 0.89. Of all the videos, 48.3% were rated as moderate, 39.7% as poor, and only 12% as good. TV channel videos had the highest usefulness scores. A strong and positive correlation was observed between usefulness scores and GQS ($r_s = 0.712$, $P < .001$).

Conclusion: The overall quality of YouTube videos on dental implants was moderate. To improve patient awareness, the number of high-quality videos prepared by dental professionals should increase.

Keywords: Dental implants, patient education as topic, social media

What is already known on this topic?

- *YouTube is a widely used source of health-related information for both patients and dental students.*
- *Previous studies have shown that the quality and completeness of YouTube content related to dental implants are generally low.*
- *Due to YouTube's dynamic and continuously evolving nature, the accuracy and quality of available content can change over time, making periodic reassessment necessary.*

What does this study add on this topic?

- *This study provides an updated evaluation of the content quality and usefulness of Turkish language YouTube videos on dental implants, contributing current data to the literature.*
- *It emphasizes that, despite the passage of time, significant deficiencies persist in critical areas such as complications, maintenance, prognosis, and cost, indicating that previous content gaps have not been adequately addressed.*
- *The study highlights the necessity for dental professionals and professional associations to take a more active role in producing high-quality, evidence-based digital content and underscores the importance of regularly updating these assessments in response to the dynamic nature of online video platforms.*

INTRODUCTION

Dental implants are frequently preferred as a treatment option for the rehabilitation of partial or complete edentulism because of their advantages such as preserving the adjacent tooth structure and providing better aesthetics, function, and retention.[1] With technological advancements, this treatment has become more accessible, and the public's level of knowledge and awareness of the subject has gained increasing importance. Studies conducted in the society have shown that patients generally have insufficient awareness regarding dental implants.[2-5] Patient education plays a crucial role in the success of most treatments. Particularly in dental implant therapy, factors such as maintaining good oral hygiene[6] and attending regular follow-up appointments[7] have a direct effect on treatment success.

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To make informed treatment decisions, patients can obtain information about dental implants from various sources such as dentists, healthcare institutions, newspapers, television, and the internet. The internet is frequently used as a source of health-related information.[8,9] In this context, digital communication tools—especially video-sharing platforms like YouTube—have become some of the most commonly used resources for individuals seeking information on health-related topics.[10] YouTube offers convenience by providing visual and auditory information without requiring user registration; however, its reliability is diminished owing to the lack of cited sources and the publication of content without verification of accuracy.

Dental students frequently use social media platforms, particularly YouTube, for educational purposes.[11,12] However, health-related information shared on the internet may lead to misinformation, as it is often made available without scientific verification.[13] Therefore, the quality and reliability of the content presented on these platforms are critical to ensure that users have access to accurate information. In this study, Turkish language YouTube videos related to dental implants were analyzed in terms of content quality and usefulness, based on criteria such as scientific accuracy, comprehensibility, and the quality of visual and auditory presentation. Based on these findings, this study aimed to evaluate the potential of Turkish YouTube content to raise public awareness about dental implants and to highlight existing deficiencies.

MATERIALS AND METHODS

Because this study utilized YouTube, a publicly accessible platform, ethics committee approval was not required. Google Trends was employed to determine the terms most commonly searched by the public for use in video selection. The analysis revealed that the most frequently searched term related to dental implants in Türkiye was "diş implantı" (dental implant). Data was collected on May 1, 2025, through an electronic search on the YouTube platform using this keyword. YouTube searches were also performed on the geolocated version (youtube.com.tr) to account for regional algorithmic variations. To minimize algorithmic bias and ensure reproducibility, all searches were conducted using YouTube's incognito mode without logging into any account, and browser cookies and history were cleared prior to each session. According to previous studies, 95% of YouTube users view only the first 60 to 200 videos, and they rarely proceed beyond this range.[14-16] Based on these references, the present study also analyzed the first 200 videos listed under the "relevance" filter, without applying any additional filters. During the evaluation process, only Turkish language videos that had acceptable audio and visual quality, were directly related to the topic of dental implants, ranged in duration from 30 seconds to 40 minutes, and were not promotional or advertisement-based were included in the study. The inclusion criteria for video duration were set between 30 seconds and 40 minutes. Videos shorter than 30 seconds were excluded due to their limited capacity to deliver comprehensive health-related information. Conversely, videos exceeding 40 minutes were excluded based on evidence from previous studies indicating that such long content is less likely to be watched entirely by users. Moreover, literature suggests that the average YouTube viewing session lasts around 55 minutes,[32] with a significant portion of users engaging with content shorter than 30 minutes. Therefore, the selected range was deemed appropriate for capturing informative yet realistically consumable video content.The included video links (URLs) and demographic data (number of views, likes and dislikes, presence of comments, video duration, and the time elapsed since upload) were recorded by a single researcher (E.Ö.). The interaction index was calculated using the formula [(number of likes – number of dislikes) / total number of views] × 100, and the view rate was calculated as [(number of views) / (days since upload)] × 100.

