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Evaluation of the Content Quality of YouTube Videos Related to Endocrown

Öznur KÜÇÜK KELES^{1*} DÖzlem SEÇKİN KELTEN² D

Asst. Prof., Ankara Yıldırım Beyazıt University, Faculty of Dentistry, Department of Endodontics, Ankara, Türkiye, dt.oznur_06@hotmail.com

² Asst. Prof., Ankara Yıldırım Beyazıt University, Faculty of Dentistry, Department of Restorative Dentistry, Ankara, Türkiye, dtozlemseckin@gmail.com

Article Info Aim: The purpose of this study was to evaluate and validate the popularity, content, reliability, and **Article History** educational contribution of endocrown-related YouTube videos. Material and Methods: Two researchers systematically searched about endocrown on YouTube on April Received: 21.02.2024 10, 2023, by using the term "endocrown". The top 250 of the search results were later added to the watchlist. **Accepted:** 19.09.2024 Finally, 30 videos were included for analysis. Time since upload, duration, number of views, likes, number Published: 30.12.2024 of subscriptions, number of views were recorded. The DISCERN instrument, the benchmarks established by the Journal of the American Medical Association (JAMA), and Global Quality Scores (GQS) were used to evaluate these 30 videos. Assumptions were checked and Kruskal Wallis tests were used to examine the **Keywords:** differences between the averages of video features according to GQS and DISCERN scores. Endocrown, Results: According to the results of the analysis, a statistically significant difference was found between YouTube. the averages of video features according to GQS groups and DISCERN scores (p<0.05). As a result of the Social Media, analysis, a statistically significant difference was found between the video duration averages according to Video Analysis, the JAMA scores (p<0.05). Kendal's Tau correlations were applied to examine the relationships between Quality Scores. YouTube features and GQS, DISCERN, and JAMA scores. As a result of the analysis statistically significant relationships were found between time and GQS, DISCERN, and JAMA scores Conclusions: Despite the limited number of related videos, YouTube has shown similarity in the reliability and quality of videos on the topic of endocrown. As the duration of the videos increased, their reliability increased.

Endokron ile İlgili YouTube Videolarının İcerik Kalitelerinin Değerlendirilmesi

Makale Bilgisi	ÖZET
Makale Geçmişi	Amaç: Bu çalışmanın amacı endokronla ilgili YouTube videolarının popülerliğini, içeriğini, güvenilirliğini ve eğitime katkısını değerlendirmek ve doğrulamaktır.
Geliş Tarihi: 21.02.2024 Kabul Tarihi: 19.09.2024 Yayın Tarihi: 30.12.2024	Gereç ve Yöntemler: İki araştırmacı, 10 Nisan 2023'te YouTube'da "endocrown" terimini kullanarak sistematik olarak endokron hakkında arama yapmıştır. Arama sonuçlarının ilk 250'si daha sonra izleme listesine eklenmiştir. Son olarak analize 30 video dahil edilmiştir. Yüklemeden bu yana geçen süre, süre, izlenme sayısı, beğeniler, abonelik sayısı, izlenme sayısı kaydedilmiştir. Bu 30 videoyu değerlendirmek için DISCERN aracı, Journal of the American Medical Association (JAMA) ve Global Quality Scores
Anahtar Kelimeler: Endokron, YouTube, Sosyal Medya, Video Analizi, Kalite Skorları.	(GQS) tarafından oluşturulan kriterler kullanılmıştır. Varsayımlar kontrol edilmiştir ve GQS ve DİSCERN puanlarına göre video özelliklerinin ortalamaları arasındaki farkları incelemek için Kruskal Wallis testleri kullanılmıştır. Bulgular: Analiz sonuçlarına göre GQS gruplarına göre video özellikleri ortalamaları ile DİSCERN skorlarına arasında istatistiksel olarak anlamlı fark bulunmuştur (p<0,05). Analiz sonucunda JAMA skorlarına göre video süre ortalamaları arasında istatistiksel olarak anlamlı bir fark bulunmuştur (p<0,05). Youtube özellikleri ile GQS, DİSCERN ve JAMA puanları arasındaki ilişkileri incelemek için Kendal's Tau korelasyonları uygulanmıştır. Analiz sonucunda zaman ile GQS, DİSCERN ve JAMA puanları arasında istatistiksel olarak anlamlı ilişkiler bulunmuştur. Sonuç: İlgili videoların sınırlı sayıda olmasına rağmen YouTube, endokron konusundaki videoların güvenilirliği ve kalitesi açısından benzerlik göstermiştir. Videoların süresi arttıkça güvenilirliği de artmıştır.

