İSTANBUL UNIVERSITY PRESS

Çocuk Dergisi–Journal of Child,
JCHILD 2025, 25 (3): 153–162

https://doi.org/10.26650/jchild.2025.1694806

Çocuk Dergisi
Journal of Child

Submitted: 06.09.2024
Revision Requested: 03.12.2024
Last Revision Received: 18.12.2024
Accepted: 27.12.2024

Research Article

Open Access

Quality, Reliability, and Content Evaluation of YouTube Videos on Childhood Vaccines

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Abstract

Objective: In recent years, the growing hesitancy toward childhood vaccines, along with pronounced temporal and regional differences, has made the rapid dissemination of accurate and reliable information imperative. Digital media, particularly the video sharing platform YouTube, has become an important source for parents seeking health-related information. This study aimed to evaluate the content quality, reliability, and viewer engagement levels of YouTube videos related to childhood vaccines. The videos were assessed based on criteria such as the accuracy of the information provided, scientific basis, content richness, and audience engagement. This evaluation will understand the extent to which parents can access accurate and adequate information about childhood vaccines via YouTube.

Materials and Methods: This cross-sectional and descriptive study quantitatively analyzed Turkish-language YouTube videos on childhood vaccines. On February 13, 2025, a search using predefined keywords identified 239 videos. Based on the inclusion and exclusion criteria, 96 videos were selected for analysis. Video sources, content types, and information reliability were assessed using the modified DISCERN scale and the Global Quality Scale (GQS). Data such as the number of views, video duration (in minutes), days since upload, number of likes, and view rate were recorded in Microsoft Excel® 2021 and analyzed using IBM SPSS V27. Chi-square tests were used for categorical variables, while Mann–Whitney U and Kruskal-Wallis tests were applied to non-normally distributed data. To ensure reliability, two independent researchers evaluated a random sample of 10 videos, and the intraclass correlation coefficient was calculated.

Results: The mean reliability score of the 96 analyzed videos, measured using the modified DISCERN scale, was 2.99 ± 1.36. The mean GQS score was 3.70 ± 1.31, with 40.6% of the videos rated excellent quality and 17.7% as good quality. Video duration showed a positive and significant correlation with both the GQS score ($r = 0.500$, $p < 0.001$) and the DISCERN reliability score ($r = 0.497$, $p < 0.001$). Longer videos with higher numbers of likes and comments were perceived by users as having higher quality and reliability.

Conclusion: YouTube videos on childhood vaccines serve as an important source of information for parents and the public. As the video length increases, both information reliability and content quality tend to improve. Producing scientifically based content by healthcare professionals can facilitate access to reliable information on vaccination. To counter vaccine-related misinformation, health authorities should support verified content and evaluate its long-term impact.

Keywords Immunization · Childhood vaccines · YouTube · DISCERN scale · Global Quality Scale (GQS) · Social media · Vaccine communication

Citation: Yakışır, K. & Kara, A. Quality, Reliability, and Content Evaluation of YouTube Videos on Childhood Vaccines. Çocuk Dergisi–Journal of Child 2025; 25(3): 153-162. DOI: 10.26650/jchild.2025.1694806

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INTRODUCTION

Childhood immunization programs have historically been among the most effective strategies for preventing infectious diseases and achieving herd immunity (1) . Since the launch of the Expanded Program on Immunization (EPI) in 1974, both globally and in Türkiye, an estimated 146 million deaths in children under five years of age have been prevented worldwide, with an average gain of 66 healthy life years for each averted death. Alongside the program's success, the strengthening of herd immunity has contributed to a 40% reduction in global infant mortality rates. The number of cases of vaccine-preventable diseases has declined significantly, marking substantial achievements (2). However, as a result of the successful implementation of the EPI, the decreased visibility of these diseases in the community has led to a diminished perception of the importance of vaccination and a decline in interest, contributing over time to an increase in vaccine hesitancy (3).

Vaccine hesitancy was identified by the World Health Organization in 2019 as one of the top threats to global health (4). The WHO defines vaccine hesitancy as "a delay in acceptance or refusal of vaccines despite the availability of vaccination services" (5–7). Although differences in attitudes toward vaccination have been observed throughout history, the COVID-19 pandemic and the development of vaccines have significantly contributed to the spread of misinformation on social media (8, 9).

Social media is a general term for internet-based communication platforms that allow users to create content, share information, and exchange knowledge. With its ease of use, low-cost accessibility, and capacity to reach large audiences on a global scale, social media offers a significant opportunity for policymakers, health authorities, and public health campaigns (10). Seen as an effective tool in improving health behaviors, social media through the advancement of preventive health services in this field contributes to enhancing public health literacy and enabling the rapid and broad dissemination of information to address public health issues (10).