Each video was scored based on 9 content domains recommended in the literature[13,17-19] to assess the informational content related to dental implants (definition, indications, contraindications, advantages, procedure, complications, prognosis, maintenance, and cost). The reviewer (E.Ö.), evaluated the videos using this 9-item usefulness scoring system, and the average scores obtained were used for quantitative analysis. Each item was rated on a scale of 1 point, resulting in a total usefulness score ranging from 0 to 9 for each video.

- Videos scored between 0 and 2 were considered to have poor content and containing unhelpful or misleading information.
- Videos scored between 3 and 6 were regarded as having moderate content quality, delivering generally positive messages about dental implants but lacking in some key informational areas.
- Videos scoring between 7 and 9 were considered to have excellent content, offering detailed, valid, and accurate information suitable for patient education.

The quality of information presented in the video along with factors such as flow, usefulness for both healthy and patient populations, and ease of use was evaluated using the Global Quality Scale (GQS), a 5-item tool developed by Bernard et al[20] (2007) (Table 1). The source types of the videos were categorized as specialist dentist, general dentist, dental clinic, and television channel. All collected data were transferred into Microsoft Excel for further analysis.

Statistical Analysis

The statistical analyses of the collected data were performed using IBM SPSS Statistics version 26 software (IBM SPSS Corp.; Armonk, NY, USA). Descriptive statistics for continuous variables were expressed as mean ± SD, while categorical variables were presented as frequency and percentage (%). The distribution characteristics of the variables were assessed using the Shapiro-Wilk test, and the homogeneity

Table 1. Global Quality Scale Descriptions

Description	Score
Low quality, poor video flow, most information is missing, not useful for patients.	1
Generally low quality, poor video flow, some information is provided but many important topics are missing, limited usefulness for patients.	2
Moderate quality, substandard flow, some important information is sufficiently covered while others are minimally addressed, partially useful for patients.	3
Good quality, generally good video flow, most relevant information is covered though some topics are omitted, useful for patients.	4
Excellent quality and video flow, highly useful for patients.	5

of variances was evaluated using the Levene test. Because most continuous variables did not follow a normal distribution, non-parametric methods were employed. Differences in video demographic features (number of likes, number of views, video duration, number of comments, days since upload, interaction index, and view rate) according to video quality levels were compared using the Kruskal-Wallis test. One-way analysis of variance (ANOVA) was used to compare the mean GQS and usefulness scores across different video source types (specialist dentist, general dentist, clinic, and TV channel). The assumption of homogeneity of variances was checked and test suitability was confirmed. To assess the relationship between the GQS and usefulness scores, Spearman's rank correlation analysis was conducted. Differences were considered statistically significant at $P < .05$.

RESULTS

Out of the initial 200 videos analyzed, only 58 met the inclusion criteria and were included in the study. The remaining 142 videos were excluded because they were non-Turkish (n=34), contained promotional content (n=64), were shorter than 30 seconds or longer than 40 minutes (n=39), or focused solely on patient experiences (n=5). Based on results of classification by source type, most were uploaded by clinics (n=22, 37.9%). This was followed by general dentists (n=17, 29.3%), specialist dentists (n=10, 17.2%), and TV channels (n=9, 15.5%) (Figure 1).

According to the descriptive statistical evaluation of the included videos, the mean usefulness score was determined to be 3.28 ± 1.68, while the mean GQS was 2.48 ± 0.89. The average number of views per video was 4732.28 ± 12 653.59, and the average number of days since upload was calculated as 1816.29 ± 1084.97 days.

