



BASIC RESEARCH:

Evaluation of the Quality and Reliability of Gingival Recession-Related Content on YouTube and TikTok

Evaluación de la calidad y confiabilidad del contenido relacionado con la recesión gingival en YouTube y TikTok

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ABSTRACT: This study evaluated the quality and reliability of information about gingival recession on YouTube and TikTok, and compared videos across platforms. Videos uploaded between December 2017 and December 2022 were searched and screened on January 13, 2023, yielding 1,882 videos of which 248 met the inclusion criteria (YouTube: 175, TikTok: 73). Videos were assessed for scientific credibility, information quality, and popularity using the Global Quality Scale (GQS), DISCERN, and JAMA benchmarks. Visual content richness, duration, likes, dislikes, views, sources, and video types were also recorded. Overall, the information quality was low to medium. YouTube videos had higher GQS (2.55) and DISCERN (1.88) scores than TikTok videos (1.92; 1.42) ($p < 0.05$). Periodontologist videos showed significantly better visual content richness on YouTube ($p < 0.001$), while no difference was observed on TikTok ($p = 0.111$). TikTok videos had higher view rates (440.5 vs. 174.9; $p < 0.05$), but YouTube videos were longer ($p < 0.001$). Across both platforms, specialist-uploaded videos achieved significantly higher GQS and DISCERN scores than other sources ($p < 0.005$). YouTube and TikTok provide accessible but overall low to medium-quality information on gingival recession, with frequent unreliability regarding causes and treatment. Patients should be encouraged to approach such content critically and prioritize information from verified professional sources.

KEYWORDS: Gingival recession; Discern; Global quality scale; Social media; Youtube; Tiktok.



RESUMEN: Este estudio evaluó la calidad y confiabilidad de la información sobre recesión gingival en YouTube y TikTok, y comparó los videos entre plataformas. Los videos subidos entre diciembre de 2017 y diciembre de 2022 fueron buscados y seleccionados el 13 de enero de 2023, obteniéndose 1.882 videos, de los cuales 248 cumplieron los criterios de inclusión (YouTube: 175, TikTok: 73). Los videos fueron evaluados en cuanto a credibilidad científica, calidad de la información y popularidad mediante la Escala de Calidad Global (GQS), DISCERN y los criterios JAMA. También se registraron la riqueza del contenido visual, la duración, los "me gusta", los "no me gusta", las visualizaciones, las fuentes y los tipos de video. En general, la calidad de la información fue de baja a media. Los videos de YouTube tuvieron puntuaciones más altas de GQS (2,55) y DISCERN (1,88) que los videos de TikTok (1,92; 1,42) ($p<0,05$). Los videos de periodontólogos mostraron una riqueza de contenido visual significativamente mejor en YouTube ($p<0,001$), mientras que no se observaron diferencias en TikTok ($p=0,111$). Los videos de TikTok tuvieron tasas de visualización más altas (440,5 vs. 174,9; $p<0,05$), pero los videos de YouTube fueron más largos ($p<0,001$). En ambas plataformas, los videos subidos por especialistas obtuvieron puntuaciones significativamente más altas de GQS y DISCERN que otras fuentes ($p<0,005$). YouTube y TikTok proporcionan información accesible pero de calidad general baja a media sobre la recesión gingival, con frecuente falta de confiabilidad en cuanto a causas y tratamiento. Se debe animar a los pacientes a abordar dicho contenido de forma crítica y a priorizar la información de fuentes profesionales verificadas.

PALABRAS CLAVE: Recesión gingival; DISCERN; Escala de calidad global; Redes sociales; YouTube; TikTok.

INTRODUCTION

Gingival recession is defined as the apical migration of the free gingival margin, which exposes the root surface (1). Etiological factors include improper tooth brushing techniques, inadequate flossing, high frenulum attachment, oral piercings, orthodontic treatment, root inclination, non-arc tooth positioning, poorly fitted prosthetic restorations, class V composite restorations, and a thin gingival phenotype (2,3). Studies have shown that approximately 50% of individuals aged 18 to 65 years experience gingival recession, with its prevalence increasing with age (4,5). This condition exposes the root surface to the oral environment, complicates oral hygiene, and increases the risk of microbial plaque accumulation, root caries, and root surface abrasions (5,6). Furthermore, root surface exposure associated with gingival recession has been found to negatively affect the

quality of life and psychological well-being, primarily due to increased tooth sensitivity and aesthetic concerns (7).

Content shared by dental professionals plays a key role in promoting preventive health behaviors and encouraging patients to explore advanced treatment options (8). Online information sources are essential for raising awareness about oral health and reducing confusion among the public (9). Research indicates that utilizing credible online resources can enhance patient communication and facilitate the treatment process (10). While public health content on platforms like YouTube and Instagram has been widely studied, other emerging platforms, such as TikTok remain underexplored (11). TikTok, with 800 million users worldwide and 30 million monthly users in the United States, generates 37 billion video views each month (12).

A systematic review and meta-analysis of the impact of online social networks on oral health suggested that dental education through these platforms positively influences dental health behaviors (8). Younger users, who represent TikTok's primary audience, tend to report higher satisfaction after watching dental health videos than dentists, highlighting the need for accurate information from reliable sources. While TikTok videos can be both entertaining and educational, specialist recommendations should always take precedence (13).

To the best of our knowledge, this is the first study to simultaneously evaluate and compare the quality and reliability of gingival recession-related videos on YouTube and TikTok. This study aimed to assess the quality and reliability of information on gingival recession in videos uploaded to YouTube and TikTok over the past five years, and to compare these factors between periodontologists and other content creators.

