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Aerosol Management in Dentistry on YouTube

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ABSTRACT

Aim: The novel coronavirus continues to spread around the world despite all efforts. Dental professionals and staff are exposed to high infection risks and have the potential to spread these infections. Web-based portals are widely used in dentistry for obtaining information. YouTube is one of the most popular web platforms provides a wide variety of information, however, concerns are raised regarding the quality of the videos. The purpose of this study is to analyze the content of YouTube videos on aerosol management in dentistry during the COVID-19 pandemic. **Materials and Methods:** YouTube search was performed using the terms "dental aerosol management and COVID-19", "dental aerosol control and COVID-19" and "dental aerosol reduction and COVID-19" with the default filter set to ''sort by relevance''. The first 100 videos for each term were viewed and analyzed by 2 independent research. The Global Quality Scale (GQS) and the video information and quality index (VIQI) INDEX were performed to evaluate video quality. Viewers' interactions and Viewing Rate index were chosen to evaluate the video popularity and also other parameters (number of views, duration, time since upload, and likes and dislikes, country of origin, source of upload) were evaluated. **Results:** After the exclusion criteria 57 videos were evaluated. 11 of the 57 videos had excellent quality and flow. It was observed that as the duration increased, the quality of the videos in both evaluation indexes (VIQI-GQS) were increased. There was no significant difference in terms of loading sources for VIQI and GQS index. **Conclusion:** Besides high-quality videos on aerosol management, there were some low-quality videos that may cause spread of misleading information. Healthcare professionals should play a more active role in the educational videos about infection prevention and aerosol management during pandemic on YouTube.
Keywords: COVID-19, Dental Aerosol Management, Dental Aerosol Reduction, YouTube.

YouTube'da Diş Hekimliğinde Aerosol Yönetimi

ÖZ

Amaç: Yeni tip koronavirüs tüm çabalara rağmen dünyaya yayılmaya devam etmektedir. Diş hekimleri ve çalışanları yüksek enfeksiyon risklerine maruz kalmakta ve bu enfeksiyonları yayılmasına sebep olmaktadırlar. Web tabanlı portallar diş hekimliğinde bilgi edinmek için yaygın olarak kullanılmaktadır. YouTube, çok çeşitli bilgiler sağlayan en popüler web platformlarından biridir. Bu çalışmanın amacı, COVID-19 salgını sırasında diş hekimliğinde aerosol yönetimine ilişkin YouTube videolarının içeriğini analiz etmektir. **Gereç ve Yöntem:** YouTube araması, "dental aerosol management and COVID-19", "dental aerosol control and COVID-19" ve "dental aerosol reduction and COVID-19" terimleri kullanılarak, varsayılan filtre "sıralama ölçütü" olarak ayarlanarak yapıldı. Her terim için ilk 100 video 2 bağımsız araştırma tarafından görüntülendi ve analiz edildi. Video kalitesini değerlendirmek için Global Quality Scale (GQS) ve video bilgi ve kalite indeksi (VIQI) INDEX uygulandı. Video popülerliğini değerlendirmek için izleyici etkileşimleri ve Görüntüleme Oranı endeksi seçildi ve ayrıca diğer parametreler (görüntüleme sayısı, süre, yüklemeden sonraki süre ve beğeniler ve beğenmemeler, ülke, yükleme kaynağı) değerlendirildi. **Bulgular:** Yetersiz olan videolar çıkarıldıktan sonra sonra 57 video değerlendirildi. 57 videonun 11'i mükemmel kalite ve akışa sahipti. Süre arttıkça her iki değerlendirme indeksindeki (VIQI-GQS) videoların kalitesinin arttığı gözlemlendi. VIQI ve GQS endeksi için yükleme kaynakları açısından anlamlı bir fark yoktu (P>0.05). **Sonuç:** Aerosol yönetimiyle ilgili yüksek kaliteli videoların yanı sıra, yanıltıcı bilgilerin yayılmasına neden olabilecek bazı düşük kaliteli videolar da vardı. YouTube'da pandemi sırasında enfeksiyon önleme ve aerosol yönetimi ile ilgili eğitici videolarda sağlık çalışanları daha aktif rol oynamalı.
Anahtar Kelimeler: COVID-19, Diş Hekimliğinde Aerosol Yönetimi, Diş Hekimliğinde Aerosol Azaltma, YouTube.

