Evaluating YouTube Videos About Dental Veneers Using Two Different Quality Assessment Systems

Veneerler ile İlgili Youtube Videolarının İki Farklı Kalite Değerlendirme Sistemi Kullanılarak Değerlendirilmesi

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ABSTRACT

INTRODUCTION: At the present day, many videos hosting websites such as YouTube offer health-related information resources. Patients have been searching for online information prior to visiting dental practices. The aim of this study was to evaluate the quality of the information on dental "veneers" in the videos on YouTube.

METHODS: Top 100 videos which are regarding "veneer" on YouTube, on 21st of March 2021 were recorded. DISCERN (Quality Criteria for Consumer Health Information) and JAMA (Journal of the American Medical Association) benchmarks were used as assessment tools to evaluate content quality. Additionally, descriptive statistics data were reported using Microsoft Excel (v2019, Microsoft Corp).

RESULTS: Some videos were excluded for assessment because of irrelevance (17), duplication (4), being a commercial (5), or consisting only of video without relevant audio (8). The total DISCERN score was "fair" with a mean score of 41. Most of the videos scored as either fair or poor. None of the videos recorded meets all 4 criteria of the JAMA tool.

DISCUSSION AND CONCLUSION: Even though Youtube videos have well potential to offer patients broad information regarding veneers, most of the contents of the sources should be considered low quality except for a few decent samples.

Keywords: *YouTube, DISCERN, JAMA, Veneer*

ÖZ

GİRİŞ ve AMAÇ: Günümüzde özellikle YouTube ve benzer şekilde ivideolar barındıran birçok internet sitesi, sağlıkla ilgili bilgi kaynakları sunmaktadır. İçinde bulunduğumuz pandemi döneminde hastalar diş muayenehanelerini ziyaret etmek yerine bu sitelerden çevrimiçi bilgi aramaktadırlar. Bu çalışmanın amacı, YouTube'daki videolarda veneerler ile ilgili bilgilerin kalitesini değerlendirmektir.

YÖNTEM ve GEREÇLER: 21 Mart 2021'de YouTube'da "veneerler" ile ilgili en iyi 100 video kaydedildi. İçerik kalitesini değerlendirmek için değerlendirme araçları olarak DISCERN (Consumer Health Information için Kalite Kriterleri) ve JAMA (Journal of the American Medical Association) kalite değerlendirme ölçekleri kullanıldı. Ek olarak, tanımlayıcı istatistik verileri Microsoft Excel (v2019, Microsoft Corp) kullanılarak rapor edildi.

BULGULAR: Bazı videolar, ilgisizlik (17), tekrar (4), ticari olması (5) veya ses içermeyen videolardan oluşması (8) nedeniyle değerlendirmeye alınmadı. Toplam DISCERN skoru 41 puan ortalama ile "orta" kalite olarak tespit edildi. Videoların çoğu ya orta ya da zayıf olarak puanlandı. Kaydedilen videoların hiçbiri JAMA aracının 4 kriterinin tümünü karşılamadı..

TARTIŞMA ve SONUÇ: Youtube videoları hastalara veneerler hakkında geniş bilgi sunma potansiyeline sahip olsa da, birkaç iyi örnek dışında kaynakların çoğu düşük kaliteli olarak kabul edilmelidir.

Anahtar Kelimeler: *YouTube, DISCERN, JAMA, Veneer*

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INTRODUCTION

Dental veneers have become the most widely used treatment in restorative dentistry, with continuous developments in dental materials and technology over the past fifty years. Veneers have been introduced as a minimally invasive option for the esthetic reconstruction of anterior teeth since the 1980s and are widely used to treat discoloration, malformation, misalignment, and other esthetic problems.[1]

With increasing social media use day by day, almost all people have started to use the online world for understanding their problems. Therefore, nowadays most patients get information and additional advice from various web content, especially from YouTube videos instead of visiting dentists. That is why the decision-making process is not only limited to either consult with a healthcare professional.[2]

Video hosting websites like YouTube are offering health-related information resources. Some of these resources are like self-reports of patients' experiences. Thus, people can access sought visual information easily. YouTube is the biggest user-driven video content provider and one of the most popular video platforms in the world that allows users to share videos including healthcare information.[2–4] More than two billion users are viewing YouTube videos regularly, namely, YouTube's number of users is almost a third of the internet.[5] A United States survey in 2018 found that YouTube has the highest level of use among all social media, with 73% of Americans using YouTube.[6]

Given the uncontrollable nature of information sources, there are significant risks associated with incomplete, incorrect, and irrelevant dental health information dissemination. Therefore, besides helping patients and untangling the web of misinformation; the quality and the veracity of the information that patients can obtain from YouTube, are crucial.[7,8]

If the standards and precision of published data are poor and high credibility is given to people who share medical advice and tricks on YouTube, this opportunity can also become a threat.[9] For that reason, there is a need for a critical evaluation of the standards of dental health-related videos on YouTube. Thus, there is an emergent need for a crucial review on YouTube of the quality of dental health-related videos.

