Original Research

Analysis of YouTube Videos on Circumcision: Evaluating Reliability and Quality for Patients and Parents

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ABSTRACT

Objective: Circumcision is a significant issue for child health and parents, and the reliability and quality of information published on platforms like YouTube can affect patients' access to accurate information. This study aimed to evaluate the quality and reliability of Turkish YouTube videos as a source of information about circumcision.

Methods: In this cross-sectional study, a search was conducted on YouTube using the keyword "circumcision" on June 1, 2024. After applying exclusion criteria, the 45 most viewed Turkish videos (more than 10,000 views) were included in the study. Videos that were irrelevant, contained advertisements, personal experiences, or were in languages other than Turkish were excluded. The duration, view count, likes, dislikes, number of comments, and upload date of the videos were recorded. The Video Power Index (VPI) was calculated to measure video popularity. Two pediatric surgeons independently assessed the quality and reliability of the videos using the Modified DISCERN (mDISCERN), Journal of the American Medical Association (JAMA), and Global Quality Scale (GQS) scores. Scale scores were compared between groups based on the purpose and publisher of the video using the Mann-Whitney U test. Correlations between video characteristics and scale scores were evaluated with the Spearman correlation coefficient, and inter-observer agreement was assessed with the intraclass correlation coefficient (ICC).

Results: According to the inclusion and exclusion criteria, 39 (86.7%) of the 45 videos were informational, and 6 (13.3%) were surgical. The average length of the videos was 213.5 ± 206 (35 - 1164) seconds. The average duration since the videos were published until June 1, 2024, was 1653 ± 980 (350 - 3985) days. The average view count of the videos was $73,862 \pm 114,210$ (11,736 – 679,985). The average Video Power Index of the videos was 39.9 ± 40.85 (3.69 - 247.1). The average mDISCERN score was 2.87 ± 1.24, the JAMA score was 2.71 ± 0.7, and the GQS score was 3.38 ± 1.19. According to the GQS scale, 22.3% (n=10) of the 45 videos were of low quality, 33.3% (n=15) were of medium quality, and 44.4% (n=20) were of high quality. All scale scores of informational videos were statistically significantly greater compared to the surgical videos (P=0.008, P=0.041, P=0.024, respectively).

Conclusion: YouTube is a significant source of information with the potential to influence the knowledge and behavior of a wide audience regarding circumcision. Patients and their relatives should consider videos uploaded by expert physicians. There is a need for more high-quality educational surgical circumcision videos and short, clear, unbiased, high-quality informational videos addressing controversial issues and containing necessary resources created by expert physicians. This will help increase the accurate knowledge of families about circumcision and consequently reduce unnecessary anxiety and expectations.

Keywords: Circumcision, YouTube™, Video analysis, Quality, Reliability

INTRODUCTION

The history of circumcision dates back thousands of years, making it one of the most commonly performed surgical procedures worldwide [1]. Circumcision involves the surgical removal of the foreskin (prepuce) from the tip of the penis. This procedure is widely performed globally for religious, cultural, and medical reasons [2]. Although circumcision is perceived as a simple and short procedure, it can lead to mild complications such as pain, edema, minor bleeding, and excessive foreskin removal [3], as well as more serious complications such as glans injury, urethral injury, and massive bleeding [4-6]. For parents, concerns arise from the preoperative fasting period, the time spent in the operating room, surgical and anesthesia complications, and the recovery period both in the hospital and at home [2].

In the past, most people obtained medical information by consulting healthcare professionals [7]. However, in modern medicine, patients' access to information has significantly changed with the widespread use of the internet and social media platforms [8]. Today, social media has become an accessible source of information for everyone to reach medical knowledge [9]. In addition to information provided by doctors on surgical procedures, potential risks, and treatment options, patients now also acquire information about their conditions from the internet and social media [10]. However, since YouTube is an open source where anyone can upload content, the information is often misleading or incorrect [11]. With the rapid proliferation of medical content on the internet today, the reliability and adequacy of this information remain uncertain [11].