Based on the usefulness scores, approximately 40% of the videos were classified as having poor and insufficient content, whereas only 12% were found to have high-quality content. The highest proportion of videos with poor content was observed among those uploaded by general dentists (64.7%). In contrast, only 11.1% of TV channel videos were classified as poor, whereas the majority (77.8%) provided moderate-level content. Although none of the videos uploaded by specialist dentists were rated as high-quality, a significant portion (70.0%) was considered moderate, and only 30% were rated as poor. Videos from clinics showed a relatively balanced distribution. Across all sources, the proportion of videos offering high-quality content remained quite low (a maximum of 13.6% of clinic-sourced videos).

When analyzed by content domains, "Definition" emerged as the most frequently addressed topic across all sources. In particular, definition content was present in 100% of the TV channel videos, and at high rates in videos by clinics (72.7%), specialist dentists (80.0%), and general dentists (64.7%) videos. The "Procedure" domain was also commonly covered across all groups (specialist dentist: 70%, general dentist: 76.5%, TV channel: 66.7%, clinic: 72.7%). In contrast, content related to "Contraindications," "Prognosis," "Maintenance," and especially "Cost" was addressed at significantly lower rates. The "Cost" domain appeared only in videos from 3 sources (specialist dentist: 10%, general dentist: 5.9%, clinic: 4.5%), and was completely absent in TV channel videos. This indicates that some information domains that are important for patient decision-making are inadequately represented (Table 2).

As shown in Table 3, a statistical comparison of videos across the GQS quality groups revealed a significant difference only in terms of video duration ($P=.005$). Accordingly, videos evaluated as those of high quality were found to have significantly longer durations. No statistically significant differences were observed between the quality groups in other variables, including the number of likes, views, comments, time since upload, interaction index, and view rate ($P > .05$).

As shown in Table 4, a statistically significant difference was observed only in the number of likes ($P=.045$). No significant differences were found between the groups for the other variables ($P > .05$). Videos shared by general dentists had the highest mean number of likes (301.5 ± 572.69) and comments (230.69 ± 354.92) compared to other sources, and their view rate was also relatively higher. This difference was statistically significant in terms of the number of likes ($P=.045$).

Although videos from specialist dentists and clinics showed high interaction index averages (321.52 ± 702.26 and 272.37 ± 353.3, respectively), this difference was not statistically significant ($P = .356$). Television channel videos had