DISCERN and JAMA are the most often used assessment tools to evaluate content quality.[12] The DISCERN tool (Quality criteria for consumer health information on treatment choices), the first instrument, was developed by Charnock *et al*. in 1999 to judge the quality of health information on treatment options[10,11] This instrument contributes a more comprehensive evaluation of the published information. JAMA (Journal of the American Medical Association) benchmark, the second assessment instrument, helps to apply a quick assessment to health-associated information on the websites. It is checked out with the categories being authorship, attribution, currency, and disclosure. The JAMA benchmark is a quick approach to check out needed conditions for quality.[12]

In dentistry, researchers have investigated patient experiences of dental care or orthodontic treatment,[13,14] impacts of third molar experience on the quality of life,[15] quality of internet information on different types of orthodontic treatments[16], also quality assessment of YouTube videos about smile design[17] and using the internet and social media. According the fact that veneers are a relatively more complicated and expensive treatment technique than other dental treatments, which is also not a familiar procedure like daily restorations of people, the Internet is used more and more for extra information about veneers.

The purpose of this study is to assess the quality of the information on dental "veneers" and their associated dental procedures in the videos on YouTube. Current objectives were to search North American YouTube videos systematically related to veneer treatment, analyze them, and evaluate scores of the video content from the professionals or experiences of patients by using the DISCERN and JAMA assessment tools, by this way explain the importance of improving the quality of YouTube video contents. The hypothesis of the authors states that YouTube videos about veneers contain specious or unreliable information.

MATERIALS AND METHODS

The top 100 videos which are regarding "veneer" on YouTube, on the 21st of March 2021 were recorded. Two quality assessment instruments, DISCERN and JAMA, were applied for the evaluation of the recorded videos.

DISCERN tool includes sixteen questions and each question can be scored out of 5 points. Questions are divided into three sub-sections. The first section is called the reliability section (first eight questions), the second section assesses the quality of information about treatment options (questions 9 to 15), and the final section is the overall rate (question 16). After scoring, videos were categorized into five groups based on their average total score (Table 1).[16,17]

Table 1: DISCERN assessment tool groups according to the scores

Groups	Scores
Very poor	16 to 26
Poor	27 to 38
Fair	39 to 50
Good	51 to 62
Excellent	Above 63

Videos were evaluated independently by two researchers (İ.S.S. and R.M.A.) from different institutions. The average score of assessments of the two researchers was used.

Lastly, Microsoft Excel (v2019, Microsoft Corp) was used for the descriptive statistics as means and percentages.

RESULTS

Some videos were excluded from the assessment because of irrelevance (17), duplication (4), being a commercial (5), or consisting only of video without relevant audio (8) from the most popular 100 videos. The total DISCERN score of the included 66 videos was "fair" with a mean of 41 according to Table 1. The majority of the videos assessed were observed to have either fair or poor scoring with 24/66 and 28/66, respectively. Despite these results, one video scored as very poor while one video scored as excellent, and ten videos scored as good in the evaluated sample (Figure 1).

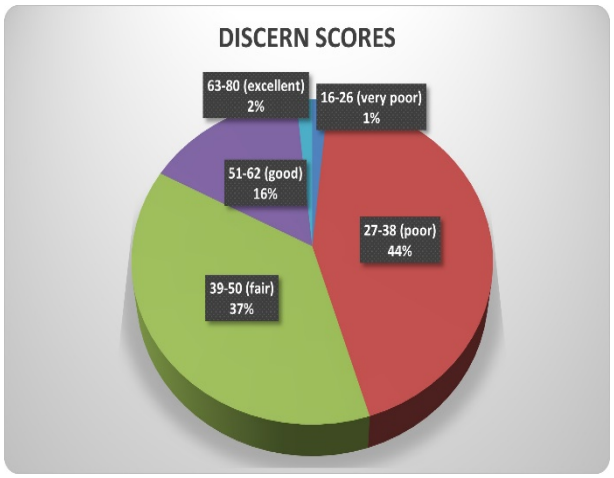

Figure 1.

For DISCERN instrument questions, performances of the videos in mean scores are shown in Table 2. Questions 1, 2, 3, and 5 scored highest, followed by question 15 which is evaluating enough support for shared decision-making. The lowest scores were observed in questions 4, 7, 12, and 13 which are evaluating sources of the information, additional sources, what would happen without treatment, and the effect of the treatment on quality of life, respectively.

While evaluating the videos, it was observed that although they met some criteria, none of them met all 4 criteria in the JAMA evaluation tool. The Authorship and Currency parameters received a full score, while only two videos included the Attribution score (3%), and the Disclosure principle scored in 42 videos which means that 64% of the assessed videos (Table 3).