The rapid spread of health information via social media provides important advantages in terms of raising public awareness and promoting positive health behaviors. However, these same features also facilitate the spread of information pollution, misinformation (false information), and disinformation (deliberately misleading information) (11). Uncontrolled content creation allows unverified information to reach wide audiences, potentially having a negative impact on individuals' health-related decisions (8, 12). Therefore, while social media offers great potential for disseminating accurate and reliable information, it can also serve as a significant vehicle for public health threats such as misinformation and vaccine hesitancy (13).

In this context, social media should be used more actively and strategically by health policy experts and health professionals to reduce vaccine hesitancy. Unscientific content disseminated by anti-vaccine advocates should be identified, and timely and effective interventions should be developed to counter such misinformation, which may provoke anxiety and fear among parents (13, 14).

YouTube is a media platform that is free, easily accessible, and capable of reaching large audiences (15). Today, it can be accessed via numerous devices such as smartphones, computers, and smart TVs, and it ranks as the second most visited website after Google (16). Since its establishment in 2005, approximately 5 billion videos have been uploaded to YouTube, and it is used around 2.5 billion people each month (17)

In recent years, various studies have reported an increase in the rate of videos uploaded to YouTube by individuals, organizations, hospitals, and academic institutions in the healthcare field. YouTube is frequently preferred by those seeking access to health-related information (18,19). Due to its visual and auditory elements, YouTube is favored more by patients compared to other social media platforms and is regarded as an important resource for health education (20). In this regard, health professionals can use platforms such as YouTube more effectively to disseminate scientific information, reduce misleading content, and serve as a supportive tool to provide targeted solutions for parents' concerns (3). This would enable patients and the public to access more reliable information and help improve health literacy.

The aim of this study was to evaluate the content quality, reliability, and audience engagement levels of YouTube videos related to childhood vaccinations. The videos were examined based on various criteria such as the accuracy of the information provided, scientific basis, richness of content, and interaction with the audience. This evaluation will understand the extent to which parents can access accurate and sufficient information about childhood vaccinations through YouTube.

MATERIALS AND METHODS

This research was designed as a cross-sectional and descriptive study. A quantitative content analysis was conducted on the Turkish-language YouTube videos related to childhood vaccines. The use of a quantitative approach is expected to contribute novel insights to the literature

regarding the dissemination of vaccine-related information and the quality of such content on this platform.

The search was conducted on February 13, 2025, using a cross-sectional sampling method. In the YouTube search bar, the following Turkish keywords were entered: "bebeklik/çocukluk çağı aşıları" (infant/childhood vaccines), "bebeklik/çocukluk çağı aşılarının riskleri" (risks of infant/childhood vaccines), "bebeklik/çocukluk çağı aşılarının yan etkileri" (side effects of infant/childhood vaccines), "bebeklik/çocukluk çağı aşılarının faydaları" (benefits of infant/childhood vaccines), "bebeğime/çocuğuma aşı yaptırmalı mıyım?" (should I vaccinate my baby/child?), "aşı gerçekleri" (vaccine facts), and "aşı karşıtlığı" (vaccine opposition).

Before the search, all browser history and cookies were cleared. The search results were filtered using the "sort by relevance" option. For each video, the title, URL, number of views, upload date, number of likes, and number of comments were recorded on the same day (February 13, 2025).

Inclusion Criteria: Videos in Turkish, Content related to infant/childhood vaccines, Adequate visual and auditory quality for comprehension, Duration between 1 and 15 minutes, Uploaded between 2019 and the study date

Exclusion Criteria: Content unrelated to infant/childhood vaccines, Inadequate visual or auditory quality, Animated or silent videos, Uploaded before 2019,

As shown in Table 1 (Video Selection Flowchart), the keyword search yielded 239 videos. Based on the inclusion and exclusion criteria: 66 videos were excluded for being uploaded before 2019, 53 videos exceeded 15 minutes in length, 19 videos were shorter than 1 minute, and 5 videos were unrelated to childhood vaccines. After applying the criteria, 96 videos were included in the final analysis.

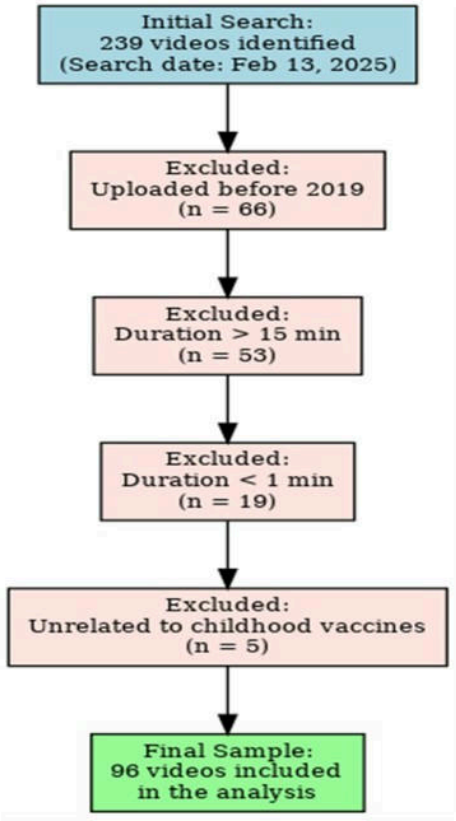
Ethical Considerations: Because this study analyzed publicly available data on an open-access platform, institutional ethics committee approval was not required.

