

Social Media Research on "Laminate Veneer": During Covid 19-Pandemic

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Research Article

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Abstract

Objective: The difficulty of asking questions to each other during the appointment process with their doctor, the long waiting times of the patients in the waiting rooms in the clinics, and the fact that it is easier to get medical information on the internet due to the ongoing COVID-19 virus infection. Porcelain laminate veneers (PLVs) have been frequently used to restore anterior teeth for nearly three decades, thanks to their aesthetic appeal, durability and biocompatibility.

Methods: YouTube™ was searched by a researcher of this study using the keyword 'laminate veneer' on April 17, 2021. The most frequently used terms in this regard are 'laminate veneer' and 'laminate veneer restoration'. Analyzes were made on the Instagram application, along with YouTube.

Results: Thirty-three videos were determined on YouTube™ on the topic of laminate veneer. The mean number of the views was 46277.84 ± 128674.71 , with the minimum view as ten and maximum as 682478. The videos had a mean duration of $5:48 \pm 4:64$ with a range of 0:24–14:55. The mean number of "likes" for each video was 198 ± 424 , and the mean number of "dislikes" was 17 ± 48 . The most-liked video received 1700 "likes." The most-disliked video received 236 "dislikes." The mean number of comments was 13.65 ± 31.58 . The interaction rate was 1.67 ± 5.18 , and the viewing rate was 2939.11 ± 6076.75

Conclusion: YouTube™ and Instagram still cannot be accepted as a completely confident resource of knowledge for patients who want to learn about oral aesthetic rehabilitation treatment with laminate veneers

Introduction

Coronavirus disease (COVID-19) was first detected on December 31, 2019 in Wuhan, China. It is a viral disease that can be transmitted directly by coughing, sneezing and inhalation of droplets, or by contact with the mucous membranes of the mouth, nose and eyes. If patients undergoing dental treatment carry the covid virus, they can lead to virus transmission by means of a high-speed handpiece or ultrasonic apparatus that aerosolize their secretions, saliva, blood to the environment and clinic, and by contaminating dental stuffs ¹. While there is currently no guidance on possible transmission routes and rules to prevent and control infection in dental clinics during the COVID-19 pandemic, dental societies in each country have published reports ^{2,3}.

Increasing use of the Internet has allowed easy reach to available online health information (OHI), resulting in the emergence of healthcare users who are more likely to be informed through access to this information. The Internet has contributed to revolutionizing information sharing, the deprofessionalization of medicine, and the empowerment of healthcare users. In order to get information about their treatments in medicine and dentistry, people frequently search from their social media accounts ⁴.

The difficulty of asking questions to each other during the appointment process with their doctor, the long waiting times of the patients in the waiting rooms in the clinics, and the fact that it is easier to get medical information on the internet due to the ongoing COVID-19 virus infection. The pandemic process encourages people to explore their treatments^{5,6}. However, there are some inconvenient situations both in terms of the accuracy of the information on social media and in terms of having the necessary skills to evaluate the medical information they reach and associate it with their health status⁷.

The availability of reachable websites that can provide information to patients enables them to make more informed choices about healthcare. On Instagram and Youtube™, are most popular social media networks, patients and professionals can dispute or present their experiences, symptoms, or treatments with various hashtags with videos and pictures. However, this situation becomes a serious problem for patients to be misinformed or misdirected through social networks^{8,10}.

Porcelain veneer restorations (PVRs) are one of the most successful treatment modalities in modern dentistry^{11,13}. Porcelain laminate veneers (PLVs) are very popular among dentists and patients because of their realistic appearance and shine, resembling natural teeth¹⁴. In addition, in reconstructive dentistry, the use of ceramic laminate veneers, which is a minimally invasive treatment option, is more preferred over metal-ceramic or all-ceramic veneers¹².

Porcelain laminate veneers (PLVs) have been frequently used to restore anterior teeth for nearly three decades, thanks to their aesthetic appeal, durability and biocompatibility. Today, PLVs do not require aggressive tooth preparation and provide maximum preservation of tooth structure mainly by optimizing tooth form and position, closing diastema, replacing discolored or unaesthetic composite resin restorations, restoring teeth with incisors wear or tooth erosion, and masking tooth discoloration^{12,15}.