MATERIALS AND METHODS

STUDY DESIGN

This study did not involve human or animal subjects; therefore, approval from the Ethics Committee was not required. Video URLs were recorded solely to facilitate access to the videos during the evaluation process and were not used to identify or track individual uploaders. Uploader names and account information were not recorded or analyzed. A search was conducted on TikTok (www.TikTok.com) and YouTube (www.YouTube.com) using the terms: "gum recession", "gum recession surgery", and "gum recession treatment" on January 13, 2023. These terms were selected based on their status as the most frequently searched phrases related to gingival recession, as identified by Google Trends (www.trends.google.com). Searches were performed using an incognito browser window with all user

accounts logged out to prevent algorithmic personalization, from a single geographic location (Turkey). The selected keywords were entered into the search engines of both platforms to identify relevant studies. On YouTube, the upload date filter was applied to restrict the results to videos uploaded between December 2017 and December 2022. On TikTok, keywords were entered into the search bar individually and the URLs of videos uploaded between December 2017 and December 2022 were recorded for subsequent analysis. Videos appearing under multiple keyword searches were identified and excluded to avoid duplications. The three keywords yielded the following results: "gum recession" (YouTube: 356, TikTok: 338), "gum recession treatment" (YouTube: 276, TikTok: 341), and "gum recession surgery" (YouTube: 204, TikTok: 367), for a total of 1,882 screened videos. Videos from the past five years (December 2017 to December 2022) that were in English were analyzed by a single researcher (OA). To ensure researcher calibration, 40 randomly selected videos (20 YouTube and 20 TikTok) were re-evaluated after a 4-week interval. The intraclass correlation coefficients (ICC) using a two-way mixed effects model with absolute agreement demonstrated excellent intra-rater reliability across all scales: JAMA (ICC=1.000), GQS (ICC=0.899), DISCERN Section 1 (ICC=0.917), DISCERN Section 2 (ICC=0.926), DISCERN Section 3 (ICC=0.979), and DISCERN Total Score (ICC=0.955). These 248 videos met the inclusion criteria and were evaluated further.

INCLUSION AND EXCLUSION CRITERIA

The 248 videos that met the inclusion criteria were recorded in a spreadsheet for systematic evaluation. Details of the excluded videos along with their numbers and reasons for exclusion, are provided in Figure 1. Videos containing background music, unrelated sound effects, or animations were excluded from the analysis, as these elements were considered likely to distract viewers from the health-related content being conveyed and to

interfere with the accurate assessment of information quality. Rather than applying a fixed minimum duration threshold, the videos were included based on whether the narrator presented health-related information in a complete and uninterrupted manner, regardless of duration.

The inclusion criteria were as follows:

- Relevance to gingival recession,
- Adequate video and audio quality,
- No animation or background music,
- Uploaded within the last 5 years,
- Content in English,
- No duplicate videos,
- Exclusion of lecture/conference videos and videos those containing background music.

STUDY GROUPS

In our study, videos that met the inclusion criteria were analyzed based on various factors, including the type of video, uploader, number of views, likes, dislikes, comments, video duration (in seconds), and the time since upload. These videos were categorized into four groups based on the source of the uploader (14, 15):

1. Periodontology specialist
2. Dentist/Hygienist
3. Layperson
4. Other (e.g., tv, magazine)

Additionally, the videos were classified into four types: Educational, Home Treatment, Advertisement, and Patient Experience(15). To assess visual content richness, the videos were grouped

based on their visual content, as visuals enhance viewer engagement and the videos overall effectiveness. The videos were divided into three groups based on their visual content richness(16).

Group 1: Videos with no visuals.

Group 2: Videos containing minimal visuals.

Group 3: The video has rich visual content (multiple images or moving pictures).

ANALYSIS OF VIDEO INFORMATION QUALITY AND RELIABILITY

The content of the evaluated videos was assessed using the DISCERN questionnaire, which consists of 16 questions. The first eight items (Section 1) assess the reliability of the information, items 9-15 (Section 2) focus on the quality of information about treatment options, and item 16 (Section 3) provides an overall quality rating. Sections 1 and 2 scores were reported as section totals, Section 3 as a single item score, and the Total DISCERN score as the mean of all 16 items (range 1-5) (17). The Global Quality Scale (GQS), a 5-point rating system, was used to assess the quality and applicability of the information for patients. A score of 1-2 indicates low quality, 3 indicates medium quality, and 4-5 indicates high quality (18). The JAMA benchmark criteria were applied to evaluate the transparency of the information presented in the videos. The four criteria assessed were authorship, attribution/references, disclosure, and currency. Each criterion was scored dichotomously as present (1) or absent (0), yielding a total JAMA score ranging from 0 to 4, with higher scores indicating greater research transparency (19).

DISTRIBUTION OF TOPICS IN VIDEOS

The distribution of topics in the evaluated videos was assessed to identify potential knowledge gaps and evaluate the comprehensiveness of the information provided to patients. The content of each video was evaluated based on the topic classification framework developed by Hamdan *et al.* (20), which categorizes gingival recession-related content into three domains: clinical presentation (hypersensitivity, aesthetics, redness/inflammation, black triangles, mobility, and root caries), etiological factors (aggressive tooth brushing, prominent roots, thin biotype, aberrant frenum, parafunctional habits, iatrogenic dentistry, orthodontic expansion, aging, and periodontitis), and management options (plaque control, modification of brushing technique, and surgical correction). For each video, the presence or absence of each topic was recorded, and the percentage distribution of topics across the videos was calculated.