Circumcision is a significant issue for child health and parents, and the reliability and quality of information disseminated on platforms like YouTube can affect the access of patients and their families to accurate information. There is no study in the literature that evaluates the quality of YouTube videos about circumcision. This study aimed to evaluate the quality and reliability of Turkish YouTube videos as a source of information about circumcision.

Main Points

- Quality and Reliability of YouTube Videos on Circumcision: The study found that while Turkish circumcision videos on YouTube are generally more reliable and of higher quality compared to those in other studies, they are still insufficient. Videos uploaded by physicians were more reliable and of higher quality than those published by private hospitals, and informational videos were superior in quality and reliability compared to surgical videos.

- Influence of YouTube Videos on Patient Decision-Making: The study highlighted that unreliable videos can also achieve high view and like counts, potentially misleading patients and their families. It emphasizes the importance of considering videos uploaded by specialists in the field rather than relying solely on view and like counts when making health-related decisions.

- Need for High-Quality Educational Content: The study underscores the necessity for more high-quality educational surgical circumcision videos created by expert physicians and more high-quality informational videos that are short, clear, unbiased, address controversial issues, and include necessary sources. This would enhance the accurate knowledge of families about circumcision, reducing unnecessary anxiety and expectations.

MATERIAL AND METHODS

Data Collection

The data used in our study were collected from YouTube on 1 June 2024. A search was made on YouTube using the keyword "sünnet" (circumcision)" and videos were ranked according to the number of views. Turkish language videos related to child circumcision with more than 10,000 views were determined as inclusion criteria. Irrelevant content, videos containing personal experiences, videos targeting adult patients, non-Turkish content, advertising videos, shorts videos and videos shorter than 15 seconds were determined as exclusion criteria and were not included in the analyses. As a result of YouTube search, 45 videos with Turkish content with more than 10,000 views were found. Data obtained from these videos and upload sources were recorded. Two independent paediatric surgical experts scored all videos using the Modified DISCERN (mDISCERN), Journal of the American Medical Association (JAMA), and Global Quality Scale (GQS) scoring systems. Video View ratio, video Like ratio and Video Power Index (VPI) were also calculated using the data obtained from the videos.

Evaluation Criteria

In this cross-sectional study, mDISCERN, JAMA, and GQS scales were used to assess the quality and reliability of Turkish-language YouTube videos. The mDISCERN Score was used to assess whether the videos contained accurate information about the level of information, treatment options and risks. The JAMA Score was used to assess the medical accuracy and reliability of the videos. The Global Quality Scale (GQS) Score was used to evaluate the overall quality and informative level of the videos.

The mDISCERN scale, which was first developed by Charnock et al. (1999) to assess the quality of health information sources, was later adapted as five items by Singh et al. (2012) [12,13]. In particular, it aims to increase the ability of patients or individuals seeking information on health-related issues to evaluate health information sources and access accurate information. The scale focuses on factors such as reliability, clarity, effective presentation and ability to provide accurate information on health-related issues. Each criterion is scored 1-0 (yes/no) and the total score ranges from 0 to 5. A higher scale score represents higher video quality [12,13].

JAMA Video Quality Analysis was developed by Silberg et al. (1997) to evaluate the quality of videos with medical content [14]. This scale evaluates factors such as accuracy, scientific validity, effective communication and the ability to provide useful information to the audience, especially in the field of medicine. It consists of four criteria (authorship, attribution, disclosure, and currency), each criterion is 1 point and the total score varies between 0 and 4. A higher score represents higher video reliability [14].

The GQS is a scale developed by Bernard et al. (2007) to evaluate the quality of videos with medical content in terms of patient use [15]. This scale supports the aims of providing accurate and reliable information in the field of health by evaluating the scientific accuracy, effective communication and the capacity of medical videos to benefit the viewer. The quality of the video content is scored from 1 to 5. A score of 1 indicates that the video is of poor quality and useless for patients, while a score of 5 indicates that the video is of high quality and useful for patients [15].