This research aimed to appreciate the ingredient and grade of videos and photos linked to "laminate veneer" aesthetic oral rehabilitation of dental treatments on YouTube™ and Instagram, which are social media tools.

Material And Methods

Since this study was conducted on public internet data, ethics committee approval is not required.

YouTube™ was searched by a researcher of this study using the keyword 'laminate veneer' on April 17, 2021. The most frequently used terms in this regard are 'laminate veneer' and 'laminate veneer restoration'. Investigation parameters have been restricted to the last five years and 'Worldwide' settings, and the term 'laminate veneer' is utilised to investigate YouTube™, the most common investigation term for 'laminate veneer' in the Google Trends app.

The only investigation filter tip used was 'sort by relevance', which is the default filter for a typical YouTube™ search. The results of the search query are listed in accordance with the compatibility of the videos. The implication standard for videos are as follows: (1) English language; (2) the primer content of

the laminate coating; and (3) receivable audio-visual grade. The exception standart were: (1) non-English or Turkish language; (2) videos longer than 15 minutes; (3) videos with poor audio and video quality. Among the videos ranked according to their relevance, 33 videos that met the inclusion criteria were examined. The length of the video, the number of views and the likes and dislikes of these videos were registered. Utilising this knowledge, like/dislike rate, number of remarks, interaction index view rate (Fig. 1), diversity of video content was calculated.

In addition, these 33 videos were divided into three groups as poor, moderate, and good according to the level of information quality according to Hegarty et al.'s study. (Hegarty) nYouTube™ videos with accurate information, remarkable quality, and flow; most usefulness for patients, rated as good knowledge contained in the literature. If the videos are of moderate quality, insufficient streaming; some crucial information is disputed enough. However, others that were poorly presented, somewhat helpful to patients were rated as moderate informational content. Videos that are of poor quality reduce video flow, provide misleading information, and do not benefit patients were participated as bad information content. Apart from the information content, the videos we analyzed according to the videos shared on YouTube were divided into groups and compared.

In the study, analyzes were also made on the Instagram application, which is one of the very popular social media tools today, along with YouTube. Posts on Instagram (www.instagram.com) with the hashtags “#lamineveneer” and “#lamineveneerrestoration” were evaluated on April 17, 2021. A total number of "likes" and remarks for the posts was categorized, as well as the type of posts (video and photograph), the date, its purpose. Additionally, the author recorded each post with the knowledge if they were a prosthodontist, dentist, clinic, or patient. Comparison of Instagram parametres of posts tagged with "#lamineveneer" and "#lamineveneerrestoration and comparison of hashtag number of likes and comments according to the source of posts were analyzed. The author obtained data, including the post type, number of likes and comments, source, were recorded in each post, and descriptive statistics were performed for posts. In addition, the analyzed parameters were compared by dividing them into groups according to the shared resource.

Statistical analysis was performed with statistical software (version 20, SPSS Inc., Chicago, IL, USA). Kruskal–Wallis test was performed to determine the differences between sources of posts. The significance level was set at 5%.

Results

Thirty-three videos were determined on YouTube™ on the topic of laminate veneer (**Figure 2**). The mean number of the views was 46277.84 ± 128674.71 , with the minimum view as ten and maximum as 682478 (**Table 1**). The videos had a mean duration of $5:48 \pm 4:64$ with a range of 0:24–14:55. The mean number of "likes" for each video was 198 ± 424 , and the mean number of "dislikes" was 17 ± 48 . The most-liked video received 1700 "likes." The most-disliked video received 236"dislikes." The mean number

of comments was 13.65 ± 31.58 . The interaction rate was 1.67 ± 5.18 , and the viewing rate was 2939.11 ± 6076.75 .

The videos we analyzed on YouTube are from Hegarty et al., taking the study of Simsek H. et al.⁵ as a reference, and comparison was made by dividing into groups in terms of information content. There was no statistically significant difference between the groups divided as poor, moderate, and good information regarding likes, dislikes, comments, views, video duration, interaction index, and view rate ($P > 0.05$) (**Table 2**). In addition, no statistically significant difference was found between the groups according to the sources published in these parameters we examined ($P > 0.05$) (**Figure 3**)

A total of 148 posts were analyzed with the "#laminateneer" and "#laminateneerrestoration." (**Table 3**) shows the number of likes, number of comments, and other descriptive characteristics of the posts. The posts with the "#laminateneer" and "#laminateneerrestoration" included 133 photographs and 15 videos. As for their sources, 93 of them by dentists or prosthodontists, 39 of them were posted by patients, 16 by dental clinics. There are no statistically significant differences between the dislike, like, and comments among the groups ($P > 0.05$).