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INTRODUCTION

Dentistry has been significantly impacted by the novel Coronavirus Disease (COVID-19) as the other healthcare professions. It has been reported that the virus causing COVID-19 disease binds to ACE 2 receptors that found in saliva and mouth structures like tongue, floor of the mouth (Khurshid et al. 2020; Xu et al. 2020). Dentists are directly in contact with the source of the disease since they perform the treatment procedures in and about the entire mouth and face area (Peng et al. 2020). Most dental procedures pose high infection risk for both patients and dental staff due to the aerosol spread of saliva, blood, and secretions (Teichert-Filho et al. 2020). Moreover, this aerosol production also contaminates the surfaces and instruments used in the dental environment which could also facilitate transfer of coronavirus (Izzetti et al. 2020). For these reasons, dental health professionals feel somatic and cognitive anxiety considering that their patients may be infected or contacted with the virus during the pandemic (Ather et al. 2020; Meng et al. 2020). This anxiety may prevent dentists to diagnose correctly (8). In a recent study, it was reported that 87% of dentists were afraid of being infected with the coronavirus in the dental clinic (Ahmed et al. 2020a). Dentists should increase the knowledge of aerosol management to prevent COVID-19 transmission during treatment procedures and reduce the anxiety of infection risk (Olivieri et al. 2020).

One of the most important objectives identified by the World Health Organization (WHO) to prevent COVID-19 transmission is to share accurate information to all communities and avoid the disseminate of misinformation (Dutta et al. 2020). The internet is growingly being used as the most accessible source of information for people involving healthcare information. It has been reported that YouTube (http://www.youtube.com) as the second most visited web portal after Google.com with over 2 billion users generating billions of daily views. Compared to other social media platforms, YouTube stands out with its advantages such as using audio and visual communication logically and being able to access easily by many people from all demographic backgrounds (Li et al. 2020). Although YouTube is very useful to guide community during the pandemic, some misleading information can provoke panic and even increase the spread of the disease, as it does not have a regulatory system to evaluate the content quality of uploaded videos (Kocyigit et al. 2020). The "coronavirus" and "COVID-19" terms became the most searched on YouTube with the beginning of the COVID-19 pandemic. Despite the increased interest in studies on YouTube and social media coverage on the COVID-19 outbreak (Ahmed et al. 2020b; D'Souza et al. 2020; Li et al. 2020; Szmuda et al. 2020), the number of studies related to dentistry is still limited (Ozdede and Peker 2020; Yuce et al. 2020).

To the best of our knowledge, there is no study investigating the reliability of YouTube content of aerosol management in dentistry during the COVID-19 outbreak. The purpose of this study was to analyze the content of YouTube videos on aerosol management in dentistry during the COVID-19 pandemic.

MATERIALS AND METHODS

Video selection

This cross-sectional study was approved by the Ministry of Health, Republic of Turkey (No: 2020-11- 18T21_32_23). The research aimed to evaluate the YouTube videos comprising information about aerosol management in dentistry during COVID-19 pandemic after December 31, 2019. YouTube search was performed using the terms "dental aerosol management and COVID-19", "dental aerosol control and COVID-19" and "dental aerosol reduction and COVID-19" with the default filter set to ''sort by relevance''. The search term 'dental aerosol management and COVID-19' yielded 607 results, and the 'dental aerosol control and COVID-19' term yielded 671 results, while the term 'dental aerosol reduction and COVID-19' showed 571 results. It has been reported that the most users searched on YouTube consider and evaluate the first 60-200 videos found (Desai et al. 2013). The videos are not in English, not related to the subject, no audio, a duplicate of another were excluded.

Data analysis

Since this study included the evaluation of publicly accessible videos, ethical approval was not required. The first 100 videos for each term were viewed and analyzed by 2 independent research (NBK and EK). The researchers were not aware of the number of likes, dislikes, or comments before completing their reviews to assess objectively. The interaction index ([number of likes number of dislikes]/total number of views 100 percent]) and the viewing rate (amount of views/number of days since upload 100 percent) were used to calculate viewer interactions. The American Dental Association (ADA), dental health professionals/centers, information websites, and commercial videos were all classified according to the source of submission. To assess the video's quality and substance, the video information and quality index (VIQI) (20) was chosen. The VIQI scale assesses the following video features: flow of information, information accuracy, quality (1 point each for the use of still images, animation, community interviews, video captions, and a report summary), and precision using a 5-point Likert scale ranging from 1 (poor quality) to 5 (high quality).