ANALYSIS OF VIEW RATES AND USER INTERACTIONS

To assess the popularity, view rates, and user interactions of the videos, metrics such as the number of views, the time elapsed between the upload and viewing dates, and the counts of likes were recorded for both platforms, while dislikes were recorded for YouTube only (14). However, the interaction index, video power index, and number of dislikes could not be calculated for

TikTok videos because the platform does not offer a dislike option. The following formulas were used to calculate these data:

Interaction Index = (Number of likes - Number of dislikes) / Total number of views × 100

View Rate = Total number of views / Number of days since upload × 100

Video Power Index = Number of likes / (Number of likes + Number of dislikes) × 100

STATISTICAL ANALYSIS

Pearson's chi-square and Fisher Freeman Halton tests were used to compare the prevalence rates of the groups in terms of the relevant categorical variables. Bonferroni correction was used in pairwise comparisons to examine the differences in detail. The normality of the quantitative variables was assessed using the Kolmogorov Smirnov test. The MannWhitney U test was used to compare the medians of two independent groups while the Kruskal-Wallis test was applied to compare the medians of more than two independent groups, with Dunn's test serving as a post hoc analysis for multiple comparisons. The relationships between the quantitative variables were analyzed using the Spearman's correlation coefficient. Intraclass correlation coefficients (ICC) using a two-way mixed effects model with absolute agreement were used to assess intra-rater reliability. A significance level

of 0.05 was considered, and IBM SPSS Statistics for Windows, version 28.0 (IBM Corp., Armonk, NY, USA) was used for statistical calculations.

RESULTS

YouTube videos had significantly higher values across all descriptive metrics than TikTok videos ($p < 0.001$) (Table 1). However, owing to the absence of a dislike button on the TikTok platform, data regarding the video power index, interaction index, and number of dislikes could not be determined. Information regarding the types and sources of YouTube and TikTok videos is provided in Table 2. Most of the shared videos were educational, with no statistically significant difference between the two platforms in terms of video type ($p > 0.05$). On the other hand, dental health professionals who were not periodontology specialists were found to be significantly more active in sharing videos on the TikTok ($p < 0.001$).

Supplementary Table 1 presents a comparison of the visual content richness scores of YouTube and TikTok videos based on the DISCERN and GQS values. The analysis revealed that videos with more visual content in both the YouTube and TikTok groups had significantly higher total DISCERN scores than those without visuals ($p < 0.001$). However, while no significant difference in GQS scores was observed based on visual content within the TikTok group ($p > 0.05$), YouTube videos with more visual content had significantly higher GQS scores than those without visuals ($p < 0.05$).

The comparison results of the JAMA, GQS, and DISCERN score averages for YouTube and TikTok videos are shown in Table 3. The analysis revealed that YouTube videos had significantly higher scores across all evaluation parameters than TikTok videos ($p < 0.001$). Table 4 shows that videos

categorized as 'Educational' on the YouTube platform had significantly higher DISCERN, JAMA, and GQS scores than other video types ($p < 0.001$). In contrast, no significant differences were observed in JAMA and GQS scores for 'educational' videos compared to other video types on the TikTok platform ($p > 0.05$). While no significant differences were found in the number of likes and comments across video types in the TikTok group, 'Home Treatment' videos on YouTube received significantly more likes and comments than other video types ($p < 0.001$). Similarly, the number of views for 'Home Treatment' videos on YouTube was also significantly higher than that of other video types ($p < 0.001$).

The comparison results of the variable averages based on video sources for the YouTube and TikTok groups are presented in Table 5. Videos uploaded by periodontologists on both platforms had significantly higher DISCERN and GQS scores compared to those uploaded by other contributors ($p < 0.005$). The correlations between video characteristics and DISCERN Section 1, DISCERN Section 2, DISCERN Section 3, Total DISCERN scores, and GQS scores in the YouTube and TikTok groups are shown in Supplementary Table 2. A statistically significant, albeit weak, positive correlation was observed between the number of views and the view rates with DISCERN Section 1 in the YouTube group ($p = 0.007$, $r = 0.204$; $p = 0.006$, $r = 0.207$, respectively). In the YouTube group, the total JAMA scores showed a positive, moderate correlation with all parameters ($p < 0.001$), whereas in the TikTok group, total the JAMA scores demonstrated a positive, moderate correlation with DISCERN Section 1, Total DISCERN scores, and GQS scores ($p < 0.005$). Additionally, a strong positive correlation was identified between the total DISCERN scores and GQS scores on both video platforms ($p < 0.001$).