Discussion

Every year, increasing cosmetic demands by men and women have led to an increase in research in this field. In studies, it has been reported that individuals are happier in their professional and personal lives with increased self-confidence, and therefore they show high motivation in treatments related to aesthetic rehabilitation. Facial and dental aesthetics are very important in rejuvenation, but also very effective on attractiveness. The literature has shown that attractive individuals achieve greater success. This finding has shown to be true in areas ranging from industry recruitment practices to the judicial system^{16,17}.

An important part of dental aesthetic rehabilitation is the preview of the final result. This issue has a significant impact on both patients and the entire dental treatment team. While the physician wants to understand and meet the patient's expectations, they want their expectations to be met in the final. For this, various social media tools and programs are used.

Effective communication between the patient and the dentist means comprehensive explanations (about the dental work, risks, treatment timescale, costs, and benefits) are provided. Still, it encourages an empathetic attitude, empathy, active listening, understanding, and reassuring the patient.³ Moving on to waiting room management, the dentist should allocate patient seating by prescribed distances and describe the working practices of the dentist to instill enhanced awareness of these practices. During the covid - 19 pandemic, the dental patient's fear of being infected with SARS-COV-2 should not be underestimated: indeed, it can significantly impact the patient's relationship with dental staff and subsequent treatment¹⁸.

Dentists use YouTube and Instagram to audio-visually inform patients about dental treatments. It has been reported that providing information to dental patients in a visual format increases information

retention. Furthermore, the educational information clinicians provide to patients has a vital role in increasing the patient's cooperation during the treatment and treatment success. Many patients select it as the main source because of its simplicity and easy Access¹⁹⁻²². The existence of reachable websites that can provide information to patients guides them to make more choices about health services. Like Youtube videos on social media on Instagram, they discuss or present their experiences, symptoms, or treatments with various hashtags for patients and specialists. No studies have been conducted in the literature on the correlation between social media platforms and laminate veneer rehabilitation.

The content of YouTube™ and Instagram videos about medical problems and dental treatments in different fields have been evaluated in the literature⁹. This study is the first research to analyze the grade of YouTube™ and Instagram video knowledge about laminate veneer.

The number of photos or videos uploaded to Instagram daily is over 100 million, allowing patients to reach photos, comments or videos about conventional dentistry procedures and aesthetic rehabilitation^{3,4}.

In our study, we aimed to appreciate the grade and ingredient of videos about aesthetic rehabilitation with laminate veneer on YouTube™ and Instagram. The outcomes of our study showed that YouTube™ consumers showed great interest in videos about aesthetic rehabilitation treatment with laminate veneer. These videos had a very high number of views, and viewers generally remarked on the videos to participate in their knowledge and experiences⁸.

Most of the Instagram posts related to oral esthetic rehabilitation with laminate veneer are shared by dentists and specialists such as prosthodontists, and few come from patients. This problem may be due to the patients' insufficient knowledge and their distantness from the subject. Due to shyness and the pandemic, patients may avoid asking their doctors as much as they are curious. Most of the laminate veneer related videos are participated from more professional information resources. These videos include more technical knowledge, usefulness and case presentations. Since the current research is the first in the literature in oral esthetic rehabilitation with laminate veneer, there was no study to check against the data we acquired.

This investigation shows a wide diversity of video transmissions existing on oral esthetic rehabilitation with laminate veneer-related YouTube™. The videos appreciated in the study are the most commonly accessed videos by both doctors and patients. When we classified the content of youtube videos as good-medium-poor, the ratio of likes-dislikes was found to be similar. We think that this may be due to the patients' interest in the sound and image of the videos rather than the information content.

Many investigations appreciating the grade of health-related YouTube™ videos have reported insufficient information content. Although the investigators determined that more than half of the videos in this study were participated in by professional teams, it was noticed that most of the videos were shared by patients in previous studies on the subject²³. Knösel et al. determined that videos shared by patients on

YouTube™ were of poor quality. These results are similar to the findings for YouTube™ videos in our study. Since most of the videos that meet the inclusion criteria are shared by experts, videos with low informative content and quality and shared by patients are in the minority²⁴.