The YouTube videos meeting our inclusion criteria were then assessed using the Global Quality Scale (GQS) (Singh et al. 2012) for the following content:

- Is it recommended using any mouthwashes before oral examination?

- Is it recommended Personal protective equipment (PPE) (Gloves, masks, gowns, and face shields) and antiseptic application for dentists?
- Is it mentioned the importance of using Rubber-Dam?
- Is it recommended high vacuum suction?
- Is minimally invasive procedure recommended to reduce the treatment time? (Azim et al. 2020)

The overall quality of the videos was subjectively assessed using a 5-point Likert-type GQS, which assigned a score of: 1. Poor video quality: the video has a poor flow, the majority of the content is missing, and it is not at all informative. 2. Poor overall quality and flow: some material is given, but many crucial topics are missing; of limited utility. 3. Moderate quality: weak flow; some vital information is adequately discussed, while other material is inadequately discussed; information is somewhat useful. 4. Good quality and overall flow: the majority of significant material is given, but certain topics are not; useful 5. Outstanding quality and flow; quite beneficial.

Statistical analysis

Statistical software (SPSS 22.0 software IBM, Armonk, NY) was used to analyze the data. Descriptive statistics for each variable were calculated and presented as 'mean ± standard deviation' or 'median (min-max)' for continuous variables and n, n% for categorical variables. Fisher-Freeman-Halton test was used to examine the distribution of frequencies for categorical variables since the expected values were less than 5. Kruskal Wallis test was used to examine the scores of video characteristics and quality index between source of upload and GQS groups. Dunn test was used as post-hoc procedure after any significant differences. Mann Whitney U test was used to test video information and quality indexes between country of origin. Correlation of the variables was investigated using Spearman's rank correlation analysis. Quadratically weighted kappa coefficients were calculated to assess the agreement among two quality scoring variables (VIQI vs GQS). The inter-observer agreement was calculated as a kappa score. A probability value of less than 0.05 was considered significant.

RESULTS

The first 100 videos containing each relevant search items were screened 247 videos were excluded because of not meeting the inclusion criteria. Descriptive analysis of the characteristics and VIQI scores was presented in Table 1 and descriptive statistics according to country of origin, source of upload and GQS score categories were shown in Table 2. The mean number of views of the videos was 12.780. The mean duration of videos was 29.07 (1.5- 157) min. The mean distributions of viewer's interaction were found as 182.94 (range 0 - 2638.3), 113.44 likes (0-2100), 6.14 (range 0 - 90) dislike. Viewing Rate were found as 6018.19 (range34.65-73856.6) The mean VIQI index score was 11.63 (between 4 and 19). The mean score of GQS index was 2.94 (between 1-5). Most videos (%66.7) were uploaded by users in the USA.

Table 1. Descriptive analysis of the characteristics and quality.

Characteristics of the videos	**n**	**Mean ±Std. Dev**	**Median (Min. - Max.)**
Number of Views	57	12780.49 ±26410.93	2735 (70 - 166916)
Number of Likes	57	113.44 ±288.35	38 (0 - 2100)
Number of Dislikes	57	6.14 ±14.01	1 (0 - 90)
Duration (min.)	57	29.07 ±30.6	20 (1.5 - 157)
Number of Days since upload	57	207.4 ± 46.65	212 (30-324)
ViewingRate	57	6018.19 ± 11835	1474.42 (34.65-73856.6)
Viewers' Interaction	57	182.94 ±356.96	98.85 (0 - 2638.3)
Video information and quality indexes			
Flow of information	57	2.89 ±1.19	3 (1 - 5)
Information accuracy	57	3 ±1.3	3 (1 - 5)
Quality	57	2.81 ±1.25	3 (1 - 5)
Precision	57	2.93 ±1.37	3 (1 - 5)
Total	57	11.63 ±4.78	11 (4 - 19)

Table 2. Descriptive statistics according to country of origin, source of upload and GQS score categories.

		n (%)
Country of origin	Other	19 (33.3)
	USA	38 (66.7)
Source of upload	ADA	7 (12.3)
	Dental Health Centers	11 (19.3)
	Information Website	16 (28.1)
	Commercial	23 (40.4)
GQS SCORE	Poor quality	8 (14)
	Generally poor quality and poor flow	12 (21.1)
	Moderate quality	11 (19.3)
	Good quality and generally good flow	15 (26.3)
	Excellent quality and flow	11 (19.3)

Table 3. The evaluation of the videos' characteristics according to the GQS score.