Variables and Coding

For each included video, the following descriptive characteristics and parameters were recorded:

- Title
- URL link
- Number of views
- Duration (minutes)
- Upload date
- Days since upload
- Number of likes
- Number of comments

Figure 1. Video Selection Flowchart



Videos were categorized according to **the source** into four groups:

1. Individual healthcare professionals (e.g., physicians, specialists, and nurses)
2. Health institutions (e.g., Ministry of Health, universities, hospitals, and clinics)
3. Health-related websites
4. Independent users (e.g., TV commercials, news programs, and personal users)

Videos were also classified by **purpose** into two groups:

1. Information for the parents
2. General information (for the public and professionals)

Assessment Tool

Reliability Assessment–Modified DISCERN Scale

The reliability of the information presented in the videos was assessed using the **Modified DISCERN Scale** (Quality Criteria for Consumer Health Information), originally developed by Charnock et al. (1999) and adapted for YouTube by Singh et al. (2012). The scale consists of five items evaluating the reliability and completeness of health information, with a maximum score of 5 points (21, 22).

View Rate Calculation

The view rate was calculated using formula (23).

View Rate = (Number of Views/ Days Since Upload x 100)

In the study, the quality information of the videos was evaluated using the 5-point Likert Global Quality Scale. The Global Quality Scale, developed by Bernard et al., assesses the quality of information on the Internet, the overall video flow, and how useful the information is to viewers. A score of 1 indicates poor quality and not useful, whereas a score of 5 indicates excellent quality and highly useful (24). The topics related to childhood vaccinations discussed in the videos were thematically coded by the researchers.

To increase the reliability of the study and verify the accuracy of the evaluation, after the initial assessment of a randomly selected set of 10 videos was completed by the first researcher, the intraclass correlation coefficient was calculated to measure internal consistency. In addition, to confirm the objectivity of the criteria assessed in the videos, a second researcher, who reviewed the materials and methods of the study, independently evaluated the same 10 randomly selected videos. The second researcher analyzed each video in detail according to the specified parameters and assigned scores. The evaluation results of the two researchers were then compared, and the consistency and correlation coefficient between them were determined.

Statistical Analyses

Data entry was performed using Microsoft Excel® 2021 (Microsoft, Redmond, WA, USA). Intraclass correlation coefficients were calculated to determine the inter-rater reliability. Data were analyzed with IBM SPSS V27. The Shapiro-Wilk and Kolmogorov-Smirnov tests were used to assess conformity to a normal distribution. For comparisons of categorical data between groups, the chi-square test was used, and multiple comparisons of proportions were examined with the Bonferroni-corrected Z test. For comparisons of non-normally distributed data between the two groups, the Mann–Whitney U test was used. For comparisons of non-normally distributed data among three or more groups, the Kruskal-Wallis test was applied. Correlations between non-normally distributed quantitative variables were examined using Spearman's rho correlation coefficient. The results of the analyses were presented as mean ± standard deviation and median (minimum – maximum) for quantitative data and as frequency (percentage) for categorical data. The significance level was set at $p < 0.050$.

RESULTS

In our study, 96 YouTube videos that met the inclusion criteria were selected, reviewed, and evaluated. To ensure researcher calibration and study reliability, 10 videos randomly selected from the entire dataset were re-watched twice—once one week and once two weeks after the initial evaluation. The intraclass correlation coefficient calculated for the first researcher (KY) was found to have a mean value of 0.950 (range: 0.65–0.99), indicating an excellent level of reliability.