Videos on YouTube™ were reported to be shared mostly by academic institutions and prosthetists or dentists rather than patients in our research, unlike previous YouTube™ work on prosthetics.

It has been reported that the viewer will lose interest in the subject due to the prolongation of the YouTube™ video duration²⁵. Therefore, videos longer than 15 minutes were not included in our study. When the relationship among video duration and viewing rates in the videos included in the study was evaluated, it was observed that shorter videos were watched more. This outcome was similar to prior studies. YouTube™ content is dynamic; for this reason, search query outcomes constantly alter as interests and video viewing times over time.

Long-term study design can generate large volumes of social media data that are difficult to manage and analyze. However, it should be noticed that YouTube™ variables such as viewership, likes and dislikes can be managed^{24,25}. The most significant result of the research that contributes to the literature is to enable patients to access proper and correct knowledge and make informed options about health services. For this purpose, it is very important how we linked with the internet as professionals who prepare and publish high-quality videos that can guide patients. The most significant restriction of this study is that the latest Instagram and YouTube applications are depended on a certain period of time. Another restriction is the constant updating of operational data on Instagram and YouTube^{8,25}.

Conclusion

- Future studies on oral esthetic rehabilitation with laminate veneer should be done utilising varied social media tools.
- In the light of the results of our study, prosthodontists should be aware of the information about oral esthetic rehabilitation with laminate veneer existing on the Internet. They should direct patients to be proper and professional resources to acquire correct information about the procedure to minimize confusion.

Most of the videos were graded as having quite good knowledge ingredient. However, the outcomes of this study showed that YouTube™ and Instagram still cannot be accepted as a completely confident resource of knowledge for patients who want to learn about oral aesthetic rehabilitation treatment with laminate veneers. More study is needed to research the grade of information about laminate veneers and oral aesthetic rehabilitation on different social platforms.

Declarations

Ethics approval and consent to participate

The students were informed about the study and were guaranteed that they would not be advantaged/disadvantaged by accepting/refusing to participate. The Ethics Committee of Süleyman Demirel University Faculty of Medicine approved the study, and each participant signed a written consent form according to the World Medical Association's Helsinki Declaration (2018:189).

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

Z.D. designed the study. Z.D. and E.B. performed data collection. Z.D. analyzed the data. Z.D. prepared the figures and tables. E.B. and Z.D. wrote the manuscript. All listed authors critically read, edited, and approved the final manuscript. E.B, Z.D accept full responsibility for the integrity of the data analysis.

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Not applicable

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

References

1. - Yüce MÖ, Adalı E, Kanmaz B. An analysis of YouTube videos as educational resources for dental practitioners to prevent the spread of COVID-19. *Ir J Med Sci.* 2021;190(1):19–26.
2. - Nagpal SJ, Karimianpour A, Mukhija D, Mohan D, Brateanu A. YouTube videos as a source of medical information during the Ebola hemorrhagic fever epidemic. *Springerplus.* 2015;4:457. Published 2015 Aug 28.