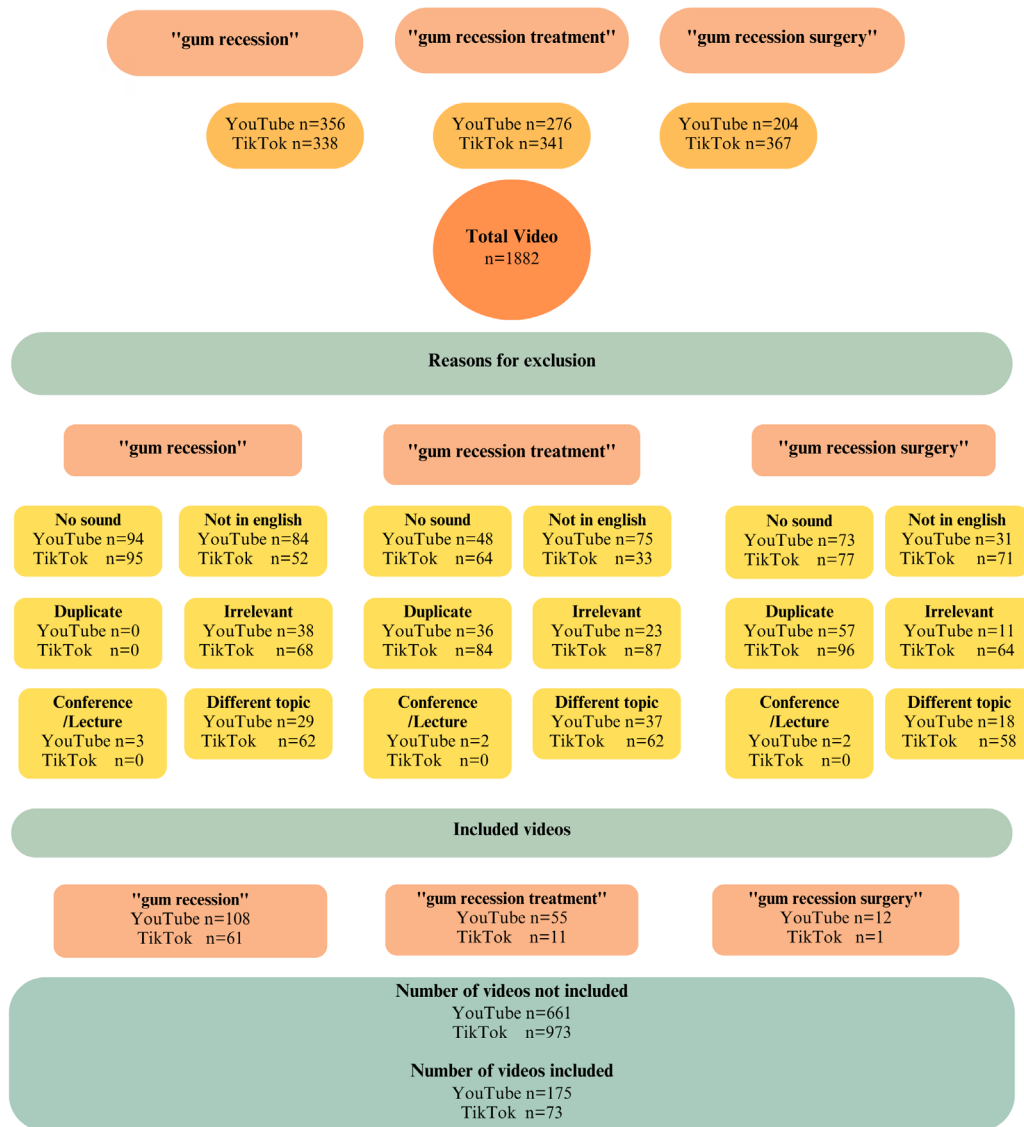


Figure 1. Flowchart of the study.

Table 1. Comparison of descriptive variables of YouTube (n=175) and TikTok (n=73) videos.

		Mean±Std	Median (Min-Maks)	p*
Number of views	YouTube	108167,62±542083,9	135(1-5992789)	<0,001
	TikTok	82852,7±253459,42	13000(310-1800000)	
Duration (sec)	YouTube	286,47±279,63	207(43-1705)	<0,001
	TikTok	59,27±47,04	45(7-181)	
Day	YouTube	799,87±484,58	736(3-1784)	<0,001
	TikTok	321,82±206,94	317(17-822)	
Comment	YouTube	132,59±674,14	0(0-8096)	<0,001
	TikTok	76,38±241,829	18(0-1980)	
Likes	YouTube	2310,07±12829,12	3(0-155545)	<0,001
	TikTok	3864,64±18381,65	324(3-155000)	
Dislikes	YouTube	49,72±144,97	0(0-1025)	<0,001
	TikTok	-	-	
Views Ratio	YouTube	174,95±769,31	0,36(0-6516,45)	<0,001
	TikTok	440,5±1795	42,95(0,94-14457,83)	
Video power Index	YouTube	501369,7±1858885,51	34437,73(0-15569675,12)	<0,001
	TikTok	-	-	
Interaction Index	YouTube	0,03±0,08	0,01(-0,19-1)	<0,001
	TikTok	-	-	

*: Mann Whitney U test, data were given as mean±standard deviation and median (minimum-maximum).
p<0.05 is statistically significant.

Table 2. Video features.

			Youtube(n=175)	TikTok(n=73)	p*
Video types	Educational	n(%)	139(79,4)	54(74)	0,224
	Home treatment	n(%)	17(9,7)	5(6,8)	
	Product advertising	n(%)	16(9,1)	10(13,7)	
	Patient experience	n(%)	3(1,7)	4(5,5)	
Video source	Periodontology specialist	n(%)	67(38,3)	5(6,8)	<0,001
	Dentist/Hygienist	n(%)	61(34,9)	55(75,3)	
	Layperson	n(%)	18(10,3)	12(16,4)	
	Other	n(%)	29(16,6)	1(1,4)	

*: Pearson chi-square test, data given as n(%).
p<0.05 is statistically significant.

Table 3. Descriptive statistics of Youtube (n=175) and TikTok (n=73) video data for Jama, Gqs and Discern.