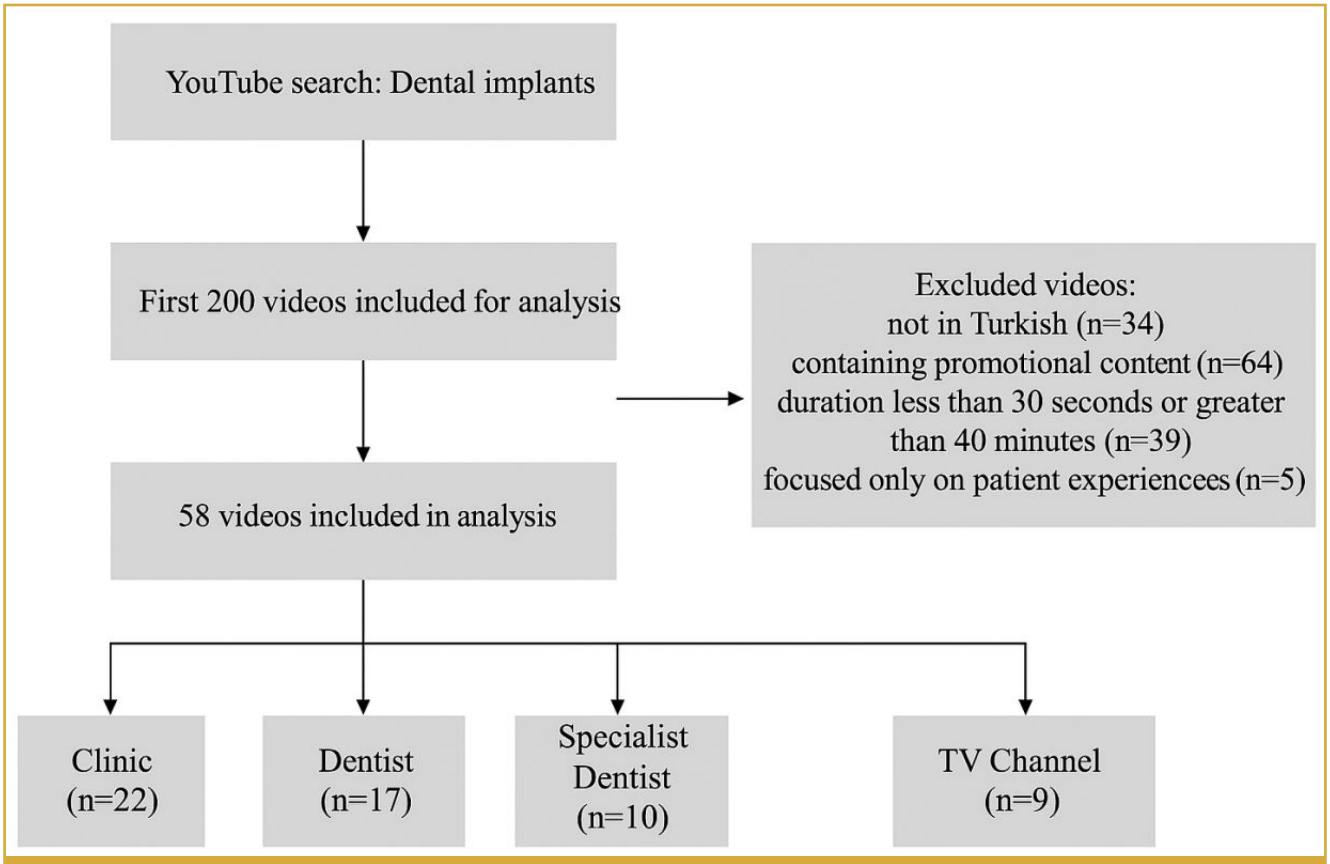

Figure 1. Flowchart of YouTube video selection and categorization.

the lowest means across all parameters. In all video groups, the number of dislikes was recorded as zero.

As shown in Table 5, when the usefulness scores and GQS values were examined by video source, the highest mean usefulness score was observed for videos from TV channels (mean = 4.11), followed by those by specialist dentists (mean = 3.50), clinics (mean = 3.18), and general dentists (mean = 2.88). Regarding GQS, the highest averages were recorded for videos from specialist dentists (mean = 2.80) and TV channels (mean = 2.78), whereas clinic videos had a mean GQS of 2.23 and general dentist videos had a mean GQS of 2.41. However, according to the one-way ANOVA analysis, no statistically significant differences were found between

Table 2. Usefulness Scores and Content Domains by Video Source

	Specialist Dentist, n (%)	Dentist, n (%)	TV Channel, n (%)	Clinic, n (%)
Usefulness Score				
Poor	3 (30.0)	11 (64.7)	1 (11.1)	9 (40.9)
Moderate	7 (70.0)	4 (23.5)	7 (77.8)	10 (45.5)
Good	0 (0.0)	2 (11.8)	1 (11.1)	3 (13.6)
Content Domain				
Definition	8 (80.0)	11 (64.7)	9 (100.0)	16 (72.7)
Indication	6 (60.0)	9 (52.9)	6 (66.7)	11 (50.0)
Contraindication	1 (10.0)	1 (5.9)	1 (11.1)	4 (18.2)
Advantage	4 (40.0)	5 (29.4)	8 (88.9)	7 (31.8)
Procedure	7 (70.0)	13 (76.5)	6 (66.7)	16 (72.7)
Complication	4 (40.0)	5 (29.4)	3 (33.3)	3 (13.6)
Prognosis	3 (30.0)	2 (11.8)	2 (22.2)	7 (31.8)
Maintenance	1 (10.0)	5 (29.4)	3 (33.3)	5 (22.7)
Cost	1 (10.0)	1 (5.9)	0 (0.0)	1 (4.5)

