




Evaluating Content, Quality, and Adequacy of Maxillofacial Trauma Videos on YouTube

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Article Info	ABSTRACT
Article History Received: 06.06.2023 Accepted: 16.11.2023 Published: 30.04.2024	Aim: This study aimed to evaluate the content, quality, and adequacy of YouTube videos on maxillofacial trauma. Methods: A search for "Maxillofacial trauma" was conducted on YouTube with, a selection of two hundred videos. Out of these, 108 videos were considered eligible for the assessment of quality and adequacy. These videos were then evaluated for quality and adequacy using established assessment tools: the Information Quality Index (VIQI) and the Global Quality Scale (GQS). Subsequently, the videos were classified into low or high-content groups, based on a 16-point scoring system. Results: Most videos (55.6%) were uploaded by healthcare professionals. 81.5% were classified as low content and 18.5% as high content. The main topics covered included anatomical structures (43.5%), trauma area (40.7%), treatment procedure (32.4%), intraoral complications (31.5%), and maxillofacial trauma definition (30.6%). Fewer videos discussed post-operative prognosis and survival (13.9% and 17.6%, respectively). High-content videos had significantly higher GQS and VIQI scores, with strong correlations between content scores, VIQI, and GQS. Conclusions: The study shows a need for higher quality, accurate YouTube content on maxillofacial trauma, especially for non-medical audiences. Collaboration between healthcare professionals, commercial entities, laypersons, and YouTube could enhance reliable educational content, making YouTube a more valuable resource for patient education and awareness.
Keywords: Maxillofacial Trauma, Patient Information, YouTube, GQS, VIQI.	

YouTUBE'DAKİ MAKSİLLOFASİYAL TRAVMA VİDEOLARININ İÇERİĞİNİN, KALİTESİNİN VE YETERLİLİĞİNİN DEĞERLENDİRİLMESİ

Makale Bilgisi	ÖZET
Makale Geçmişi Geliş Tarihi: 06.06.2023 Kabul Tarihi: 16.11.2023 Yayın Tarihi: 30.04.2024	Amaç: Bu çalışma, YouTube'daki "Maksillofasiyal travma" videolarının içeriğini, kalitesini ve yeterliliğini değerlendirmeyi amaçlamaktadır. Gereç ve Yöntemler: YouTube'da "Maksillofasiyal travma" araması yapıldı ve 200 video seçildi. Bu videolardan 108'i, kalite ve yeterlilik değerlendirmesi için uygun bulundu. Videolar, Bilgi Kalite İndeksi (VIQI) ve Global Kalite Ölçeği (GQS) kullanılarak kalite ve yeterlilik açısından değerlendirildi. Daha sonra, videolar, 16 puanlık bir değerlendirme sistemi temel alınarak düşük veya yüksek içerikli gruplara ayrıldı. Bulgular: Videoların çoğu (%55,6) sağlık profesyonelleri tarafından yüklenmiştir. Videoların %81,5'i düşük içerikli ve %18,5'i yüksek içerikli olarak sınıflandırıldı. En çok ele alınan konular arasında anatomik yapılar (%43,5), travma alanı (%40,7), tedavi prosedürü (%32,4), intraoral komplikasyonlar (%31,5) ve maksillofasiyal travma tanımı (%30,6) bulunuyor. Daha az video, post-operatif prognoz ve hayatta kalma oranlarını (%13,9 ve %17,6, sırasıyla) tartıştı. Yüksek içerikli videoların GQS ve VIQI puanları anlamlı derecede yüksekti ve içerik puanları, VIQI ve GQS arasında güçlü korelasyonlar bulundu. Sonuçlar: Çalışma, özellikle profesyonel olmayan izleyiciler için YouTube'daki maksillofasiyal travma içeriklerinin kalitesinin ve doğruluğunun artırılması gerektiğini göstermektedir. Sağlık profesyonelleri, ticari kuruluşlar, meslek ile alakası olmayan kişiler ve YouTube arasındaki iş birliği, güvenilir eğitim içeriğinin geliştirilmesine yardımcı olabilir, böylece YouTube, hastaların eğitimi ve maksillofasiyal travma yönetimi ve tedavisi hakkındaki farkındalığı için daha değerli bir kaynak haline gelebilir.
Keywords: Maksillofasiyal Travma, Hasta Bilgilendirmesi, YouTube, GQS, VIQI.	