3. -Bora K, Das D, Barman B, Borah P. Are internet videos useful sources of information during global public health emergencies? A case study of YouTube videos during the 2015-16 Zika virus pandemic. *Pathog Glob Health*. 2018;112(6):320–328.
4. - Thapa DK, Visentin DC, Kornhaber R, West S, Cleary M. The influence of online health information on health decisions: A systematic review. *Patient Educ Couns*. 2021;104(4):770–784.
5. - Simsek H, Buyuk SK, Cetinkaya E, Tural M, Koseoglu MS. "How I whiten my teeth": YouTube™ as a patient information resource for teeth whitening. *BMC Oral Health*. 2020 1;20(1):183.
6. -Gholami-Kordkheili F, Wild V, Strech D. The impact of social media on medical professionalism: a systematic qualitative review of challenges and opportunities. *J Med Internet Res*. 2013;15(8):e184.
7. - Korkmaz YN, Buyuk SK. YouTube as a Patient-Information Source for Cleft Lip and Palate. *Cleft Palate Craniofac J*. 2020;57(3):327–332.
8. - Findik Y., Buyukcavus M.H. Can social media tools be used as a reliable source of information about surgery-first approach? *APOS Trends in Orthodontics* 2020;10(3):1–7.
9. -McMullan M. Patients using the Internet to obtain health information: How this affects the patient-health professional relationship. *Patient Educ Couns* 2006;63:24–8.
10. -. Sá TCM, de Carvalho MFF, de Sá JCM, Magalhães CS, Moreira AN, Yamauti M. Esthetic rehabilitation of anterior teeth with different thicknesses of porcelain laminate veneers: An 8 year follow-up clinical evaluation. *Eur J Dent* 2018;12(4):590–593
11. - AlJazairy YH. Survival Rates for Porcelain Laminate Veneers: A Systematic Review. *Eur J Dent*. 2021;15(2):360–368.
12. - Gresnigt Marco M. M., Kalk W, Özcan M. Clinical longevity of ceramic laminate veneers bonded to teeth with and without existing composite restorations up to 40 months. *Clin Oral Invest*. 2013;17:823–832
13. -Nagai T, Kawamoto Y, Kakehashi Y, Matsumura H Adhesive bonding of a lithium disilicate ceramic material with resinbased luting agents. *J Oral Rehabil* 2005;32:598–605.
14. - Brentel AS, Özcan M, Valandro LF, Alarça LG, Amaral R, Bottino MA Microtensile bond strength of a resin cement to feldspatic ceramic after different etching and silanization regimens in dry and aged conditions. *Dent Mater*.2007;23:1323–1331
15. - Beier US, Kapferer I, Burtscher D, Dumfahrt H. Clinical performance of porcelain laminate veneers for up to 20 years. *Int J Prosthodont*. 2012 Jan-Feb;25(1):79–85.
16. -Friedman MJ. Porcelain veneer restorations: A clinician's opinion about a disturbing trend. *J Esthet Restor Dent* 2001;13:318–327.
17. - Bater KL, Ishii LE, Papel ID, Kontis TC, Byrne PJ, Boahene KDO, et al. Association Between Facial Rejuvenation and Observer Ratings of Youth, Attractiveness, Success, and Health. *JAMA Facial Plast Surg*. 2017;19(5):360–367.
18. - Giuseppina CAMPISI, Monica BAZZANO, Rodolfo MAUCERI, Vera PANZARELLA, Olga DIFEDE, Maria E. BIZZOCA, Lorenzo LOMUZIO. The patient-doctor relationship: new insights in light of the current

Ministerial recommendations regarding Phase 2 of the COVID-19 pandemic. *Minerva Stomatologica* 2020;69(4):251–5

19. - Coban G., Buyuk S.K., YouTube as a Source of Information for Craniofacial Distraction Osteogenesis. *J Craniofac Surg* 2021;00: 00–00)
20. -Al-Silwadi FM, Gill DS, Petrie A, Cunningham SJ. Effect of social media in improving knowledge among patients having fixed appliance orthodontic treatment: A single-center randomized controlled trial. *Am J Orthod Dentofacial Orthop.* 2015;148(2):231–7.
21. -Buyuk SK, Imamoglu T. Instagram as a social media tool about orthognathic surgery. *Health Promot Perspect* 2019;9:319–22.
22. - Hegarty E, Campbell C, Grammatopoulos E, DiBiase AT, Sherriff M, Cobourne MT. YouTube™ as an information resource for orthognathic surgery. *J Orthod* 2017;44:90–6.
23. - Dorfman RG, Vaca EE, Mahmood E, Fine NA, Schierle CF. Plastic surgery-related hashtag utilization on instagram: Implications for education and marketing. *Aesthet Surg J* 2018;38:332–8.
24. - Knosel M, Jung K. Informational value and bias of videos related to orthodontics screened on a video-sharing web site. *Angle Orthod* 2011;81:532–9.
25. - Yavuz MC, Buyuk SK, Genc E. Does YouTube™ offer high quality information? Evaluation of accelerated orthodontics videos. *Ir J Med Sci.* 2020;189(2):505–509.