Table 3. Demographic Parameters by Video Quality

	Poor	Generally Poor	Moderate	High Quality	Excellent	*P*
Likes (mean ± SD)	56.43 ± 79.45	159.02 ± 229.95	182.89 ± 523.09	180.17 ± 392.14	1.0 ± 1.0	.4618*
Dislikes (mean ± SD)	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	–
Views (mean ± SD)	190.25 ± 271.84	6064.46 ± 23224.08	1050.25 ± 2925.25	17692.36 ± 38201.39	122.01 ± 122.01	.6194
Duration (minutes)	1.22 ± 1.08	3.44 ± 8.0	2.85 ± 2.17	5.67 ± 5.29	15.48 ± 15.48	.0049
Comments (mean ± SD)	1.25 ± 2.5	78.5 ± 176.11	126.13 ± 301.5	47.33 ± 105.7	0.0 ± 0.0	.4148
Days since upload	2519.29 ± 1392.44	1787.88 ± 1121.97	1710.16 ± 1089.59	1317.83 ± 840.91	1425.0 ± 1425.0	.5754
Interaction Index (%)	90.62 ± 70.61	189.0 ± 233.59	250.93 ± 397.3	382.53 ± 932.86	0.82 ± 0.82	.9101
View rate (%)	8.25 ± 10.38	357.97 ± 1171.56	85.63 ± 225.61	2277.19 ± 5081.35	8.56 ± 8.56	

*Statistical significance was set at .05 (Kruskal–Wallis test).

the video source and either the usefulness score ($P = .295$) or the GQS ($P = .260$) ($P > .05$).

According to the Spearman correlation analysis between the overall quality scores and usefulness scores, a strong, positive, and statistically significant correlation was found between the 2 variables ($r_s = 0.712$, $P < .001$). This finding indicates that the overall quality assessments of the videos and their usefulness scores are largely consistent and provide parallel measurements.

DISCUSSION

Today, patients are increasingly turning to digital resources, particularly the internet and social media platforms, to obtain information about treatment procedures. YouTube's audiovisual convenience and broad accessibility have made it a leading platform for health-related education and information dissemination, as also emphasized in previous literature.[10,11] For technically complex and lengthy treatments, such as dental implantation, which require patient education, the quality of content available on such platforms can directly influence the decision-making process of patients. Particularly for anxious or apprehensive patients who may not fully absorb verbal explanations provided in a clinical setting, written and visual materials are essential for reinforcing post-treatment instructions.

In this context, the aim of this study was to evaluate the content quality and educational value of Turkish language YouTube videos related to dental implants, and to present the current state of available content based on scientific data.[21-23]

Several studies investigating the quality and utility of YouTube videos as health information sources have reported that the content is often inadequate.[24-27] For example, Abukaraky et al[17] evaluated 117 YouTube videos on dental implants and found a mean score of 6.02 out of 30, indicating low overall usefulness. Similarly, Ho et al[19] demonstrated that much of the information regarding dental implants obtained via social media regarding dental implants is misleading. Ali et al[18] found that patient-oriented online content on dental implants is generally of poor quality, with notable deficiencies in areas such as long-term outcomes and complications-emphasizing the need to improve the reliability of digital health content.

Consistent with these findings, this study also revealed that Turkish language YouTube videos on dental implants generally offer low-quality information. The mean usefulness score of the evaluated videos was 3.28 ± 1.68, and the mean GQS was 2.48 ± 0.89. Only 12% of videos were classified as high-quality, while 48.3% as moderate, and 39.7% as poor or insufficient. These results suggest that the majority of available content does not provide adequate educational value and highlight the need for higher-quality resources.

No statistically significant differences were found in the usefulness or GQS across the different video sources ($P > .05$). However, the highest usefulness score was observed for TV channel videos (mean = 4.11), while the highest GQS was recorded in videos created by specialist dentists (mean = 2.80). This suggests that content featuring expert opinions tends to offer viewers more satisfactory quality, flow, and overall benefit to viewers.