To cite this article:

Tekin A., Temel AN., Erdem Hepsenoğlu Y. Evaluating Content, Quality, and Adequacy of Maxillofacial Trauma Videos on YouTube. NEU Dent J. 2024;6:1-12. <https://doi.org/10.51122/neudentj.2024.83>

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INTRODUCTION

Accident-related injuries represent a significant public health concern, being a leading cause of mortality and morbidity. Between 5 to 33% of severe trauma patients sustain facial injuries^{1,2}. Facial injuries result from various incidents, including falls, car accidents, assaults, alcohol-related events, workplace incidents, and everyday activities.³ They can happen alone or in conjunction with other severe injuries, such as cranial, spinal, upper, and lower body injuries.⁴

Maxillofacial injuries can be particularly incapacitating. It is the location of critical functions like breathing, mastication, speech, vision, hearing, and olfaction. The psychological impact of disfigurement may also increase the level of resulting morbidity because of the proximity of significant vascular and neural structures.⁵ These injuries are likely to have a significant financial impact as well. Young adults are the age group most frequently affected.⁶

In maxillofacial traumas, there are many sub-headings such as trauma site, affected areas, type of trauma, cause of trauma, treatment procedures, intraoral and extraoral complications, symptoms, effects on quality of life, prognosis, survival rate, imaging methods used, first aid and status after surgical treatment.⁷

With the widespread use of the internet and smartphones globally, a significant number of people now rely on online sources for medical information. Currently, approximately 65.6% of the global population has access to the internet, and of these, over 70% use it to seek health-related information.⁸ With 122 million people accessing YouTube daily and a total of 2.6 billion users, its widespread popularity and easy accessibility have made it a unique source of medical information.⁹ Information obtained from the "2018 Health

Information National Trends Survey" shows that more than a third of patients watch health-related videos on YouTube.¹⁰ Due to its accessible platform, individuals and groups can easily upload misleading content. The level of accuracy, whether there is bias, or whether the quality is adequate is a factor unknown to the viewer. Therefore, uploaders need to be particularly careful about the quality of the uploaded content to avoid misleading the viewer.

Health-related misinformation on social media is gradually turning into a mounting public health concern that may affect patient-provider communication due to the popularity of social media and the relative ease with which information can be posted online.¹¹

Even though many health-related videos on YouTube are considered educationally valuable and of high quality.^{12,13} Some studies indicate that health-related videos on YouTube often lack quality, can be misleading, or contain commercial content designed to sell products or services all of which may have serious implications for consumer attitudes and medical decisions.^{14,15}

Recent studies have evaluated the quality of information on disc herniation, cervical cancer, and many other surgical topics on YouTube.¹⁶⁻¹¹⁹

However, to date, no study has evaluated the quality of maxillofacial trauma patient videos on YouTube. This study aimed to investigate the content, quality, and adequacy of maxillofacial trauma-related videos on YouTube.

MATERIAL AND METHODS

For this study, approval has been obtained from the ethics committee with the number E-10840098-772.02-810. This study cross-sectionally evaluated the Internet-based video environment. A YouTube (www.youtube.com; Google, San Bruno,

Calif) search using the keyword "Maxillofacial Trauma" was performed on 15 January 2023. According to the Google Trends Website (2022), "maxillofacial trauma" was the most frequently used search term for accidental injuries in the head and neck region in the English language.

All history and cookies of the computer were cleared to prevent restrictions based on user history. The search setting was configured worldwide to broaden the scope of the results. During the search, no filters were applied to the upload date, duration, or feature sections. The content type was set to 'video', and relevance-based ranking was selected as the sorting criterion. The resulting videos were playlisted on YouTube on a set date to ensure consistency in ranking. In a study, it was observed that only 17% of users looked beyond the first three pages of search results, while another reported that merely 8% of users did.²⁰ Therefore, search results were restricted to the first 200 videos. To guarantee consistency in ranking, the resulting videos were playlisted on YouTube on a set date because the outcomes of the searches might vary from day to day.