	Jama	Gqs	Discern Section 1	Discern Section 2	Discern Section 3	Total Discern score
Youtube	2,35±0,81 3(1-3)	2,55±0,85 3(1-5)	15±3,55 15(8-31)	12,96±4,98 13(7-35)	2,19±0,79 2(1-4)	1,88±0,53 1,87(1-4,37)
TikTok	1,48±0,53 1(1-3)	1,92±0,64 2(1-3)	13,23±3,72 13(8-26)	7,93±1,97 7(7-18)	1,63±0,70 2(1-3)	1,42±0,36 1,37(1-2,94)
p*	<0,001	<0,001	<0,001	<0,001	<0,001	<0,001

*: Mann Whitney U test, data are presented as mean±standard deviation and median (minimum-maximum). p<0.05 is statistically significant. GQS: Global Quality Scale.

Table 4. Comparison of video types in Youtube and Tiktok groups in terms of other variables evaluated.

		Educational	Home treatment	Product advertising	Patient experience	p*
Discern Section 1	Youtube	15,82±3,37 ^a 16(9-31)	11,53±2,03 ^b 11(8-15)	12,25±2,17 ^b 12,5(9-17)	11±2,64 ^b 10(9-14)	<0,001
	TikTok	14,1±3,66 ^a 14(8-26)	10,8±2,68 ^b 12(8-14)	11,4±3,02 ^b 11,5(8-17)	9,25±1,9 ^b 8,5(8-12)	<0,01
Discern Section 2	Youtube	14,10±4,84 ^a 14(7-35)	8,88±3,04 ^b 7(7-16)	8,38±1,75 ^b 8(7-12)	7,67±1,15 ^b 7(7-9)	<0,001
	TikTok	8,20±2,21 7(7-18)	7,20±0,45 7(7-8)	7,20±0,63 7(7-9)	7 7(7-7)	0,149
Discern Section 3	Youtube	2,39±0,72 ^a 2(1-4)	1,29±0,47 ^b 1(1-2)	1,63±0,62 ^b 2(1-3)	1,33±0,58 ^b 1(1-2)	<0,001
	TikTok	1,74±0,7 2(1-3)	1,2±0,45 1(1-2)	1,5±0,71 1(1-3)	1 1(1-1)	0,056
Total Discern Score	Youtube	2,02±0,5 ^a 2(1,06-4,37)	1,36±0,31 ^b 1,25(1-2)	1,4±0,22 ^b 1,4(1,06-1,81)	1,25±0,27 ^b 1,12(1,06-1,56)	<0,001
	TikTok	1,5±0,36 ^a 1,5(1-2,94)	1,2±0,18 ^b 1,25(1-1,37)	1,26±0,25 ^b 1,25(1-1,81)	1,07±0,11 ^b 1,03(1-1,25)	<0,005
Gqs	Youtube	2,73±0,79 ^a 3(1-5)	1,88±0,86 ^b 2(1-4)	1,88±0,62 ^b 2(1-3)	1,67±0,58 ^b 2(1-2)	<0,001
	TikTok	2±0,64 2(1-3)	1,8±0,45 2(1-2)	1,8±0,63 2(1-3)	1,25±0,5 1(1-2)	0,118
Total Jama Score	Youtube	2,52±0,75 ^a 3(1-3)	1,82±0,81 ^b 2(1-3)	1,56±0,73 ^b 1(1-3)	2 ^b 2(2-2)	<0,001
	TikTok	1,5±0,5 1,5(1-2)	1,4±0,54 1(1-2)	1,5±0,7 1(1-3)	1,25±0,5 1(1-2)	0,793
Duration (sec)	Youtube	284,53±288,1 ^a 180(44-1705)	328,35±146,73 ^b 286(92-655)	167,63±118,33 ^c 134,5(43-453)	772,67±562, 1 ^b 490(408-1420)	0,002
	TikTok	49,65±36,36 40,50(7-180)	97,2±64,64 59(38-168)	75,2±59,29 51,5(19-181)	102±79,33 107(14-180)	0,115
Likes	Youtube	1375,02±5576,6 ^a 3(0-52043)	12279,59±37452,53 ^b 804(0-155545)	39,88±102,3 ^a 1(0-312)	1247,67±176 0,29 ^a 476(5-3262)	<0,001
	TikTok	1737,48±4441,02 299,5(4-28500)	32126,8±68721,38 384(69-155000)	1440,5±2253,05 311,5(19-6090)	3314±4006,1 2 2291(3-8671)	0,780
Number of Comments	Youtube	69,9±283,983 ^a 0(0-2833)	721,35±1944,6 ^b 93(0-8096)	4,19±15,71 ^a 0(0-63)	386±522,06 ^a 178(0-980)	<0,001
	TikTok	46,8±90,3 12,5(0-407)	425,2±870,33 26(2-1980)	39,4±43,62 24,5(0-121)	132,25±128, 6 112(0-305)	0,431
Number of Views	Youtube	75798,82±332313,96 ^a 101(1-3248994)	477609,06±1440797,08 ^b 26184(3-5992789)	2789,44±8033,38 ^a 40,5(3-31138)	76437,33±12 0733,34 ^a 13545(134-215633)	<0,001
	TikTok	60302,61±168920,18 12800(310-1200000)	381432,8±793599,22 17100(1578-1800000)	36418,4±55695,07 10093(882-168700)	130139,5±14 4066,51 113100(458-293900)	0,697

*: Kruskal Wallis and Dunn's test, data were given as mean±standard deviation, median (minimum-maximum).
p<0.05 is statistically significant, different letters in the same line indicates difference.

Table 5. Comparison of videos in Youtube and Tiktok groups in terms of other variables according to their sourcesd.