Table 4. Averages (Mean ± SD) and *P*-Values of Viewing, Interaction, and Content Features by Video Source

	Specialist Dentist (n = 10)	Dentist (n = 17)	Clinic (n = 22)	TV Channel (n = 9)	*P*
Likes	28.7 ± 32.98	301.5 ± 572.69	158.55 ± 231.11	3.0±2.65	.045*
Dislikes	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	–
Views	1074.89 ± 2988.8	12670.5 ± 34439.29	2342.03 ± 7853.75	166.89±135.55	.466
Duration (minutes)	2.02 ± 1.34	4.66 ± 9.31	2.78 ± 3.87	4.19 ± 5.05	.735
Comments	2.67 ± 4.13	230.69 ± 354.92	42.24 ± 79.52	0.75 ± 1.16	.092
Days since upload	2106.1 ± 1054.58	1778.29 ± 1187.48	1796.38 ± 955.87	1483.67 ± 1504.77	.306
Interaction Index (%)	321.52 ± 702.26	170.99 ± 279.28	272.37 ± 353.3	34.32 ± 97.65	.356
View rate (%)	1.01 ± 2.93	10.04 ± 31.25	2.76 ± 9.8	0.23 ± 0.3	.494

*Statistical significance was set at .05 (Kruskal–Wallis test).

Table 5. Mean and SD of Usefulness and Global Quality Scale by Video Source

	Usefulness Score		Global Quality Scale	
	Mean	SD	Mean	SD
Specialist Dentist	3.5	1.43	2.8	1.03
Dentist	2.88	1.73	2.41	0.8
TV Channel	4.11	1.54	2.78	1.09
Clinic	3.18	1.56	2.23	0.81
P	.2955		.2604	

*Statistically significant at .05 (ANOVA test).

Previous studies[18,28] have shown that while YouTube videos often cover treatment processes and advantages, critical topics such as complications, contraindications, and long-term prognosis are largely neglected suggesting a commercial rather than educational intent. Similarly, this study found that the most frequently addressed topics were "definition" (n=44; 75.9%) and "procedure" (n=42; 72.4%), indicating a superficial overview of the treatment. In contrast, content related to "contraindications" (n=7; 12.1%), "prognosis" (n=14; 24.1%), "maintenance" (n=14; 24.1%), and especially "cost" (n=3; 5.2%) was rarely covered—despite being crucial to informed patient decisions.

Das et al[16] reported no significant association between a video's usefulness and the number of likes, dislikes, or comments. Similarly, Delli et al[26] found no statistical difference in descriptive metrics among useful, misleading, and patient experience-based videos. In line with these findings, this study also found no statistically significant associations between usefulness/GQS scores and variables such as likes, views, comments, days since upload, interaction index, and view rate ($P > .05$). However, video duration was significantly associated with GQS ($P = .005$), indicating that longer videos tend to have higher educational value. Similar conclusions were reported by Gaş et al[16] and Lena et al,[29] who noted that content-rich and educationally valuable videos tend to be longer in duration.

One limitation of this study is that the video evaluation process, including scoring based on the usefulness criteria and the GQS, was performed by a single researcher. However, similar methodological approaches[30,31,14] using a single evaluator have been adopted in previous studies employing validated tools such as the GQS, which are designed to minimize subjectivity and enhance reproducibility. The use of structured, standardized scoring systems is intended to ensure consistency and strengthen the reliability of the findings despite single-observer assessment.

The literature suggests that the average time spent per YouTube session is approximately 55 minutes, with 45.7% of users watching content for less than 30 minutes.[32] Therefore, limiting included videos to a maximum of 40 minutes in this study aligns with user behavior and allows for the evaluation of potentially more informative videos.

Due to YouTube's dynamic structure, search results may vary depending on timing and search terms used, thereby limitation the standardization of video selection. Additionally, the evaluation of only Turkish language videos and the limited sample size are further limitations of this study.

Conclusion

Based on the findings within the limitations of this study, it can be concluded that healthcare professionals should not solely concentrate on the treatment procedure when creating educational videos, but should also address complementary topics such as implant maintenance, potential complications, and long-term prognosis. To enhance the reliability and quality of online content, it is essential that the dental faculty and professional associations play an active role in producing and disseminating videos that contain evidence-based and scientifically verified information. Moreover, video content should be carefully optimized in terms of duration to align with viewer habits while maintaining sufficient informational depth. Finally, platforms such as YouTube should be encouraged to implement features such as reliability indicators or professional source tags, that can assist users in assessing the credibility of health-related content more effectively.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

Ethics Committee Approval: The methodology of the present study is designed without any human or human-related subjects. Therefore, no ethical approval was necessarily obtained.

Informed Consent: The methodology of the present study is designed without any human or human-related subjects. Therefore, no informed consent was necessarily obtained.

Peer-review: Externally peer-reviewed.

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