The exclusion criteria for our study included videos in a language other than English, no audio, longer than 30 minutes, duplicate videos, and videos not related to maxillofacial trauma. In these cases, only video properties were noted. Basic attributes of these videos, including the upload date, the number of minutes, the country from which they were uploaded, and the total number of comments and likes were recorded.

The source of the videos was classified into four categories: professionals, hospitals/universities, commercial entities, and laypersons. The intended audience was divided into three groups: professional, layperson, and both.

Upon analyzing the video content, the

examiners determined whether the target audience consisted of professionals, laypersons, or both. This was based on the level of technical and scientific information presented in the videos. According to the study by Hassona *et al.*²¹ the interaction level of the viewers was evaluated using the interaction index and viewing rate formulas based on the number of likes, total views, and days since the upload date.

The research team consists of A.T, an oral and maxillofacial radiology specialist, and Y.E.H, an endodontics specialist, both of whom have more than seven years of practice in their corresponding areas. Two researchers evaluated the videos based on 16 criteria, which included the definition of maxillofacial trauma, anatomical structures, trauma area and types, causes, treatment procedures, intraoral and extraoral complications, case presentation, symptoms, psychological and psychosocial impact, prognosis and survival, imaging of trauma, initial actions, secondary survey, and post-operative care. The calculation was made over a total of 16 points, 1 point for each of the videos that meet each of these criteria similar to the study by Lena *et al.*²² videos earning a cumulative score of 9-16 were classified as high-content, while those scoring under 8 were categorized as low-content.

The Video Information and Quality Index (VIQI) was employed to gauge the comprehensive audio-visual quality of the videos, using a 5-point Likert scale that ranged from 1 (low quality) to 5 (excellent quality). This index assesses video characteristics such as information flow, accuracy, quality (attributing one point each for incorporating still images, animations, community interviews, captions, and a summary), and precision (the coherence between the video's title and its content). The educational quality was assessed based on the Global Quality Scale (GQS), a 5-point scale that evaluates flow, patient

usefulness, and overall quality (Table 1).

To estimate intraobserver reliability, the same researcher reevaluated all of the videos after 30 days. Additionally, a second examiner reevaluated all videos to determine interobserver reliability. Intraobserver and interobserver agreements were determined using intraclass correlation coefficients (ICCs). In case of uncertainty, the first researcher consulted the second researcher, and they reached a consensus by viewing the video together.

Table 1: Global Quality Scale (GQS)

Score	Description	Score
1	Poor quality, poor flow of the video, most information missing, not at all useful for patients	1
2	Generally poor quality and poor flow, some information listed but many important topics missing, of very limited use to patients	2
3	Moderate quality, suboptimal flow, some important information is adequately discussed but others poorly discussed, somewhat useful for patients	3
4	Good quality and generally good flow. Most of the relevant information is listed, but some topics are not covered, useful for patients	4
5	Excellent quality and flow, very useful for patients	5

Statistical Analyses

In this study, IBM SPSS Statistics 22 software served as the tool for interpreting the results and conducting statistical examinations. The Shapiro-Wilks test was applied to analyze the distribution normality of the parameters, establishing that the parameters did not conform to a normal distribution. Descriptive statistical approaches (mean, standard deviation, median, frequency) were used to assess the data gathered in the study, alongside the Kruskal Wallis Test (post hoc Dunn's test) for drawing comparisons among more than two sets of quantitative data. The Mann

Whitney U Test was used for comparisons between two sets of quantitative data. Spearman's rho correlation analysis was used to evaluate the correlations between parameters. To compare qualitative data, techniques like the Chi-Square test, Fisher's Exact Chi-Square test, Fisher Freeman Halton Exact Test, and Continuity (Yates) Correction were employed. The threshold for significance was set at the $p < 0.05$ level.