The main purpose of the Video Power Index (VPI) developed by Erdem et al. (2018) is to measure the popularity, interaction and audience attraction power of a video or content [16]. This scale aims to determine how effective a video content is on social media platforms and how much attention it receives from viewers. The VPI calculation uses the number of likes, dislikes, views, and the time elapsed since the video was uploaded to YouTube. The view ratio is calculated as ([number of views] / [days since the first upload]), the video-like ratio as ([100 × number of likes] / [number of likes + dislikes]), and the Video Power Index as (Video-like ratio × view ratio /100) [16].

Statistical Analyses

Statistical analyses were performed using SPSS software (Version 22.0, SPSS Inc., Chicago, IL, USA, License: Hitit University). Descriptive statistics for categorical variables were reported using frequency (n) and percentage (%). Descriptive statistics for numerical data with normal distribution were reported using mean ± SD, while those for numerical data not normally distributed were reported using median (min-max). The normality of the distribution of numerical data was examined using the Shapiro-Wilks test and some graphical approaches. The Mann-Whitney U test was used to compare numerical data between two independent groups because the normal distribution assumption was not met. To examine the correlations between numerical data, the Spearman correlation coefficient was used according to the data normal distribution. The intraclass correlation coefficient (ICC) was used to determine

the level of agreement between two independent observers. The ICC estimate value was considered indicative of poor reliability for values less than 0.5, moderate reliability for values between 0.5 and 0.75, good reliability for values between 0.75 and 0.9, and excellent reliability for values greater than 0.90. A value of $P < 0.05$ was considered statistically significant.

RESULTS

Of the 45 videos obtained according to the inclusion and exclusion criteria, 39 (86.7%) were informative, and 6 (13.3%) were surgical. The videos were uploaded by Physicians (36; 80%), private hospitals (8; 17.8%), and an independent user (1; 2.2%). The average length of the videos was 213.5 ± 206 (35 – 1,164) seconds. The average time elapsed since the videos were published until June 1, 2024, was $1,653 \pm 980$ (350 – 3,985) days. The average view count of the videos was $73,862 \pm 114,210$ (11,736 – 679,985). The average VPI of the videos was 39.9 ± 40.85 (3.69 - 247.1). Other statistical findings related to the videos are presented in Table 1.

The average mDISCERN score obtained for the videos was 2.87 ± 1.24, the average JAMA score was 2.71 ± 0.7, and the average GQS score was 3.38 ± 1.19. According to the GQS scale, 22.3% (n=10) of the 45 videos were of low quality, 33.3% (n=15) were of medium quality, and 44.4% (n=20) were of high quality. One of the 45 videos had a perfect mDISCERN score of 5, three had a perfect JAMA score of 4, and ten had a perfect GQS score of 5. Only one video received a perfect score on all quality scales. This video, posted by a pediatric surgery and urology specialist, explained the appropriate age range for circumcision and the methods of circumcision.

The most viewed video among all videos was a surgical circumcision video. Of the total six surgical videos, four contained only visual content. When categorized by titles, it was observed that most videos were about post-circumcision care. Post-circumcision care videos constituted 12 out of 45 videos. The most viewed informative video was also a post-circumcision care video. Only two videos mentioned complications, and two videos provided general information about circumcision.

The ICC values showing the level of agreement between the two independent pediatric surgeons evaluating the videos are presented in Table 2 with 95% confidence intervals. There was excellent statistical agreement between the evaluators for the mDISCERN, JAMA, and GQS scores (respectively, ICC: 0.925, ICC: 0.951, ICC: 0.946, $P < 0.001$).

Although numerically the surgical videos had higher view counts, like counts, and VPI values compared to the informative videos, these differences were not statistically significant (respectively; $P=0.961$, $P=0.217$, $P=0.660$). Numerically, the length of the informative videos (seconds) was higher than the surgical videos, but this difference was not statistically significant ($P=0.271$). All scale scores of the informative videos were statistically significantly greater compared to the surgical videos (respectively; $P=0.008$, $P=0.041$, $P=0.024$; Table 3).