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*Corresponding Author: Öznur Küçük Keleş, dt.oznur 06@hotmail.com



INTRODUCTION

The Internet is a frequently preferred communication tool for the dissemination of information in the field of health.^{1,2} Based on 2015, 84% of adults use the internet, 60% of them try to obtain health-related information via the Internet, and these numbers are increasing day by day.^{1,3} Because visual information is more remarkable than readable sources with a video upload speed of 300 hours per minute, YouTube has become a visual library that grows and evolves at a surprising rate. Every month, millions of people visit YouTube (Alphabet, Mountain View, CA), which is an internetbased video sharing site. Hundreds of videos are shared every day on this platform, and these videos also contain videos with health information.^{4,5} The main purpose of YouTube is for entertainment rather than education. However, later on, it has become a research topic of academics because it is a source of medical information and attracts attention from patients. When queried by typing the keyword "YouTube" in the PubMed search engine, approximately 2921 results appear (Accessed on March 30, 2023).

With the conveniences brought by the communication age, patients; information about health via the internet and/or YouTube, but do not share and discuss more than 80% of this information with their doctors.¹ On the other hand, 75% of individuals with chronic diseases learn about their diseases through these communication channels.¹ At this point, the validity and reliability of the information obtained come into question. Because the videos shared in areas such as YouTube are opened to access without examining the quality of information by operating an independent and blind refereeing system. This suggests that the information obtained from insufficient information sources, may cause various problems such as erroneous

diagnosis and treatment approaches.^{5,6}

In parallel with the development of adhesive cements, endocrown restorations have been applied as an alternative to traditional treatment methods in recent years. Endocrown restorations are produced in one piece. Unlike intracanal posts, they are supported by the pulp chamber and cavity walls and are cemented with adhesive cements.8 Pissis named the endocrown technique the "monoblock porcelain technique" in 1995.9 This method has started to be applied with the developments seen in the prosthetic treatment option, composites or acidetched ceramics, dentin adhesives, and resin cements. 10,11 While endocrown restorations provide macromechanical retention as they are supported by the pulp chamber and cavity walls, micromechanical retention is also achieved by being cemented with an adhesive system.¹²

Because endocrown restorations are manufactured in one piece, adhesion only occurs between tooth and restoration. For this reason, it is stated that adhesive failure is minimized.¹³ It is reported that the fracture strength of endocrown restorations is higher when compared to traditional methods.¹⁴

The aim of our study is to evaluate the quality, content, and adequacy of the YouTube video content related to endocrown and the reactions of the viewers to these videos. The research hypothesis was that YouTube videos on endocrown contain misleading or incomplete information.

MATERIAL AND METHODS

Youtube was searched on April 10, 2023, using the keyword "endocrown". The top 250 of the search results were later added to the watchlist. No ethical committee approval is required, since this study is performed on publicly available Internet data. The exclusion criteria included non-English videos and

irrelevant videos. Finally, 30 videos were included for analysis. English videos on 'endocrown' via YouTube have been added to the 'videos to watch later' digital folder on YouTube by the researchers who will analyze the videos. Only one of the videos showing duplication was evaluated. Within the scope of the research, the publication date of the videos, the number of views, the number of likes, the duration of the video, and the number of subscribers of the channel that published the video were recorded. The view rate was calculated as 'views/time (days)' ¹⁵ after the video was uploaded.

All videos were watched by 2 specialist dentists (ÖKK, ÖSK) and analyzed in terms of content; In case of inconsistency, a joint decision was made.

To evaluate the information quality of the videos; DISCERN measurement tool¹⁶ for YouTube was used and the Journal of the American Medical Association (JAMA) benchmark score was evaluated.¹⁵ Additionally, all videos were rated using a Global Quality Score (GQS) using a 5-point scale, where the reviewer could evaluate the quality of the video and its benefit to patients. A score between 1 and 5 can be obtained from this measurement tool, and an increase in the score indicates an increase in quality.¹⁶ These scoring systems, it is stated that while JAMA evaluates the reliability in general, GQS evaluates the educational quality.¹⁵

Statistical analysis

The normality assumption of the statistical analysis was checked with the Shapiro Wilk test. Mann Whitney U test was used to compare the means of two groups that did not have a normal distribution. The Kruskal Wallis test was used to compare the means of three or more groups that did not have a normal distribution. The Post Hoc Bonferroni test was applied to reveal the group or groups that made

the difference. In testing the relationship between categorical variables, Fisher's Exact test was applied when the sample size assumption (expected value>5) was not met. Relationships between an ordinal categorical variable and continuous variables were checked with Kendall's Tau correlation. Analyzes were performed in the IBM SPSS 25 program.