RESULTS

A total of 200 videos were examined in the study. However, 92 videos were excluded from the study for various reasons, including 21 videos (22.8%) with lacked audio, 17 videos (18.5%) were not in English, 2 videos (2.2%) were duplicates, 6 videos (6.5%) were not related to the subject and 46 videos (50%) with a duration of 30 minutes or longer. All evaluations were made on the remaining 108 videos.

The intraobserver reliability between the two raters was excellent for total content, with ICC values of 0.933. Additionally, intraobserver reliability was good for both GQS and VIQI, with ICC values of 0.875 and 0.844 respectively. Good interobserver reliability was seen across all three scoring systems, with ICC values of 0.883 for total content, 0.831 for GQS, and 0.804 for VIQI.

In searches using the keyword "maxillofacial trauma" among the 108 videos that met the inclusion criteria for the study, 61 (56.5%) were uploaded from the United States, 28 (25.9%) from India, and 19 (17.6%) from other countries.

The descriptive statistics, such as the number of views, likes, and days since the videos were uploaded. The average duration of the YouTube videos on maxillofacial trauma was 6.33 minutes, with a mean total view count was 6097.73 and a viewing rate was 604.83. The mean like count was 104.27, ranging from 0 to 2400. The videos had been uploaded, on average, 1414.05 days ago, with a range of 95 to 4491 days (Table 2).

Table 2: Descriptive Statistics of the YouTube Videos

Variables	Minimum	Maximum	Mean	Std. Dev.	Median
Video Characteristics					
Number of Views	1	137917	6097,73	17646,33	393,5
Duration in Minutes	2 sec	29,21 min	6,33	7,52	2,76
Days Since Upload	95	4491	1414,05	901,41	1212
Number of Comments	0	207	8,53	28,16	0
Number of Likes	0	2400	104,27	323,38	3,5
Viewing Rate	0,04	13243,95	604,83	1768,78	35,67
Interaction Index	0	11,05	1,46	1,97	0,75
Total Content Score	0	16	4,25	4,55	3
GQS Score	1	5	2,08	1,12	2
VIQI Content Assessment					
Flow of Information	1	5	2,31	1,26	2
Information Accuracy	1	5	3,33	1,34	3
Quality	1	4	1,87	0,96	2
Precision	1	5	2,40	1,35	2
VIQI Total Score	4	19	9,91	4,53	10

Table 3: Distribution of Youtube Videos Source of Upload, Target Audience, Video Contents

		n	%
Source of Upload	Healthcare Professionals	60	55,6
	Hospital/University	5	4,6
	Commercial Entities	41	38
	Layperson	2	1,9
Target Audience	Professional	39	36,1
	Layperson	53	49,1
	Both	16	14,8
Total Content Score	Low-Content (0-8)	88	81,5
	High-Content (9-16)	20	18,5
Video Contents	Definition of Maxillafacial Trauma	33	30,6
	Anatomic Structures	47	43,5
	Trauma Area	44	40,7
	Trauma Types	32	29,6
	Trauma Causes	28	25,9
	Treatment Procedure	35	32,4
	Intraoral Complications	34	31,5
	Extraoral Complications	27	25
	Case Presentation	28	25,9
	Symptoms	30	27,8
	Psychological and Psychosocial Impact	20	18,5
	Prognosis and Survival	19	17,6
	Imaging of Trauma	24	22,2
	Initial Action	23	21,3
	Secondary Survey	20	18,5
	Post-Operative	15	13,9

In this study, the most frequently covered topics were anatomic structures (43.5%), trauma areas (40.7%), and treatment procedures (32.4%). However, post-operative information was discussed the least discussed topic (13.9%) (Table 3). Table 3 presents additional video demographics, such as the uploader's identity, the target audience, and content. Most of the videos (55.6%, n=60) were uploaded by healthcare professionals, followed by commercial entities (38%, n=41), while the rest were from laypersons and hospital/university sources. The videos were predominantly aimed at laypersons

(49.1%), with only 36.1% targeting dental professionals (Table 3).

Of the 108 videos, 88 videos (81.5%) and 20 videos (18.5%) were included in the low-content and high-content groups, respectively (Table 3).

No statistically significant difference was found between the low and high-content video groups regarding video view counts, the time elapsed since the video upload, number of comments, number of likes, number, and viewing rate ($p>0.05$) (Table 4).