		Periodontology specialist	Dentist/Hygienist	Layperson	Other	p*
Discern Section 1	Youtube	16,54±3,47 ^a 16(11-31)	15,72±2,84 ^a 16(10-25)	11,55±2,2 ^b 11(9-17)	12,03±2,46 ^b 12(8-17)	<0,001
	TikTok	18±4,58 ^a 17(15-26)	13,47±3,38 ^a 13(8-21)	10,59±2,54 ^b 10,5(8-15)	8 8(8-8)	<0,005
Discern Section 2	Youtube	16,63±4,13 ^a 16(10-35)	12,34±4,18 ^b 12(7-23)	8,11±2,19 ^c 7(7-15)	8,79±2,74 ^c 8(7-18)	<0,001
	TikTok	13±3,08 ^a 11(11-18)	7,67±1,35 ^b 7(7-14)	7,08±0,29 ^b 7(7-8)	7 7(7-7)	<0,001
Discern Section 3	Youtube	2,61±0,63 ^a 3(2-4)	2,31±0,69 ^b 2(1-4)	1,33±0,48 ^c 1(1-2)	1,52±0,57 ^c 1(1-3)	<0,001
	TikTok	2,80±0,45 ^a 3(2-3)	1,64±0,65 ^b 2(1-3)	1,17±0,39 ^b 1(1-2)	1 1(1-1)	<0,001
Total Discern Score	Youtube	2,24±0,46 ^a 2,12(1,56-4,37)	1,9±0,43 ^b 1,88(1,19-3,25)	1,31±0,26 ^c 1,22(1,06-2)	1,4±0,3 ^c 1,31(1-2,25)	<0,001
	TikTok	2,11±0,48 ^a 1,87(1,81-2,94)	1,42±0,29 ^b 1,44(1-2,31)	1,18±1,17 ^c 1,16(1-1,43)	1 1(1-1)	<0,001
Gqs	Youtube	3,03±0,76 ^b 3(2-5)	2,57±0,67 ^c 3(1-4)	1,61±0,6 ^a 2(1-3)	2±0,76 ^a 2(1-4)	<0,001
	TikTok	3 ^b 3(3-3)	1,89±0,57 ^c 2(1-3)	1,67±0,65 ^c 2(1-3)	1 1(1-1)	<0,001
Total Jama Score	Youtube	2,9±0,35 ^c 3(1-3)	2,41±0,74 ^a 3(1-3)	2±0,69 ^a 2(1-3)	1,21±0,41 ^b 1(1-2)	<0,001
	TikTok	1,8±0,45 2(1-2)	1,44±0,5 1(1-2)	1,5±0,67 1(1-3)	2 2(2-2)	0,335
Duration (sec)	Youtube	293,75±356 180(61-1705)	281,72±222,32 165(43-872)	387,44±297,65 322(92-1420)	216,97±125,42 202(68-528)	0,064
	TikTok	83±36,65 ^a 80(28-119)	48,13±37,94 ^b 40(7-180)	97,58±65,88 ^b 58,5(14-181)	94 ^b 94(94-94)	0,007
Likes	Youtube	1336,46±3904,88 ^a 1(0-19524)	1389,67±7109,31 ^a 3(0-52043)	2415,94±4424,97 ^c 432(0-16673)	6429,72±29 068,08 ^a 4(0-155545)	0,015
	TikTok	45,4±29,66 ^c 43(18-92)	1843,87±4410,77 ^b 370(4-28500)	15034,25±44177,4 2b 443,5(3-155000)	68 ^b 68(68-68)	0,037
Number of Comments	Youtube	68,04±176,95 ^a 0(0-1037)	71,49±376,56 ^a 0(0-2833)	246,72±342,713 ^b 78(0-980)	339,41±151 8,032 ^a 0(0-8096)	0,011
	TikTok	0,8±0,84 ^a 1(0-2)	50,49±89,3 ^b 22(0-407)	232,92±557,16 ^b 55,5(0-1980)	0 0(0-0)	0,010
Number of Views	Youtube	77865,4±241599,35 ^b 101(1-1248057)	79138,13±431270,6 ^b 168(1-3248994)	90732,89±138063, 8 ^a 23605(13-487806)	250059,76± 1119508,08 ^b 78(3-5992789)	0,022
	TikTok	3600±2536,16 2762(1302-6302)	62147,44±167153,09 15300(310-1200000)	217553,08±507872 ,05 17600(458-1800000)	1501 1501(1501-1501)	0,083

*: Kruskal Wallis and Dunn's test, data were given as mean±standard deviation, median (minimum-maximum).
p<0.05 is statistically significant, different letters in the same line indicates difference.

DISCUSSION

This cross-sectional study aimed to assess the quality and reliability of videos about gingival recession uploaded by periodontologists and other individuals on two distinct video-sharing platforms, YouTube and TikTok. To the best of our knowledge, this is the first study to simultaneously evaluate and compare the quality and reliability of gingival recession-related videos across both YouTube and TikTok platforms. The widespread use of the Internet and easy accessibility to video content raise concerns that patients' tendency to uncritically trust such content may potentially contribute to delays in clinical visits, undermine the dentist-patient relationship, or mislead patients regarding treatment options. However, the present study evaluated only the video content quality and reliability, and did not directly assess patient behavior or clinical outcomes. These represent potential concerns rather than direct findings of this study. Despite the high number of users, research on dental-related content on the TikTok video platform remains limited (21-23). Although YouTube videos on gingival recession have been analyzed in previous studies (20), no research has yet evaluated TikTok videos on this topic. Therefore, the findings of this study are particularly important for understanding the impact on the dentist-patient relationship, especially among younger individuals.