Numerically, the videos posted by physicians had higher view counts, like counts, mDISCERN, and GQS scores compared to the videos posted by private hospitals, but these differences were not statistically significant (respectively; $P=0.393$, $P=0.060$, $P=0.111$, $P=0.189$). Numerically, the JAMA scores of the videos posted by physicians were lower than those of the videos posted by private hospitals, but this difference was not statistically significant ($P=0.622$). The video length (seconds) and VPI values of the videos posted by physicians were statistically significantly greater than those of the videos posted by private hospitals (respectively; $P=0.007$, $P=0.001$; Table 4).

No statistically significant relationship was found between the mDISCERN, JAMA, and GQS scores and the time elapsed since the videos were published, video length, view count, like count, dislike count, comment count, view ratio, like ratio, and VPI values ($P > 0.05$; Table 5).

A moderately positive significant correlation was determined between the time elapsed since the videos were published and the view count and dislike count (r=0.514, $P < 0.001$; r=0.622, $P < 0.001$). A highly negative significant correlation was determined between the time elapsed since the videos were published and the like ratio (r=-0.733, $P < 0.001$). A moderately positive significant correlation was determined between the video length and like count (r=0.602, $P < 0.001$). A low positive significant correlation was determined between the video length and comment count (r=0.392, $P=0.024$). No significant correlation was determined between the time elapsed since the videos were published and video length with other variables ($P > 0.05$; Table 6).

Table 1. Characteristics of YouTube videos included in this study (n=45)

	n	%
Video content		
Informational Video	39	86.7
Surgery Video	6	13.3
Video sources		
Physician	36	80
Private Hospital	8	17.8
Independent users	1	2.2
	Mean ± SD	**Median (min-max)**
Video features		
Video length (seconds)	213.5 ± 206	144 (35 – 1,164)
Time since upload (days)	1,653 ± 980	1,423 (350 – 3,985)
Number of views	73,862 ± 114,210	39,010 (11,736 – 679,985)
Number of likes	309 ± 467.2	140 (16 – 2,189)
Number of dislikes	32.98 ± 78.97	14 (0 - 485)
Comments	72.03 ± 108.9	21 (0 - 459)
View ratio	44.48 ± 49.08	28.59 (4.24 - 307.4)
Like ratio	90.57 ± 9.79	95.53 (71.05 - 100)
VPI	39.9 ± 40.85	26.43 (3.69 - 247.1)
Scales		
Modified DISCERN	2.87 ± 1.24	3 (0 - 5)
JAMA	2.71 ± 0.7	3 (1 - 4)
GQS	3.38 ± 1.19	3 (1 - 5)

VPI: Video Power Index, JAMA: Journal of the American Medical Association, GQS: global quality scale

Table 2. Intraclass correlation coefficient (ICC) values showing the level of agreement between the observers

	Modified DISCERN		**JAMA**		**GQS**	
	ICC (%95 CI)	**P**	**ICC (%95 CI)**	**P**	**ICC (%95 CI)**	**P**
Observer I & Observer II	0.925 (0.915 – 0.932)	<0.001	0.951 (0.941 – 0.959)	<0.001	0.946 (0.937 – 0.953)	<0.001

CI: Confidence interval

Table 3. Statistical findings for the comparison of video length, number of views, number of likes, VPI, Modified DISCERN, JAMA and GQS between groups according to video purpose