Table 4: Comparison of Variables Low-Content and High-Content Videos

Variables	Low -Content			High-Content			p
	Min	Max	Mean±SD (median)	Min	Max	Mean±SD (median)	
Video Characteristics							
Number of Views	1	137917	5452,86±17410,61 (372,5)	30	75951	8935,15±18847,26 (892)	0,371
Duration in Minutes	0,02	29,21	4,94±7,11 (2,1)	2,15	25,46	12,23±6,35 (10,5)	0,001*
Days Since Upload	95	4491	1413,07±909,77 (1202)	246	3453	1418,35±886,54 (1239)	0,899
Number of Comments	0	207	8,15±29,59 (0)	0	86	10,22±21,11 (2)	0,051
Number of Likes	0	2400	97,68±329,5 (3)	0	1300	133,25±301,19 (19,5)	0,056
Viewing Rate	0,04	13243,95	591,15±1835,89 (29,7)	1,9	5938,31	665,01±1476,8 (103,2)	0,438
Interaction Index	0	11,05	1,33±1,92 (0,6)	0	7,68	2,04±2,1 (1,4)	0,049*
GQS	1	4	1,77±0,97 (1)	3	5	3,45±0,6 (3)	0,001*
VIQI Content Assessment							
Flow of Information	1	5	2,05±1,2 (2)	2	5	3,45±0,83 (3)	0,001*
Information Accuracy	1	5	3,06±1,32 (2,5)	4	5	4,55±0,51 (5)	0,001*
Quality	1	4	1,65±0,83 (1)	1	4	2,85±0,88 (3)	0,001*
Precision	1	5	2,07±1,24 (2)	3	5	3,85±0,75 (4)	0,001*
VIQI Total Score	4	19	8,82±4,21 (8)	10	19	14,7±2,23 (15)	0,001*

Mann Whitney U Test

* $p<0,05$

The average interaction index of high-content videos is statistically significantly higher than that of low-content videos ($p=0.049$). Compared with the low-content group, the high-content video group had a higher median value of GQS score (4.00 vs 2.00; $P<0.001$) and more in VIQI score (16.00 vs 12.00; $P<0.001$). The flow of information, information accuracy, quality,

and precision of high-content videos are statistically significantly higher than those of low-content videos ($p=0.001$) (Table 4).

The correlations between the total content, GQS and VIQI scores were analyzed. Pearson correlation analysis revealed a strong correlation between the total content and VIQI scores ($r=0.792$; $P=0.001$) as well as between GQS and total

content scores ($r=0.778$; $P=0.001$). Furthermore, a strong correlation was observed between GQS and VIQI scores ($r=0.93$; $p=0.001$) (Table 5).

There are statistically significant and high-level positive correlations in the relationship between the overall content

score and the duration of the video. ($r = 0.704$), VIQI score and video duration ($r = 0.782$), VIQI score and like count ($r = 0.652$), GQS score and video duration ($r = 0.809$), as well as GQS score and like count ($r = 0.621$; $p=0.001$) (Table 5).

Table 5: Correlations Between Total Content Score, VIQI, GQS And Youtube Demographics

		Total Content Score	VIQI	GQS
Total Content Score	r	1,000		
	p	,		
VIQI	r	0,792	1,000	
	p	0,001*	,	
GQS	r	0,778	0,930	1,000
	p	0,001*	0,001*	,
Number of Views	r	0,323	0,454	0,421
	p	0,001*	0,001*	0,001*
Duration in Minutes	r	0,704	0,782	0,809
	p	0,001*	0,001*	0,001*
Days since Upload	r	-0,228	-0,310	-0,292
	p	0,017*	0,001*	0,002*
Number of Comments	r	0,449	0,581	0,572
	p	0,001*	0,001*	0,001*
Number of Likes	r	0,466	0,652	0,621
	p	0,001*	0,001*	0,001*
Viewing Rate	r	0,384	0,550	0,507
	p	0,001*	0,001*	0,001*
Interaction Index	r	0,458	0,558	0,553
	p	0,001*	0,001*	0,001*

Spearman's Rho Correlations

** $p < 0,05$*

Regarding the source of upload, statistically significant differences were found between the low and high-content groups ($p=0.001$). Videos uploaded by healthcare professionals were significantly high-content (%85) compared to low-content (%48.9). Videos sourced by commercial entities had a significantly higher incidence of low-content videos (%46.6) compared to high-content (%0) (Table 6).