RESULTS

At the end of the digital scan, it was determined that 30 videos on YouTube as of 10/04/2023 were in accordance with the research criteria. The ratios of GQS, DISCERN, JAMA, and follower numbers are shown in Table 1 according to the videos.

The average number of "likes" is 120.97; the average viewership rate was 13.33; the average number of comments was 5.47; the average number of followers was 16011.97; the average number of views was 8888.97 and the average duration was 15.86. In addition, the average of the interaction index was determined as 2.28 (Table 1).

Assumptions were checked and Kruskal Wallis tests were used to examine the differences between the averages of video features according to GQS. Bonferroni test was applied to determine the group or groups that made the difference. According to the results of the analysis, a statistically significant difference was found between the averages of video duration, number of likes, number of comments, number of views, viewing rate, and interaction index according to GQS groups (p<0.05). According to Bonferroni tests, statistically significant differences were determined between poor quality, generally poor quality, moderate quality, and good quality (p<0.05) (Table 2).

There was no statistically significant difference between the mean number of followers according to the GQS groups (p>0.05).

Table 1: Distribution of videos according to their features

					n	%
GQS			Poor quality	10	33.3	
			Generally poor qua	ilty	8	26.7
			Modereta quailty		5	16.7
			Good quality		7	23.3
Modified DISCERN			Score 1		10	33.3
			Score 2		10	33.3
			Score 3		4	13.3
			Score 4		6	20.0
JAMA score			Score 2		22	73.3
			Score 3		7	23.3
			Score 4		1	3.3
Number of followers			Nano follower (0-1	27	90.0	
			Mikro follower (10		2	6.7
			Mid follower (1001	K-500K)	1	3.3
	n	Minimum	Maximum	Average	Standard deviation	Median
Duration	30	0.31	98.05	15.86	23.89	5.31
Number of likes	30	0.00	835.00	120.97	196.70	53
Number of comments	30	0.00	25.00	5.47	6.88	3
Number of followers	30	1.00	375000.00	16011.97	68208.16	1120
Number of Views	30	13.00	142257.00	8888.97	25998.90	1776
Viewing Rate	30	0.02	185.71	13.33	34.13	3.24
Interaction index	30	0.00	6.17	2.28	1.75	1.91

Table 2: Comparison of averages of Youtube features according to Global Quality Scores

		n	Avg.	S.D.	Median	Rank Avg.	Test Statistics	p
Duration	Poor quality	10	3.27	2.23	2.75	8.85	16.703	0.001*
	Generally poor quality	8	5.61	3.16	4.85	14.13		
	Modereta quality	5	10.81	11.61	4.37	15.70		
	Good quality	7	49.16	30.48	41.59	26.43		
Number of	Poor quality	10	13.80	28.90	2.00	7.00	14.064	0.003*
likes	Generally poor quality	8	157.25	191.59	94.50	19.25		
	Modereta quality	5	170.60	209.40	91.00	20.10		
	Good quality	7	197.14	289.79	91.00	20.07		
Number of comments	Poor quality	10	0.90	1.52	0.00	8.20	12.335	0.006*
	Generally poor quality	8	5.25	5.75	4.00	16.50		
	Modereta quality	5	8.20	4.55	7.00	22.60		
	Good quality	7	10.29	10.23	6.00	19.71		
Number of	Poor quality	10	38154.80	118358.32	585.00	11.70	3.202	0.362
followers	Generally poor quality	8	2708.38	2320.00	1455.00	17.25		
	Modereta quality	5	1593.00	913.01	1000.00	15.60		
	Good quality	7	9882.71	14009.21	1140.00	18.86		
Number of	Poor quality	10	866.10	1575.90	137.00	7.80	12.034	0.007*
views	Generally poor quality	8	8432.38	10261.49	5086.50	20.00		
	Modereta quality	5	6445.20	5232.43	4868.00	21.00		
	Good quality	7	22617.57	52818.67	1881.00	17.43		
Viewing Rate	Poor quality	10	1.30	2.17	0.24	7.70	13.105	0.004*
	Generally poor quality	8	10.93	14.44	5.67	18.75		
	Modereta quality	5	13.77	5.01	16.14	23.20		
	Good quality	7	32.94	68.29	3.10	17.43		
Interaction	Poor quality	10	1.12	1.25	0.67	9.30	9.337	0.025*
index	Generally poor quality	8	2.21	1.37	1.63	15.63		
	Modereta quality	5	2.75	1.59	2.93	18.80		
	Good quality	7	3.70	1.94	2.92	21.86		