Characteristics of videos	Poor quality (n=8)	Generally poor quality and poor flow (n=12)	Moderate quality (n=11)	Good quality and generally good flow (n=15)	Excellent quality and flow (n=11)	p*
	Median (Min. - Max.)	Median (Min. - Max.)	Median (Min. - Max.)	Median (Min. - Max.)	Median (Min. - Max.)	
Number of Views	2120 (125 - 44200)	8153.5 (93 - 166916)	2323 (88 - 8357)	4287 (70 - 78866)	2536 (364 - 28243)	0.495
Number of Likes	39 (3 - 330)	48.5 (2 - 2100)	18 (3 - 114)	47 (1 - 535)	49 (0 - 190)	0.755
Number of Dislikes	2 (0 - 18)	2.5 (0 - 90)	0 (0 - 9)	1 (0 - 52)	2 (0 - 13)	0.493
Duration (min.)	2.5 (2 - 20) c	5.38 (1.5 - 30) c	25.7 (7 - 61.5) b	33 (2 - 81) b	58 (22 - 157) a	<0.001
Viewers' interaction index	138.06 (22.52 - 2638.3)	95.67 (2.71 - 131.49)	142.52 (30.13 - 427.35)	98.72 (46.31 - 476.19)	107.94 (0 - 815.22)	0.544
Number of Days since upload	230.5 (179 - 259)	217 (30 - 266)	216 (136 - 264)	215 (79 - 324)	200 (160 - 242)	0.474
Viewing rate	903.34 (60.98 - 17198.44)	3998.93 (46.97 - 73856.64)	1025.38 (41.9 - 3482.08)	1895.33 (34.65 - 36011.87)	1297 (158.26 - 13777.07)	0.37

Table 4. The evaluation of VIQI index and viewers' interaction and viewing rate in terms of uploading sources.

	Source of Upload				
Video information and quality indexes	**ADA (n=7)**	**Dental Health Centers (n=11)**	**Information Website (n=16)**	**Commercial (n=23)**	**p**
	Median (Min. - Max.)	**Median (Min. - Max.)**	**Median (Min. - Max.)**	**Median (Min. - Max.)**	
Flow of information	3 (2 - 4)	2 (1 - 5)	2.5 (1 - 5)	3 (1 - 5)	0.68
Information accuracy	3 (1 - 5)	3 (1 - 5)	3 (1 - 5)	3 (1 - 5)	0.981
Quality	2 (1 - 4)	2 (1 - 5)	2.5 (1 - 5)	3 (1 - 5)	0.407
Precision	3 (2 - 5)	2 (1 - 5)	3 (1 - 5)	3 (1 - 5)	0.801
Total	12 (8 - 18)	9 (5 - 19)	10.5 (4 - 19)	14 (4 - 19)	0.828

Table 4. (continue). The evaluation of VIQI index and viewers' interaction and viewing rate in terms of uploading sources.

	Source of Upload				
Video information and quality indexes	**ADA (n=7)**	**Dental Health Centers (n=11)**	**Information Website (n=16)**	**Commercial (n=23)**	**p**
	Median (Min. - Max.)	**Median (Min. - Max.)**	**Median (Min. - Max.)**	**Median (Min. - Max.)**	
Viewers' Interaction	54.53 (22.52 - 95.3) [d]	120.42 (0 - 815.22) [ab]	147.79 (30.13 - 2638.3) [a]	92.81 (2.71 - 340.91) [bc]	0.003
Viewing Rate	8798.76 (1554.79 - 23028.08) [a]	2386.59 (90.96 - 73856.64) [ab]	787.25 (122.4 - 17198.44) [b]	1662.2 (34.65 - 36011.87) [ab]	0.044

[a,b,c,d]: Values in the same row with different superscripts show statistical significance ($p<0.05$).
* Kruskal Wallis test.

Table 5. Correlation coefficients of values for VIQI, GQS and other factors.