	Informative videos (n=39)	Surgery related videos (n=6)	P values
Video length (seconds)	144 (35 - 1,164) (218.7 ± 216.8)	162 (60 - 386) (179.1 ± 120.4)	0.271
Number of views	34,883 (11,736 - 402,305) (60,634.8 ± 71,158.7)	61,097.5 (17,536 - 679,985) (159836.8 ± 257039.3)	0.961
Number of likes	129 (16 - 2,189) (289.5 ± 416.5)	150 (52 - 1,987) (435.8 ± 761.5)	0.217
VPI	24.55 (3.69 - 107.8) (35.23 ± 27.37)	35.79 (17.22 - 247.1) (70.27 ± 87.82)	0.660
Modified DISCERN	3 (0 - 5) (3.05 ± 1.191)	1.50 (1 - 3) (1.67 ± 0.81)	**0.008**
JAMA	3 (1 - 4) (2.82 ± 0.601)	2 (1 - 3) (2 ± 0.89)	**0.041**
GQS	3 (1 - 5) (3.54 ± 1.14)	2 (1 - 4) (2.33 ± 1.03)	**0.024**

Mann Whitney U test, VPI: Video Power Index, JAMA: Journal of the American Medical Association, GQS: global quality scale

Table 4. Statistical findings for the comparison of video length, number of views, number of likes, VPI, Modified DISCERN, JAMA and GQS between groups according to video publisher

	Physicians (n=36)	Private Hospitals (n=8)	P values
Video length (seconds)	149.5 (35 – 1,164) (232.4 ± 224)	150 (42 - 285) (137.2 ± 81.9)	**0.007**
Number of views	42,512.5 (11,736 – 679,985) (81,837.9 ± 124,184.4)	16,903 (14,891 – 175,531) (45,089.8 ± 56,079.2)	0.393
Number of likes	165.5 (26 – 2,189) (371.8 ± 503.8)	49 (16 - 125) (52.38 ± 34.15)	0.060
VPI	31.75 (8 - 247.1) (45.20 ± 43.19)	13.6 (3.69 - 67.97) (20.3 ± 20.2)	**0.001**
Modified DISCERN	3 (1 - 5) (3.08 ± 1.07)	3 (0 - 4) (2.25 ± 1.38)	0.111
JAMA	3 (1 - 4) (2.72 ± 0.7)	3 (2 - 3) (2.87 ± 0.35)	0.622
GQS	3 (1 - 5) (3.56 ± 1.13)	3 (1 - 4) (2.88 ± 1.12)	0.189

Mann Whitney U test, VPI: Video Power Index, JAMA: Journal of the American Medical Association, GQS: global quality scale

Table 5. Statistical findings for correlation analysis between video characteristics and Modified DISCERN, JAMA and GQS scale scores (n=45)

		Modified DISCERN	JAMA	GQS
Time since upload (days)	r	0.049	0.008	0.114
	P	0.749	0.956	0.457
Video length (seconds)	r	0.029	-0.028	0.072
	P	0.850	0.855	0.639
Number of views	r	-0.021	-0.202	0.100
	P	0.892	0.183	0.515
Number of likes	r	0.046	-0.144	0.136
	P	0.764	0.344	0.375
Number of dislikes	r	0.180	0.028	0.232
	P	0.237	0.854	0.125
Comments	r	0.203	-0.184	0.068
	P	0.258	0.307	0.709
View ratio	r	-0.094	-0.273	-0.014
	P	0.538	0.069	0.929
Like ratio	r	-0.109	-0.069	-0.222
	P	0.475	0.651	0.143
VPI	r	-0.120	-0.276	-0.049
	P	0.431	0.066	0.750

VPI: Video Power Index, JAMA: Journal of the American Medical Association, GQS: global quality scale

Table 6. Statistical findings for the correlation analysis between the features of the videos (n=45)

		Time since upload (days)	Video length (seconds)
Number of views	r	**0.514**	0.128
	P	**<0.001**	0.404
Number of likes	r	0.181	**0.602**
	P	0.233	**<0.001**
Number of dislikes	r	**0.622**	0.282
	P	**<0.001**	0.061
Comments	r	-0.020	**0.392**
	P	0.912	**0.024**
View ratio	r	-0.191	0.259
	P	0.209	0.086
Like ratio	r	**-0.733**	-0.017
	P	**<0.001**	0.910
VPI	r	-0.271	0.274
	P	0.071	0.069