^{*}p<0,05

Assumptions were checked and Kruskal Wallis tests were performed to examine the differences between the averages of video features according to DISCERN scores. Bonferroni test was applied to determine the group or groups that made the difference. According to the results of the analysis, a statistically significant difference was found between the averages of video duration, number

of likes, number of comments, number of views, viewing rate, and interaction index according to DISCERN scores (p<0.05). According to Bonferroni tests, statistically significant differences were determined (p<0.05). There was no statistically significant difference between the mean number of followers according to DISCERN scores (p>0.05) (Table 3).

Table 3: Comparison of the averages of Youtube features according to DISCERN Scores

		n	Avg.	S.d.	Median	Rank Avg.	Test Statistics	p
Duration	Score 1	10	3.27	2.23	2.75	8.85	16.926	0.001*
	Score 2	10	6.00	3.62	4.85	14.30		
	Score 3	4	12.51	12.45	7.74	17.38		
	Score 4	6	55.50	27.87	50.47	27.33		
Number of likes	Score 1	10	13.80	28.90	2.00	7.00	14.316	0.003*
	Score 2	10	182.90	214.42	83.00	19.30		
	Score 3	4	129.25	72.49	103.50	21.88		
	Score 4	6	190.83	316.92	73.00	19.08		
Number of	Score 1	10	0.90	1.52	0.00	8.20	12.057	0.007*
comments	Score 2	10	6.30	6.11	5.00	17.75		
	Score 3	4	9.00	4.83	7.50	23.50		
	Score 4	6	9.33	10.86	4.50	18.58		
Number of	Score 1	10	38154.80	118358.32	585.00	11.70	3.998	0.262
followers	Score 2	10	2039.70	1889.51	1110.00	15.80		
	Score 3	4	7508.75	9050.97	4175.00	21.50		
	Score 4	6	8063.17	14411.77	1135.00	17.33		
Number of views	Score 1	10	866.10	1575.90	137.00	7.80	13.506	0.004*
	Score 2	10	7609.20	9511.88	4729.00	19.30		
	Score 3	4	7909.75	3844.58	6740.50	24.25		
	Score 4	6	25046.17	57430.22	1678.00	16.17		
Viewing Rate	Score 1	10	1.30	2.17	0.24	7.70	13.609	0.003*
	Score 2	10	12.87	12.78	10.60	20.20		
	Score 3	4	15.02	12.77	11.38	23.00		
	Score 4	6	33.02	74.81	2.57	15.67		
Interaction index	Score 1	10	1.12	1.25	0.67	9.30	9.574	0.023*
	Score 2	10	2.73	1.47	2.68	18.50		
	Score 3	4	1.76	0.87	1.62	13.75		
	Score 4	6	3.83	2.09	4.04	22.00		

*p<0,05

The assumptions were checked and the Mann-Whitney U test was used to examine the differences between the averages of the video features according to the JAMA scores. As a result of the analysis, a statistically significant difference was found between the video duration averages according to the JAMA

scores (p<0.05).

According to JAMA scores, no statistically significant differences were found between the average of the number of likes, the number of comments, the number of followers, the number of views, the viewing rate, and the interaction index (p>0.05) (Table 4).

Table 4: Comparison of averages of Youtube features according to JAMA Scores

		n	Ort.	S.S.	Medyan	Sıra Ort.	Test İstatistiği	p
Duration	Score 2	22	8.38	13.00	4.43	13.20	37.50	0.016*
	Score 3 ve 4	8	36.42	34.61	28.86	21.81		
Number of	Score 2	22	100.86	162.83	49.00	14.30	61.50	0.219
likes	Score 3 ve 4	8	176.25	275.66	73.00	18.81		
Number of	Score 2	22	4.14	4.93	3.00	14.52	66.50	0.320
comments	Score 3 ve 4	8	9.13	10.11	5.00	18.19		
Number of	Score 2	22	18606.73	79620.70	1055.50	14.23	60.00	0.202
follwers	Score 3 ve 4	8	8876.38	13278.34	1470.00	19.00		
Number of views	Score 2	22	4441.27	7081.23	1776.00	14.77	72.00	0.475
	Score 3 ve 4	8	21120.13	49160.52	1678.00	17.50		
Viewing Rate	Score 2	22	7.04	10.16	3.95	14.59	68.00	0.368
	Score 3 ve 4	8	30.62	63.63	2.67	18.00		
Interaction index	Score 2	22	1.97	1.50	1.87	14.18	59.00	0.185
	Score 3 ve 4	8	3.16	2.17	2.90	19.13		