Table 2. Mean score per DISCERN question among all videos assessed

Question Number	DISCERN Questions	Overall Score (1-5)
1	Are the aims clear?	4.6
2	Does it achieve its aims?	4.5
3	Is it relevant?	4
4	Is it clear what sources of information were used to compile the publication (other than the author or producer)?	1.1
5	Is it clear when the information used or reported in the publication was produced?	4.5
6	Is it balanced and unbiased?	2.3
7	Does it provide details of additional sources of support and information?	1.3
8	Does it refer to areas of uncertainty?	1.8
9	Does it describe how each treatment works?	2.3
10	Does it describe the benefits of each treatment?	2.2
11	Does it describe the risks of each treatment?	1.3
12	Does it describe what would happen if no treatment is used?	1.1
13	Does it describe how the treatment choices affect overall quality of life?	1.7
14	Is it clear that there may be more than one possible treatment choice?	2
15	Does it provide support for shared decision making?	3.6
16	Based on the answers to all of the above questions, rate the overall quality of the publication as a source of information about treatment choices.	2.4

Table 3. JAMA benchmarks and percentages

JAMA Benchmarks	Number	Percentage (%)
Authorship	66	100%
Attribution	2	3%
Disclosure	42	64%
Currency	66	100%

While dentists or dental clinic channels shared the majority of the videos(69.7%), it was followed by influencers who are sharing their experiences, dentistry equipment manufacturers or brand channels, dentistry education channels, dental technicians, health-related tips and tricks channels, and news agencies, respectively. The categorization and percentages of uploaders of the relevant videos to YouTube are shown in Table 4.

Table 4. The categorization of uploaders and the number of related videos with percentages

Upload Resources	Number of Related Videos	Percentage (%)
Dental Education Company:	3	4.5%
Dental Technician:	2	3.0%
Dentists / Dental Clinic:	46	69.7%
Health-related tips and tricks channels:	2	3.0%
Influencer Vlog's:	6	9.1%
Manufacturer / Brand:	5	7.6%
News Agencies:	2	3.0%

DISCUSSION

The present research aimed to evaluate the informational capacity of YouTube videos, considering that both information and data on YouTube videos related to dental veneers might be inadequate. The hypothesis of the authors is accepted since the information quality of assessment results about veneers from YouTube videos was scored as poor or fair.

Although there has been a considerable increase in studies evaluating the quality of information on other healthcare conditions among various YouTube videos[17–19], research on the "veneers" headline is limited. [20,21,24] The increasing interest in aesthetic dentistry treatments will increase the number of people who want to learn more about these applications. The authors believe that since it is important to ensure that patients have access to accurate and quality information, studies such as this study will support healthcare professionals to produce quality content and will contribute to the dissemination of accurate information.

Two assessment tools which are DISCERN and JAMA's benchmarks were used in previous research;[16,18] since using multiple assessment tools for information quality evaluation is suggested to achieve more objective outcomes. However, different tools may express the same items differently. For instance, as attribution of YouTube, the upload dates and content creators are indicated for all videos. Although JAMA benchmarks 1 and 4 showed the highest scores, DISCERN questions 4 and 5 scored lower than them; Thus, it is important to explicitly state the upload date of the treatments used and details about the sources.

Since these videos had a very high number of views, an ideal YouTube video about veneers should include a detailed explanation of the treatment, other treatment options, and the associated benefits and risks.[23] Questions number 9, 10, and 11 in the DISCERN evaluation tool examine the scope of treatment and how it works, its benefits and risks. These parameters which were considered an important part of good informative content have not been mentioned much in the videos examined, according to the results of this study.

After all evaluations, found that the majority of videos had either fair or poor scoring, except the videos which are one of them has excellent, and ten videos good. While the videos were accepted as excellent, good, fair, or poor, the scoring which was obtained by DISCERN and JAMA evaluation was considered. Several studies indicated sources of these video uploaders as dentists.[24,25] Our study also supports this information. In our study, even though most of the videos were uploaded by professionals (dentists, dental clinics) (69.7%), outcomes showed that more than half of the videos about dental veneers on YouTube have fair or low content quality. Similarly, Naiboğlu et al. found insufficient information content in YouTube videos about porcelain laminate veneers.[24]

This study has shown that YouTube videos contain deceptive and deficient information on dental veneers, similar to studies on medical conditions and their treatments after all evaluations using DISCERN and JAMA instruments. In the literature, the quality of the video content has been determined as fair or low quality in the majority of the studies that have evaluated the quality of the videos on youtube.[8,17,18,19,20,22,24,25] However, most of these studies were conducted in English and only English content was evaluated. Considering existing research results, patients should avoid YouTube videos while searching for reliable sources for healthcare guidance.[17,22,24]

The limitations of this study are, only the top 100 videos and well fluently English-spoken videos were involved. Despite English being the universal language of science, a study design with multi-languages may include a more comprehensive assessment as it will include a larger sample size. Furthermore, it is critically important to mention that YouTube videos and views are regularly changing, and the order of the videos will continue to change over time. Therefore, more study is needed to research the accuracy of current information on YouTube about dental veneers.

CONCLUSION

In conclusion, this study has shown that almost all YouTube videos regarding dental veneers offer quite low-quality and incomplete content even though YouTube videos have the potential to provide patients a wide amount of information. Hence, dentists should warn patients about inaccurate information in YouTube videos.

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