VPI: Video Power Index, JAMA: Journal of the American Medical Association, GQS: global quality scale
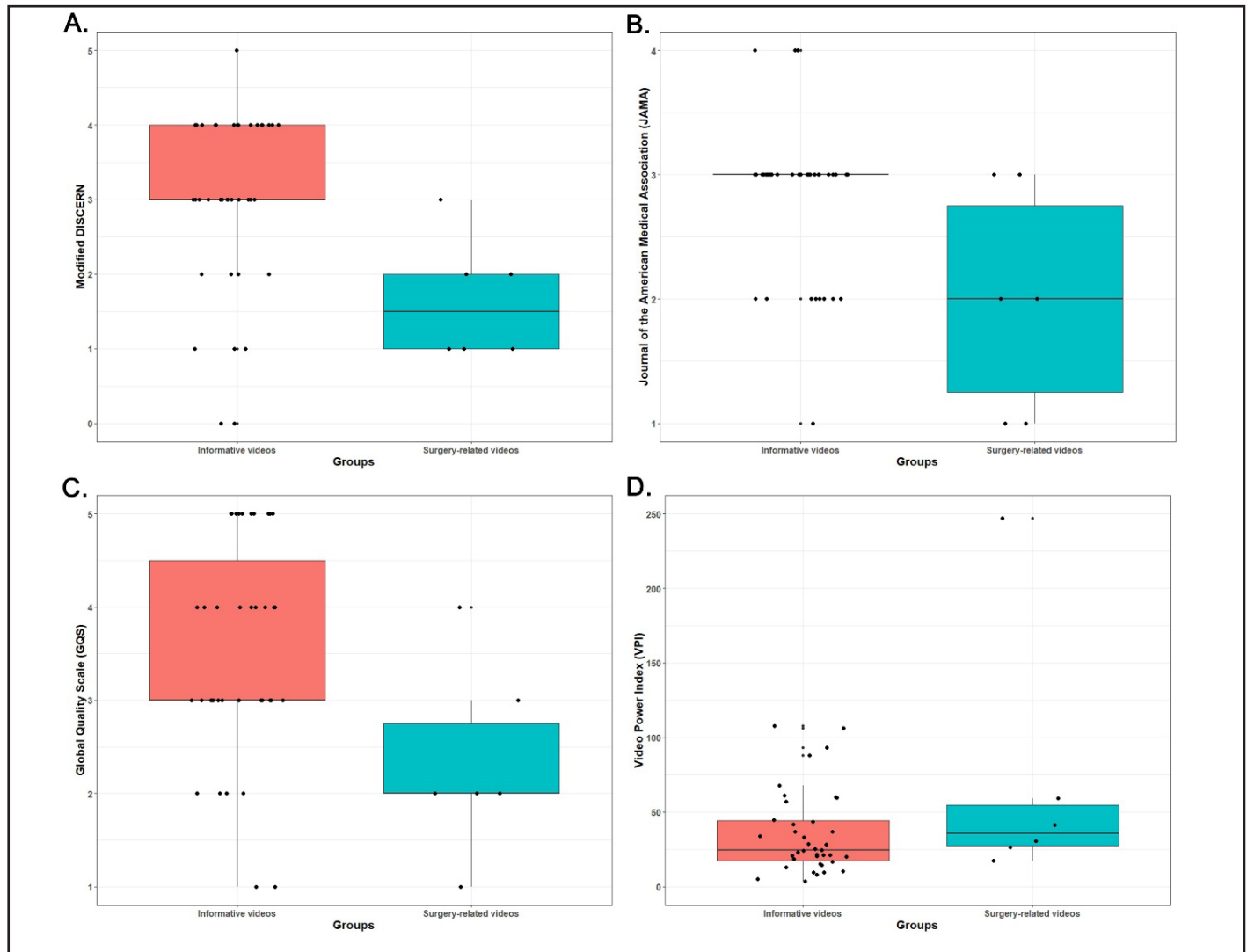
Figure 1. Boxplot with jitter showing the distribution of mDISCERN, Journal of the American Medical Association (JAMA), and Global Quality Scale (GQS) scores, and Video Power Index (VPI) valuesamong informative and surgery-related videos