^{*}p<0,05

Kendal's Tau correlations were applied to examine the relationships between YouTube features and GQS, DISCERN, and JAMA scores. As a result of the analysis, positive, moderate, and statistically significant relationships were found between time and GQS, DISCERN, and JAMA scores (0.584, 0.609, and 0.366, respectively). A positive, statistically moderate. and significant relationship was found between the number of likes, number of comments, number of views, viewing rate, interaction index and GQS and DISCERN scores (0.473)and respectively), (0.498 and 0.466, respectively), (0.346 and 0.368, respectively), (0.388 ve 0.336,respectively), (0.444 ve 0.371,respectively).

Fisher's Exact tests were applied to investigate the relationships between GQS, DISCERN, and JAMA scores. As a result of the analysis, a statistically significant relationship was found between GQS and DISCERN scores (p<0.05). When the observations were examined for the reason of the relationship, it was seen that the scores obtained were compatible with each other. A statistically significant correlation was found between GQS and JAMA scores (p<0.05). When the observations are examined for the reason of the relationship; It has been determined that the GQS score of the videos with a JAMA score of

2 is mostly 1, 2 and 3, and the videos with a JAMA score of 2 and 3 have a GQS score of mostly 4.

Fisher's Exact test was used to investigate the relationship between DISCERN and JAMA scores. As a result of the analysis, a statistically significant relationship was found between JAMA and DISCERN scores (p<0.05). When the observations were examined for the reason for the relationship, it was determined that the DISCERN score of the videos with a JAMA score of 2 was mostly 1 and 2, and the DISCERN score of the videos with a JAMA score of 2 and 3 was mostly 4.

DISCUSSION

Today, the source of obtaining health-related information differs from traditional communication tools. As a result of this differentiation, video-sharing sites that can be accessed via the internet can be seen as an important source of information. Observing that the source and method of obtaining information have changed, researchers have tended to examine the quality of information on websites and/or video-sharing sites such as YouTube.

Despite the evaluation of many dental issues, this study was planned because no study was found that analyzed the information content, accuracy and quality of English YouTubeTM videos on endocrowns.

Video information is not reviewed by professionals, may not be evidence-based, and may not be enforced according to quality controls, and these restrictions may result in the creation of irrelevant or incomplete video content.¹⁷

YouTube is easily accessible to both laymen and dentists, and our study highlights the volume of information available on endocrown. Video information is not peer-reviewed, may not be evidence-based, and is not subject to quality controls, and these limitations may lead to irrelevant or incomplete content.

In a review of studies conducted in the field of health through digital, social, and mobile technologies, it was reported that approximately half of the relevant articles (49.6%) showed correct data. Evidence-based information and studies on the reliability and quality created by the YouTube videos on the endocrown on dentists and patients are invaluable. For this reason, the results of this study conducted with the keyword endocrown via YouTube are of great importance. Thirty videos were analyzed out of 250 videos, and most of them were not included in the study because the videos were silent, irrelevant and the language was not in English (88%).

JAMA benchmark criteria Silberg et al. ¹⁹ is a measurement tool that enables evaluation under the titles of authorship, bibliography, patent rights, and actuality. A total of 0 to 4 points can be obtained, and an increase in the score indicates an increase in quality. ¹⁹

The original DISCERN consists of 16 questions scored from 1 to 5. A higher score indicates better quality. Singh et al. It replaced DISCERN for YouTube with five questions assessing clarity, stability, reliability, listing additional sources of information, and mentioning areas of uncertainty. A score between 0 and 5 is given for each criterion provided, and an increase in the score indicates an increase in quality. 16,21

In this endocrown study, JAMA was 2.3, GQS was 2.3, and DISCERN was 2.2. The results show that the endocrown-related

information from YouTube is of poor quality, and users are provided with insufficient and unverified information. Our results appear to be similar to those of previous medical YouTube video studies. ²²⁻²⁵

Before applying to the clinic, it is much more difficult to accurately inform and persuade patients for treatment and to get rid of their prejudices, who research and obtain false information about their diseases. Since we clinicians do not have the opportunity to check and edit videos posted on YouTube or other sources, it is important that we have an understanding of how the Internet is impacting patients on the most commonly used treatments in the clinic. This is the most important purpose of our plan for this study.