Statistically significant differences were found in total content ($p=0.001$), VIQI ($p=0.001$), and GQS ($p=0.001$) based on the target audience, with videos targeting non-professionals having significantly lower scores in all three metrics compared to

videos targeting professionals and both groups combined ($p_1=0.001$; $p_2=0.001$) (Table 7).

DISCUSSION

YouTube is often used as a resource for health-related information.²³ People from all age groups have been consulting the internet for information about their health ranging from older adults²⁴ to younger patients who are mostly affected by maxillofacial trauma.²⁵ and their parents or guardians.²⁶ YouTube videos constitute a potent source of knowledge that is readily available to a diverse spectrum of individuals.²⁷

Table 6: Comparison of Variables Low-Content and High-Content Videos

		Low-Content	High-Content	
		n (%)	n (%)	p
Source of Upload	Healthcare Professionals	43 (%48,9)	17 (%85)	¹ 0,001*
	Hospital/University	2 (%2,3)	3 (%15)	
	Commercial Entities	41 (%46,6)	0 (%0)	
	Layperson	2 (%2,3)	0 (%0)	
Target audience	Professional	27 (%30,7)	12 (%60)	² 0,001*
	Layperson	51 (%58)	2 (%10)	
	Both	10 (%11,4)	6 (%30)	
Video Contents	Definition of Maxillofacial Trauma	18 (%20,5)	15 (%75)	³ 0,001*
	Anatomical Structures	28 (%31,8)	19 (%95)	³ 0,001*
	Trauma Area	24 (%27,3)	20 (%100)	³ 0,001*
	Trauma Types	16 (%18,2)	16 (%80)	³ 0,001*
	Trauma Causes	17 (%19,3)	11 (%55)	³ 0,001*
	Treatment Procedure	17 (%19,3)	18 (%90)	³ 0,001*
	Intraoral Complications	18 (%20,5)	16 (%80)	³ 0,001*
	Extraoral Complications	12 (%13,6)	15 (%75)	³ 0,001*
	Case Presentation	14 (%15,9)	14 (%70)	³ 0,001*
	Symptoms	12 (%13,6)	18 (%90)	³ 0,001*
	Psychological and Psychosocial Impact	9 (%10,2)	11 (%55)	⁴ 0,001*
	Prognosis and Survival	5 (%5,7)	14 (%70)	⁴ 0,001*
	Imaging of Trauma	11 (%12,5)	13 (%65)	⁴ 0,001*
	Initial Action	9 (%10,2)	14 (%70)	⁴ 0,001*
	Secondary Survey	7 (%8)	13 (%65)	⁴ 0,001*
Post-Operative	4 (%4,5)	11 (%55)	⁴ 0,001*	

¹Fisher Freeman Halton Exact Test ²Chi-square test ³Continuity (yates) fix. ⁴Fisher's Exact test

*p<0,05

Table 7: Comparison of Scores According to Source of Upload and Target Audience

		Total Score	VIQI	GQS
		Mean±SD (median)	Mean±SD (median)	Mean±SD (median)
Source of Upload	Healthcare Professionals	0,28±0,45 (0)	12,6±3,65 (13)	2,7±0,98 (3)
	Hospital/University	0,6±0,55 (1)	12,2±4,97 (15)	2,8±1,3 (3)
	Commercial	0±0 (0)	5,78±1,8 (5)	1,12±0,4 (1)
	Layperson	0±0 (0)	8±4,24 (8)	1,5±0,71 (1,5)
	p	0,001*	0,001*	0,001*
Target Audience	Professional	0,31±0,47 (0)	12,92±3,9 (14)	2,77±0,99 (3)
	Layperson	0,04±0,19 (0)	6,58±2,76 (5)	1,32±0,73 (1)
	Both	0,38±0,50 (0)	13,56±2,22 (14)	2,94±0,77 (3)
	p	0,001*	0,001*	0,001*

Kruskal Wallis Test

*p<0,05

Numerous studies have been performed on the quality and adequacy of YouTube videos on different topics but there hasn't been any concerning maxillofacial trauma.²⁸ In this study, we have aimed to investigate the contents and quality of the videos related to maxillofacial trauma.