DISCUSSION

Circumcision is one of the most widely applied surgical procedures worldwide due to religious, cultural, and medical reasons. Despite its short duration and frequency for physicians, parents face important decisions regarding the timing, type of anesthesia, and technique of circumcision, aside from medical necessities. During this anxious decision-making phase, families are most concerned about the appropriate ages for circumcision, pre-circumcision preparation, type of anesthesia, fasting duration, circumcision technique, hospital stay duration, and post-discharge process. Nowadays, parents can research their questions about circumcision before visiting a healthcare facility, and the information they obtain from social media influences their decision-making process and expectations.

YouTube has become a widely used source for gathering health information [9]. The quality and reliability of YouTube videos have been researched for various diseases [17-24]. In surveys, 86% of individuals using the internet to access health-related information believe the information is reliable, and 64% say it influences their treatment decisions [25]. In our study, we analyzed YouTube videos about circumcision. We found that the overall quality and reliability scores were moderate.

Zaliznyak et al. (2022) reported poor quality in their study analyzing 100 videos on neonatal circumcision on YouTube [26]. In contrast, our study found that circumcision videos were of higher quality and reliability. Ekenci et al. (2023) analyzed

50 videos on hydrocele on YouTube and found no videos containing useful, complete, and clear information for patients, with GQS and mDISCERN scale scores of 5 [27]. In our study, we identified 10 videos with a GQS score of 5. One of these videos had perfect scores across all assessment scales. This video, uploaded by a pediatric surgery and urology specialist, explained the appropriate age and methods for circumcision. The other videos did not mention additional sources of information for viewers, preventing them from achieving full mDISCERN scale scores. Only 3 out of 45 videos had a perfect JAMA scale score of 4. The other videos did not cite sources for the shared information about circumcision. To make the videos more reliable for viewers, more videos should cite sources and provide additional information, addressing controversial and uncertain topics.

When categorizing the content of informative videos by topic, "post-circumcision care" was the most frequently covered topic. The most viewed informative video was also about post-circumcision care. Only 2 videos mentioned complications, and 2 videos covered all aspects of circumcision generally. It can be said that more high-quality and reliable videos are needed on social media to provide comprehensive information about circumcision in a single video.

Of the 45 videos selected based on inclusion and exclusion criteria, 39 (86.7%) were informative, and only 6 (13.3%) were surgical videos. Among the 45 videos, the most viewed video was about the surgical technique of circumcision. Numerically, surgical videos had higher view counts, likes, and VPI values compared to informative videos, but this difference was not statistically significant. Despite being more viewed, the number of surgical videos was very low, and they were of lower quality compared to informative videos. Ekenci et al. (2023) found a similar low number of surgical videos in their study, but they did not compare the scale scores of surgical videos with informative videos [27]. In our study, all scale scores of informative videos were statistically significantly greater compared to the surgical videos. Four of the surgical videos only had visuals without any verbal or written information about the circumcision procedure, resulting in low mDISCERN, JAMA, and GQS scale scores. Based on these results and considering the view counts, it can be concluded that the number and quality of surgical videos should be increased. Additionally, there is a need for high-quality, reliable, and educational surgical circumcision videos produced by healthcare professionals that show all techniques and provide

information, beneficial not only for families but also for trainee doctors.