When interpreting the comparative findings between YouTube and TikTok, several platform-specific differences must be considered. The two platforms differ substantially in their algorithmic structures, user engagement behavior, and available metrics. View-counting methodologies differ fundamentally between platforms: YouTube registers a view after approximately 30 seconds of watch time, whereas TikTok counts a view as soon as the video begins playing, even for a fraction of a second. This means that raw view numbers

are not directly comparable across platforms, as previously noted in studies comparing health-related video content across different social media platforms. In the present study, the view rate was calculated using a standardized formula and applied consistently across both platforms, consistent with the methodology used in similar dental video quality studies. The upload dates for TikTok videos were verified using URL-based filtering at the time of data collection. Notably, TikTok does not provide a dislike option, which further limits the direct comparison of user interaction metrics across platforms. These platform-specific differences in engagement metrics should be considered when interpreting the comparative findings of this study (24).

The literature indicates that most health-related informational content on video-sharing platforms are created by healthcare professionals (15, 25, 26). However, videos can also be produced by patients themselves (27, 28). In our study, most of the videos analyzed were created by healthcare professionals, including periodontists, dentists, and dental hygienists, whereas only a small number were shared by individuals. This finding suggests that platforms such as YouTube and TikTok are increasingly being utilized by dental health professionals to engage with patients seeking information about gingival recession. The widespread use of these platforms has contributed to a growing trend of patients consulting social media rather than official health websites for advice (29). Additionally, it has been reported that over 40% of patients have discontinued treatments recommended by healthcare centers based on information obtained from social media platforms (30). Hamdan *et al.* (20) reported an average of 54,667 views for videos about gingival recession in their 2016 study on YouTube. In contrast, our study found that TikTok videos had an average of 82,852 views, and YouTube videos had an average of 108,167 views. This indicates

that these platforms have reached a significantly broader audience over time in spreading information on gingival recession.

Studies have shown that videos with higher DISCERN scores on the YouTube platform tend to be longer than those with lower scores (13, 31, 32). Similarly, in our study, long-duration videos demonstrated higher DISCERN and GQS scores than shorter videos. This finding suggests that the higher quality and reliability of longer videos may be attributed to their ability to cover comprehensive content in detail. However, it is important to note that video duration alone does not determine quality or reliability. Other factors, such as the source and type of video should also be considered when evaluating its quality and reliability.

The management of gingival recession typically involves modifying plaque control methods and brushing techniques, addressing risk factors, and surgical intervention in some cases. In our study, two-thirds of the videos focused on clinical management strategies for gingival recession, particularly plaque control and brushing technique modification. While these approaches are effective in the early stages to prevent further progression, advanced cases often require surgical treatment (33). However, none of the videos in our study addressed the fact that not all cases of gingival recession require treatment, nor that gingival recession does not always lead to tooth loss. This finding is consistent with the study by Nieri *et al.*, which highlighted that only 28% of patients recognized that they had gingival recession, and only 7% of the study population sought treatment for it (34). According to the Global Quality Scale scores, one TikTok video was identified as having a good overall flow and being useful for patients. The remaining videos were considered inadequate, with poor flow, missing important topics, and limited usefulness for patients. On YouTube, 16

videos (9.14%) had good flow and useful information for patients, but they did not cover all relevant topics, while 2 videos (1.14%) were of excellent quality and deemed highly useful for patients.

A study on the TikTok platform regarding dental implants found no statistically significant relationship between visual content richness and factors such as video duration, type, or the average number of likes (35). Similarly, in our study, no significant difference was found between the visual content richness of videos shared on YouTube and TikTok when considering factors such as video duration, likes, comments, and views. Videos categorized as 'Periodontology specialists' and 'Educational content' on YouTube demonstrated significantly better visual content richness. This study had several limitations. First, only English-language videos were evaluated, and videos from other social media platforms, aside from YouTube and TikTok, were not included in the analysis. Additionally, the videos were limited to a specific date range and were not updated. As search results on both YouTube and TikTok are influenced by platform-specific algorithms that may vary based on geographic location, search history, and user behavior, the videos retrieved in this study may not fully represent the entire population of gingival recession-related content available on these platforms, thus representing an inherent algorithmic bias. Furthermore, inherent differences between YouTube and TikTok in terms of algorithmic structure, engagement metrics, and the absence of a dislike option on TikTok may limit the direct comparability of platform-specific findings. All videos were evaluated by a single researcher, which is a limitation of this study. Although the intraclass correlation coefficients demonstrated excellent intra-rater reliability across all assessment scales (ICC range: 0.899-1.000), the absence of a second independent evaluator precluded the assessment of inter-rater reliability. Videos

containing background music, unrelated sound effects, or animations were excluded based on the predefined criterion that such content may distract viewers from health-related information delivery. In the present study, videos containing animations were predominantly short-format content that did not provide sufficient duration or structured information for quality assessment. Nevertheless, this exclusion criterion may have disproportionately affected TikTok videos, as these features are more commonly integrated into TikTok content, which is acknowledged as a limitation of the study. One possible reason for the higher average number of views of videos on the YouTube platform than on TikTok is that most of the evaluated videos were shared within the past year. However, this study's focus on a prevalent health issue across YouTube and TikTok platforms over the past five years, along with the high number of videos reviewed, can be considered significant strengths of our study.

CONCLUSION

Within the limits of this study, the average scientific quality and comprehensibility of the analyzed videos were found to be insufficient. However, health-related information must meet the highest standards of quality (36). Therefore, dental educators should emphasize on the role of social media in both continuing education and health communication. Given the increasing influence of the internet and social media, the available data strongly suggest that scientific content should be professionally overseen. This highlights the need for more comprehensive video content on gingival recession, particularly from individual and institutional health professionals, to ensure that users are accurately and thoroughly informed.