The average daily time spent by a user on YouTube including all platforms and devices is 19 minutes and 39 seconds and the average mobile viewing session is approximately 40 minutes.⁹ This study found that the average duration of low-content and high-content videos was 4.94 ± 7.11 and 12.23 ± 6.35 minutes respectively. Even though a positive correlation has been found between video duration and content ratings, there's a demand for shorter videos. A study has shown that short-length videos are more popular than long-length videos.²⁹ YouTube Shorts has been recently introduced and it grew by %135 between 2021 and 2022, reaching 30 billion daily views in 2022.⁹ Patients should be directed to longer videos for more accurate information.

³⁰ In this study, videos were classified into two categories as high and low-content based on their inclusion of 16 criteria. These criteria were determined by their frequent appearance in book chapters and reviews on the subject.³⁰⁻³³ Videos were also graded using VIQI and GQS which are used in similar articles.^{22,34,35} Total content score, VIQI and GQS scores were found to be correlated. There was also a correlation between VIQI and GQS scores.

As of November 2021, YouTube has removed the public dislike count from all of the videos.³⁶ Research about the accuracy of YouTube videos commonly included dislike counts in their statistical analysis.^{20,37} In this study, dislike counts were not investigated since the findings suggest that hiding the number of dislikes from viewers has altered the user interactions for the like/dislike

features, which may affect the reliability of the parameter.³⁸

Although socioeconomic deterioration as a result of psychological damage after maxillofacial trauma is widely recognized, this study found very few videos of posttraumatic postoperative psychological impairment and social difficulties.^{31,33} In addition to psychological and social effects, unfavorable outcomes such as infections, nonunion and malunion that can result in malocclusion and deformities may occur during the post-operative healing period in case of patient noncompliance.³⁹

Early and sensitive assessment and management of maxillofacial trauma is of utmost importance because the most favorable outcomes are only possible with early intervention.⁴¹ The videos evaluated failed to provide accurate and sufficient information on issues vital for treatment planning and prognosis.⁴⁰⁻⁴²

Based on the target audience, statistically significant differences were found in total content scores, VIQI scores, and GQS scores, with videos targeting non-professionals having significantly lower scores in all three scales compared to videos targeting professionals and both groups combined. This indicates that videos aimed at professionals generally have higher quality and more accurate information.

Given the ever-changing nature of YouTube content, search results are prone to fluctuation as user interests and video viewing patterns shift over time. However, extending the research time might result in an unwieldy volume of social media data, complicating the analysis process. Furthermore, even though the Google Trends tool identified the most prevalent keywords for maxillofacial trauma, using different keywords might lead to different videos. Other limitations of this study include the use of only "maxillofacial trauma" as a keyword. In addition, the fact that the

number of laypersons who know the term "maxillofacial trauma" does not constitute a very large part of the population can also be seen as a limitation of the study. This situation statistically affects the homogeneous distribution between the groups.

CONCLUSION

The results of this research emphasize the necessity for enhanced content quality and accuracy of YouTube videos on maxillofacial trauma, especially for layperson viewers. Achieving this requires collaboration among healthcare professionals, commercial entities, laypersons, and YouTube to create, review, and promote reliable educational content. By doing so, YouTube can become a more valuable resource for patient education and awareness regarding maxillofacial trauma management and treatment.

Ethical Approval

The necessary ethical approval for this study was received from Istanbul Medipol University Non-Interventional Scientific Research Ethics Committee. (E- 10840098-772.02-810)

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: AT, YEH, ANT, Data collection and processing: AT, Analysis and interpretation: AT, YEH, Literature review: AT, ANT, Writing: AT, ANT

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