Except for one, all informative videos were uploaded by physicians. The majority of these were shared by specialists in pediatric surgery, pediatric urology, and urology. Additionally, two pediatricians and one obstetrician-gynecologist had published informative videos on circumcision. Most of the physicians uploading circumcision informative videos were independent practitioners, with others working in private hospitals. Numerically, the view counts, likes, mDISCERN, and GQS scores of videos posted by physicians were higher compared to those posted by private hospitals, while JAMA scale scores were lower; however, this variation was not statistically significantly different. Thus, the quality of videos related to circumcision uploaded by independent practitioners and private hospitals was similar. This similarity is thought to be due to the involvement of physicians in the private hospital videos providing information on circumcision. One video uploaded by an independent user had very low mDISCERN, GQS, and JAMA scale scores (0, 1, and 1, respectively). Consistent with our findings, Barry et al. (2023) found that videos by healthcare professionals were of higher quality in their study investigating the quality and reliability of circumcision videos on YouTube [28]. Zaliznyak et al. (2022) also found that impartial videos produced by health channels or featuring physicians had the highest quality ratings in their study on neonatal circumcision videos, consistent with our study [26]. Nason et al. (2012) found that videos uploaded by academicians and physicians were of higher quality and reliability in their study on hydrocele videos [29]. Based on our findings, we can suggest that families should pay attention to whether the videos they watch are uploaded by a specialist physician in the field, as this would provide them with more reliable information.

In our study, consistent with Barry et al.'s (2023) findings on circumcision [28], no statistically significant relationship was found between mDISCERN, JAMA, and GQS scale scores and the duration since video publication, video duration, view count, like count, dislike count, comment count, view ratio, like ratio, and VPI values. Based on these data, we can say that popular videos do not always provide the most accurate information and that misleading content can also achieve high view and like counts. We suggest that viewers should not only consider the number of likes, dislikes, and comments when evaluating the information in videos.

Older circumcision videos had more views, while recently published videos received more likes. However, recent videos also did not sufficiently address additional sources of information, controversial and uncertain topics for viewers.

Limitations

This study has some limitations. Firstly, only the YouTube platform was used for video selection, excluding other social media and video-sharing platforms. This may limit the generalizability of the findings, but YouTube is the most important international video-sharing platform for patients and their families, addressing this limitation. Additionally, due to the current nature of the YouTube platform, video view counts change over time. Therefore, it should be known that the findings of video analyses based on such platforms may change over time. Secondly, subjective scales were used to evaluate the quality and reliability of the videos, which may reflect personal differences among evaluators. The high level of agreement among experts in our study addresses this limitation. However, more comprehensive new video evaluation scales could be used in future studies. Since the purpose of this study was to analyze Turkish videos on circumcision, the exclusion of videos in other languages can be considered another limitation. Furthermore, due to the small sample size of surgical videos in the groups created regarding the content of the videos, we recommend that future analyses be conducted with a larger number of surgical videos.

CONCLUSIONS

Based on our findings, we can say that the information patients obtain about circumcision from YouTube videos is not sufficiently reliable, high-quality, or adequate. Compared to other studies in the literature, Turkish circumcision videos were found to be more reliable and of higher quality, but still not sufficient. Videos uploaded by physicians were more reliable and of higher quality than those published by private hospitals, and informational videos were more reliable and of higher quality than surgical videos. It was observed that unreliable videos could also achieve high view and like counts. Patients and their families should prioritize videos uploaded by specialists in the field over view and like counts when evaluating videos. There is a need for more high-quality educational surgical circumcision videos created by expert physicians and more high-quality informational videos that are short, clear, unbiased, address controversial issues, and include necessary sources. This would increase families' accurate knowledge about circumcision, thereby reducing unnecessary anxiety and expectations. YouTube is a widely viewed information source with the potential to influence patients' knowledge and behavior about circumcision. We believe that quality standards for the verification and monitoring of health information videos should be implemented to ensure their accuracy and reliability.

Informed Consent: Informed consent is not applicable for this study as it involves the analysis of publicly available YouTube videos and does not include any human participants directly.

Conflict of interest: Authors declare that they have no conflict of interest.

Ethical Approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Author Contributions: Conception: N, C; E, D - Design: N, C; E, D - Supervision: N, C; -Materials: N, C; E, D - Data Collection and/or Processing: N, C; E, D - Analysis and/or Interpretation: N, C; E, D - Literature: N, C - Review: N, C - Writing: N, C; E, D - Critical Review: N, C; E, D.

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