		Number of Views	**Duration (min.)**	**Number of days since uploading**	**Flow of information**	**Information accuracy**	**Qua-lity**	**Preci-sion**
Number of Views	r	1						
	p	.						
Duration (min.)	r	0.004	1					
	p	0.978	.					
Number of days since uploading	r	0.06	-0.073	1				
	p	0.66	0.592	.				
Flow of information	r	0.029	0.59	-0.036	1			
	p	0.828	0	0.792	.			
Information accuracy	r	0.103	0.604	-0.175	0.785	1		
	p	0.446	0	0.196	0	.		
Quality	r	0.065	0.655	-0.098	0.892	0.795	1	
	p	0.632	0	0.474	0	0	.	
Precision	r	0.076	0.725	-0.083	0.887	0.885	0.827	1
	p	0.576	0	0.544	0	0	0	.
Total	r	0.07	0.698	-0.1	0.942	0.918	0.934	0.957
	p	0.607	0	0.463	0	0	0	0
viewers' interaction index	r	-0.557	0.081	-0.198	-0.096	0.051	0.022	-0.017
	p	0	0.55	0.143	0.476	0.707	0.872	0.899
viewing rate	r	0.978	0.02	-0.064	0.037	0.111	0.063	0.084
	p	0	0.885	0.639	0.785	0.417	0.642	0.538
GQS SCORE	r	-0.033	0.724	-0.18	0.869	0.817	0.889	0.849
	p	0.808	0	0.185	0	0	0	0

The evaluation of the videos' characteristics according to the GQS score was showed in Table 3. It was observed that the GQS score increases significantly as the duration of the video increases. ($p<0.001$). The evaluation of VIQI index and viewers' interaction and viewing rate in terms of uploading sources is shown in Table 4. Correlation coefficients of values for VIQI, GQS and other factors were given

in Table 5. While VIQI and GQS showed a strong positive correlation with duration of videos, there was a weak correlation with parameters such as likes, dislikes, views, viewing Rate, viewer's interaction.
The agreement of VIQI and GQS indexes was showed between 0.81- 1 = excellent agreement. In terms of total Scores Spearman correlation coefficient between two observers was found as r=0.727; p<0.001.