Most of the videos evaluated in our study were uploaded to the YouTube platform by professionals. 25 of the evaluated videos technical information prepared especially for medical professionals. Due to the visuality and ease of access to information, patients also use this platform to get information before treatment. However, patients cannot evaluate the accuracy of the information obtained. Because the quality of information is variable and uneven, the situation can mislead patients and disrupt the balance between information and knowledge in the clinicianpatient relationship. ¹⁵

Our study showed that although only a few videos gave an idea about the cost of endocrowns, the cost was generally not mentioned. In most of the videos evaluated, the workflow is explained and information is given on this subject. In a study examining the quality of YouTube videos shared about dental implants, it was stated that although dental implant prices were frequently searched on the internet by patients, only a few of the videos included in the study contained information about the costs of dental implants. The study stated that the cost of dental implants varies from one country to another. Likewise, the cost of all dental procedures varies depending on the country. 26 The absence of cost data for the endocrown may be attributed to the fact that costs can vary significantly from one country to another.

Of the videos analyzed according to this study; It was seen that 16.9% had medium, 33.3% had poor content, and 23.3% had good content quality. The initial hypothesis that video content would often be weak and misleading was accepted. Many studies evaluating YouTube content found the quality of the content to be poor, similar to this study. Abukaraky et al.'s ²⁶ study on dental implants also showed that 114 videos mostly have poor content. Menziletoglu et al. ²⁷ also showed that 74.32% of the 74 videos they reviewed about dental implants had poor information quality.

The findings of our study showed that the number of videos with good informational content on endocrown on the YouTubeTM video platform is quite low. While it was reported that the information content quality of the videos was sufficient in some of the studies evaluating the videos on dental applications on the YouTubeTM video platform; ^{28,29} In some studies, it is reported that the information content of the videos is of insufficient quality.^{26,30} Similar to the current study, in the study conducted by Aydin & Yilmaz 31 in which the information content quality of the videos on the YouTube™ video platform about space maintainers was evaluated, it was stated that there were very few videos with good quality information content. In addition, in the study of Simsek et al.³² evaluating the quality of videos on oral habits on the YouTubeTM platform, it was determined that the number of videos with medium and good quality information content was higher than those with low quality. It is thought that the observation of different results in the studies may be due to the variability of factors such as the difference in the evaluation parameters used, the difference in the number of videos watched, and the topicality of the researched subject.

In a study conducted among medical doctors, it was seen that 85% of the participants encountered a patient who came with

information from the internet at least once, and 75% of them found this situation useful. While the participants were of the opinion that the correct information that the patients obtained from the internet was beneficial, they thought that incorrect and irrelevant information would harm the quality of the treatment they would receive, effective use of time, and the patient-physician relationship.³³ This research was found to be important in terms of showing the importance of the accuracy of information in the field of health on the Internet.

In our study, the average duration of the videos evaluated as good in terms of quality was found to be statistically significantly higher than the videos with poor quality. Lena and Dindaroğlu ³⁴ also found that videos with rich content have a longer duration in their study where they examined the content of videos related to Lingual Orthodontics. This can be explained by the fact that content-rich videos have a longer video duration due to more topical mentions.

Youtube is a dynamic environment ²⁸ and the order of search results also changes with the interaction caused by the viewers and over time.³⁵ As in similar studies, the fact that the data collection method is instant is one of the limitations of the study.³ The results of the study will vary as new videos are uploaded to the YouTubeTM video platform or as added videos are deleted. In addition, only a small number of videos in English were analyzed in this study. The inclusion of different languages in the analysis will affect the study results.

CONCLUSION

According to the results of this research, it has been seen that the information about the endocrown on the YouTube video platform is limited. Considering that the YouTube platform has an important role in influencing patient preferences and treatment decisions, it is thought that it would be beneficial for specialist dentists, public health institutions, or academics to provide objective and realistic information on this platform.

Ethical Approval

Since sources obtained from humans or animals were not used in this study, ethics committee approval was not obtained.

Financial Support

The authors declare that this study received no financial support.

Conflict of Interest

The authors deny any conflicts of interest related to this study.

Author Contributions

Design: ÖKK, ÖSK, Data collection and processing: ÖKK, ÖSK, Analysis and interpretation: ÖKK, Literature review: ÖKK, ÖSK, Writing: ÖKK, ÖSK.

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