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SUPPLEMENTARY

Table 1. Comparison of visual content richness scores in videos in terms of Discern and Gqs.

		No visual	Minimal Visual	Rich visual	p*
Discern Section 1	Youtube	13,92±3,13 ^a 14(8-22)	15,77±3,59 ^b 15(9-31)	16,62±3,66 ^b 16(11-25)	<0,001
	TikTok	12,38±3,48 12(8-21)	14,39±3,83 14(9-26)	14,38±3,89 14(9-21)	0,097
Discern Section 2	Youtube	11,77±4,64 ^b 11(7-28)	14,65±5,47 ^c 15(7-35)	13,88±4,57 ^c 14(7-23)	<0,005
	TikTok	7,50±1,33 7(7-14)	8,57±2,71 7(7-18)	8,38±1,92 7(7-11)	<0,05
Discern Section 3	Youtube	1,98±0,8 ^a 2(1-4)	2,37±0,72 ^b 2(1-4)	2,50±0,68 ^b 2,5(1-4)	<0,001
	TikTok	1,50±0,67 1(1-3)	1,78±0,67 2(1-3)	1,88±0,83 2(1-3)	0,145
Total Discern Score	Youtube	1,73±0,49 ^a 1,69(1-3,38)	2,05±0,56 ^b 2(1,19-4,38)	2,06±0,50 ^b 2,03(1,31-3,25)	<0,001
	TikTok	1,34±0,30 ^b 1,28(1-2,19)	1,55±0,42 ^c 1,50(1,06-2,94)	1,54±0,34 ^c 1,59(1,06-1,94)	<0,05
Gqs	Youtube	2,29±0,88 ^b 2(1-5)	2,79±0,74 ^c 3(1-5)	2,90±0,71 ^c 3(2-4)	<0,001
	TikTok	1,83±0,63 2(1-3)	2,04±0,56 2(1-3)	2,13±0,83 2(1-3)	0,235

*: Kruskal Wallis and Dunn's test, Data were given as mean±standard deviation, median (minimum-maximum). p<0.05 is statistically significant, different letters in the same line indicate difference.

GQS: Global Quality Scale.

Table 2. Correlation of video features on YouTube and Tiktok between Discern and Gqs scores.

			Discern Section 1	Discern Section 2	Discern Section 3	Total Discern Score	Gqs
Number of Views	Youtube	r	,204	,050	,045	,083	,082
		p	,007	,511	,550	,275	,283
	TikTok	r	,019	-,137	-,012	-,026	-,111
		p	,871	,247	,923	,825	,350
Days	Youtube	r	-,001	,151	,059	,077	,024
		p	,990	,046	,434	,310	,754
	TikTok	r	-,177	-,134	-,139	-,196	-,244
		p	,134	,259	,241	,097	,038
Number of Comments	Youtube	r	,230	,045	,053	,112	,155
		p	,002	,552	,488	,139	,040
	TikTok	r	,001	-,144	-,006	-,041	-,148
		p	,991	,226	,957	,732	,211
Likes	Youtube	r	,193	,011	,002	,068	,092
		p	,011	,883	,983	,374	,228
	TikTok	r	-,071	-,165	-,079	-,116	-,228
		p	,551	,164	,506	,327	,052
Dislikes	Youtube	r	,213	-,013	,003	,075	,138
		p	,005	,867	,969	,321	,068
	TikTok	r	-	-	-	-	-
		p	-	-	-	-	-
View rate	Youtube	r	,207	,012	,046	,072	,091
		p	,006	,872	,549	,347	,232
	TikTok	r	,080	-,103	,038	,038	,012
		p	,502	,386	,751	,750	,917
Video power index	Youtube	r	,067	,093	,054	,067	,036
		p	,551	,408	,631	,552	,750
	TikTok	r	-	-	-	-	-
		p	-	-	-	-	-
Interaction index	Youtube	r	,009	-,126	-,137	-,102	-,055
		p	,903	,096	,070	,179	,473
	TikTok	r	-	-	-	-	-
		p	-	-	-	-	-
Total Jama score	Youtube	r	,413	,586	,426	,583	,421
		p	<,001	<,001	<,001	<,001	<,001
	TikTok	r	,410	,100	,295	,388	,347
		p	<,001	,398	,011	<,001	,003
Discern Section 1	Youtube	r	-	,687	,749	,856	,699
		p	-	<,001	<,001	<,001	<,001
	TikTok	r	-	,443	,790	,967	,760
		p	-	<,001	<,001	<,001	<,001

			Discern Section 1	Discern Section 2	Discern Section 3	Total Discern Score	Gqs
Discern Section 2	Youtube	r	,687	-	,737	,878	,703
		p	<,001	.	<,001	<,001	<,001
	TikTok	r	,443	-	,563	,591	,485
		p	<,001	.	<,001	<,001	<,001
Discern Section 3	Youtube	r	,749	,737	-	,848	,743
		p	<,001	<,001	-	<,001	<,001
	TikTok	r	,790	,563	-	,874	,688
		p	<,001	<,001	-	<,001	<,001
Total Discern score	Youtube	r	,856	,878	,848	-	,785
		p	<,001	<,001	<,001	-	<,001
	TikTok	r	,967	,591	,874	-	,793
		p	<,001	<,001	<,001	-	<,001

: significant if $p < 0.05$, *: Spearmann correlation test, GQS: Global Quality Scale.