DISCUSSION

Aerosols and droplets contaminated with bacteria, viruses and blood are produced during dental treatments. It has been reported that dental professionals and staff are exposed to high infection risks and have the potential to spread these infections (Harrel and Molinari 2004). Transmission occurs through droplets from aerosols produced during clinical dental procedures.
Therefore, understanding aerosol management and implementing some special precautions in addition to standard precautions is very crucial for dental practice during this pandemic period (Ge et al. 2020). Hand hygiene, personal protective equipment (PPE), disinfection of clinical settings and the management of medical waste are one of the most important issues to prevent COVID-19 transmission during oral examination and dental treatment (Peng et al. 2020). However, it should be known that even the protective equipment may not protect the patient and the physician from the spread of the virus; therefore, precautions should be taken carefully by considering each patient as a COVID-19 case. On the other hand, this challenging situation after COVID-19 has provided the opportunity to increase our knowledge and understanding of dentistry-related infection control procedures (Rosales-Mendoza et al. 2020) and has made it necessary to use additional methods for aerosol management in addition to PPE (Gloves, masks, gowns, and face shields). It is important for dental professionals to access updated information and to use this information in their clinical environments in terms of infection control. YouTube is a valuable tool for reaching this information and has become popular in dentistry and medicine. It has been reported that in past outbreaks such as the Ebola outbreak in 2014, the Zika virus outbreak in 2016, and the H1N1 Flu outbreak in 2009 YouTube had a positive impact on the education of professionals and the public, and the videos have been viewed millions of times (Tang et al. 2018). Millions of videos, such as educational, professional or non-professional videos for dentistry are shared on YouTube. Since the videos uploaded on YouTube are not evaluated and reviewed before sharing, it is inevitable to reach both true and false information. Therefore, this present study aimed to investigate the reliability of the content of YouTube videos, which reduces the concerns of dentists about the aerosol management during dental examination and treatment after COVID-19 outbreak and formed a guide for this issue.It is recommended to apply antimicrobial mouthwash before treatment to reduce the number of microorganisms in the oral cavity (Marui et al. 2019). Using PPE (gloves, masks, gowns and face shields) are crucial to protect against aerosols that come out during the use of high or low speed devices (Samaranayake et al. 1989). The application of rubber dam alone decreases aerosol spread up to 90% (Cochran et al. 1989). Using high vacuum suction removes air up to 2.83 m^3/min and reduces aerosols and contamination by 90% (Narayana et al. 2016). Another protective method is to shorten the treatment procedures as much as possible and to use minimally invasive procedures (Azim et al. 2020). The evaluation of these criteria which has been verified by CDC, WHO, OSHA was provided by GQS index in this present study. The average value of the GQS index was 2.94 (between 1-5) and 19.3% (n=11) of the videos were Excellent quality and flow, 26.3% (n=15) Good quality and generally good flow, 19.3% (n=11) Moderate quality, 21.1% (n=12) Generally poor quality and poor flow and 14% (n=8) had Poor quality in our study, No significant difference was found between the viewers' Interaction, Viewing rate, likes, dislikes, number of views, source of upload, origin of country according to GQS index (Table 3). However, it was observed that as the duration of the video increased, the GQS score significantly increased ($p < 0.001$). The VIQI index evaluating the quality of a universal video in terms of visual, auditory and information was chosen since it has been used in previous studies analyzing the quality of YouTube videos (Hatipoğlu and Gaş 2020; Ozdede and Peker 2020). There was a positive correlation with duration and a statistically significant correlation ($r=0.698$, $p <0.001$), while there was no correlation with parameters such as the number of views, Viewing Rate and Viewers' Interaction (Table 5). In our study, we did not limit the video duration as the previous YouTube studies (Cesur Aydin and Gunec 2020) in order to evaluate the YouTube video content transparently and objectively. It was observed that as the duration increased, the quality of the videos in both evaluation indexes (VIQI-GQS) increased. No significant difference was found in terms of uploading sources for VIQI and GQS index. Viewer's interaction for the Information website source was significantly higher than the other sources except dental health professionals/centers. Although viewer's interaction of ADA was significantly lower than other sources ($p=0.003$), viewing rate of ADA was significantly higher than other sources ($p=0.044$). Yuce et al. (Yuce et al. 2020) analyzed the quality of YouTube videos on additional preventive procedures in dentistry at the beginning of the COVID-19 outbreak as educational sources for dental professionals. They reported that 43.6% YouTube videos were in a poor quality and no significant difference was found between groups in the

comparison on GQS means. Similarly, when evaluating the quality of the videos, no significant difference was found in terms of sources of upload in our study. Ozdede et al. (Ozdede and Peker 2020) reported that at the beginning of COVID-19 pandemic, YouTube videos had high views in dentistry, but the videos were moderate in terms of quality and usefulness. Conversely, the quality of the videos was higher in our study. This discrepancy may be due to the fact that these two studies were conducted at the beginning of the COVID-19 pandemic. Since the number of studies on COVID-19 pandemic increased during this period, more literature-based videos may have been uploaded by healthcare professionals. It is not possible to make comparisons completely since there is no study on aerosol management in dentistry during COVID-19 pandemic. YouTube studies have some limitations like not evaluating by a single observer, performing subjective ratings. Videos displayed until the time of the research are evaluated. YouTube is a dynamic platform and new videos are added and displayed over time. Therefore, more research is needed to evaluate video changes relative to the upload time of existing YouTube videos during and after the COVID-19 outbreak. While YouTube is a valuable resource for medical information about the COVID-19 outbreak, the CDC, WHO, OSHA, academic institutions, and other government health authorities should explore using it to distribute correct medical information to the general public.

Also, dental professionals should be encouraged to provide more reliable and useful resources, especially to upload educational videos on trusted sites with a high audience, such as YouTube.

CONCLUSION

Increasing the knowledge of aerosol management in dentistry can help dental professionals implement special precautions that prevent disease transmission during pandemic. For this purpose, it may be necessary to enhance educational content in social media areas such as YouTube to reach more people. Healthcare professionals should play a more active role in the educational videos on infection prevention and aerosol management during pandemic on YouTube. Evaluating the content of YouTube videos before uploading may contribute to reaching more accurate information for the healthcare professionals and general public.

Conflict of Interest

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

Author Contributions

Plan, design: NBK, EK; **Material, methods and data collection:** NBK, EK; **Data analysis and comments:** NBK, EK; **Writing and corrections:** NBK, EK.

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