Tables

Table 1. Video data

	Mean ± SD	Min	Max
Number of Views	46277.84 ± 128674.71	10	682478
Duration	5:48 ± 4:64	0:24	14:55
Number of Likes	198 ± 424	2	1700
Number of Dislikes	17 ± 48	0	236
Number of Comments	13.65 ± 31.58	0	150
Interaction Index	1.67 ± 5.18	0.02	3.61
Viewing Rate	2939.11 ± 6076.75	5.34	23972

Table 2. Comparison of YouTube videos by information content**Videos by Information Content**

	Poor	Moderate	Good	<i>P</i>
	Mean ± SD	Mean ± SD	Mean ± SD	
Number of Views	7078.3 ± 6404	38642.23 ± 67219	95703.7 ± 219843	0.619
Duration	7:93 ± 7:53	3:01 ± 3:81	3:48 ± 3:61	0.070
Number of Likes	86.01 ± 131.87	242.3 ± 490.39	252.8 ± 530.1	0.306
Number of Dislikes	1.61 ± 2.27	20.76 ± 42.36	29.3 ± 74.48	0.501
Interaction Index	1.69 ± 1.40	0.52 ± 0.44	3.14 ± 9.44	0.345
Viewing Rate	751.66 ± 755	3250.58 ± 5532	4721.61 ± 8995	0.171

P: One-way ANOVA test; significance level of $p < 0.05$.

Table 3. Comparison of Instagram characteristics of posts tagged with #laminateneer and #laminateneerrestoration

		#laminateneer #laminateneerrestoration (148)
Post Type	Photograph	133
	Video	15
No. of Likes	0-50	73
	50-100	40
	100+	21
No. of Comments	0-5	122
	6-10	9
	10+	3
Source	Dentist - Prosthodontist	93
	Patient	39
	Dental Clinic	16

Figures

$$\text{Interaction Index (\%)} = \frac{\text{Number of likes} - \text{Number of dislikes}}{\text{Number of views}} \times 100$$

$$\text{Viewing Rate (\%)} = \frac{\text{Number of views}}{\text{Number of days since upload}} \times 100$$

Figure 1

Calculation of the interaction index and viewing rate



Figure 2

Overview of "laminate veneer" related videos on YouTube

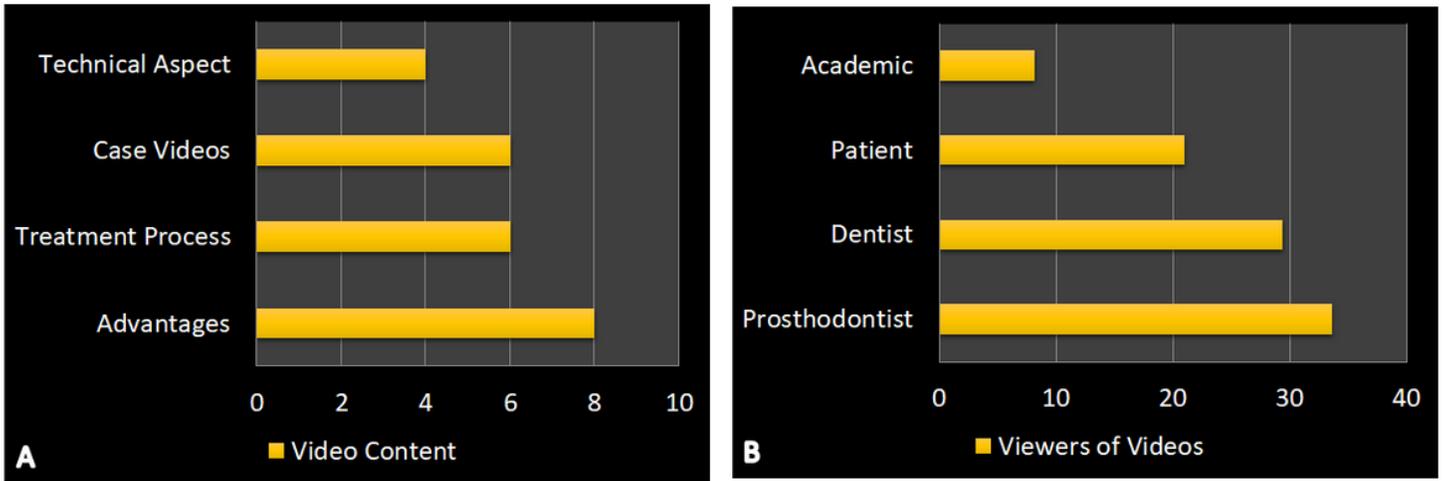


Figure 3

Histograms for each video, showing a list of video contents related to the laminate veneer