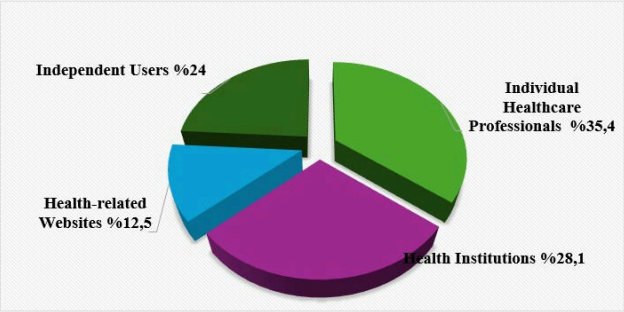
To ensure the reliability of the study and verify that the parameters evaluated in the videos were assessed objectively, the second researcher (AK), after reviewing the materials and methods of the study, individually watched the same 10 randomly selected videos. Each video was evaluated in detail. The intraclass correlation coefficient for the second researcher was found to have a mean value of 0.932 (range: 0.61–0.99). When compared with the parameter scores assigned by the first researcher, this value was also determined to be associated with an excellent level of reliability. The correlation values of the two researchers were compared, and the inter-rater consistency was recorded.

Various metrics related to the video content were examined. The mean and median values of the number of views, video duration (in minutes), time elapsed since upload, number of likes, and view rate are presented in Table 2.

Table 1. Metrics Related to the Video Content

	N	Mean ± SD	Median (min–max)
Number of Views	96	23485,72±79346,176	840,50 (16-654873)
Video Duration (min)	96	6,21±3,912	5 (2-15)
Days Since Upload	96	1074,59±603,235	029,5 (7-2213)
Number of Likes	96	452,64±1687,391	10 (0-12000)
View Rate	96	3637,30±10309,31	128,11 (0,78-65042,86)

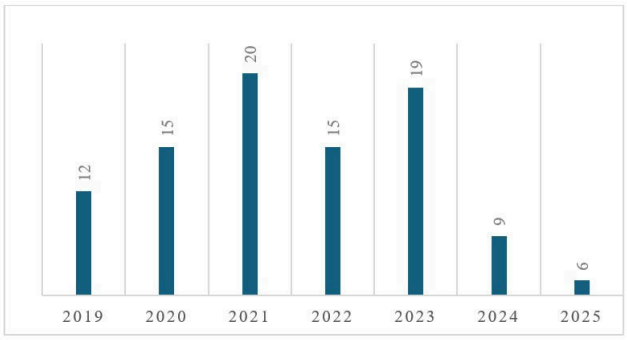
Figure 2. Percentage Distribution of Video Sources



In Figure 1, when the sources of video uploads were examined, it was found that 35.4% (n = 34) were shared by individual healthcare professionals (e.g., doctors, nurses), 28.1% (n = 27) by healthcare institutions (e.g., Ministry of Health, university

hospitals, clinics), 12.5% (n = 12) by health-related websites, and 24% (n = 23) by independent users (including news programs, personal accounts, and other users not classified in the aforementioned groups).

Figure 3. Annual Upload Counts of YouTube Videos (2019–2025)



As seen in Figure 2, the distribution of the 96 videos uploaded between 2019 and 2025 shows that the highest proportion was uploaded in 2021 (20.8%, n = 20), followed by 2023 (19.8%, n = 19). The years 2020 and 2022 each accounted for 15.6% (n = 15), 2024 accounted for 9.4% (n = 9), and in the first 45 days of 2025, six videos had been uploaded.

When the relationship between the source of sharing and the purpose of the video was examined, it was found to be statistically significant (p < 0.001). The distribution of video purposes—parental education and general information—according to the sources sharing the videos (individual healthcare professionals, healthcare institutions, health-related websites, and independent users) is presented in Table 3. It was observed that general information was the predominant purpose depending on the source of sharing and that health-related websites shared content solely for general information purposes.

Table 2. Relationship between the Video Source and Purpose

	Purpose of the Video		
Video Source	**Information for Parents n (%)**	**General Information n (%)**	**p**
Individual Healthcare Professionals	12 (35,3)	22 (64,7)	<0,001
Health Institutions	12 (44,4)	15 (55,6)	
Health Websites	0 (0)	12 (100)	
Independent Users	1 (4,3)	22 (95,7)	
Total	25 (26)	71 (74)	

*Chi-square test, frequency (Row percentage)

In Table 4, according to the purpose of video sharing, the Mann-Whitney U test results showed that the mean number of views for videos aimed at informing parents was 54,422.6 ± 144,439.46, whereas for general information videos it was 12,592.45 ± 30,482.76. When the median video durations were evaluated by sharing purpose, no difference was observed between the groups (5 minutes) (p = 0.98). Regarding the number of likes, the mean number of likes for videos aimed at informing parents was 1,239.96 ± 3,026.64, compared to 175.41 ± 651.22 for general information videos. This difference was not statistically significant (p = 0.185). Similarly, no significant difference was found between the two groups in terms of the view rate (p = 0.937). It was observed that the video purpose categories (informing parents vs. general information) had no statistically significant effect on the view count (p = 0.329), video duration (p = 0.980), number of likes (p = 0.185), or view rate (p = 0.937). This indicates that even when the purpose of the videos differs, the distributions of these variables remain similar.

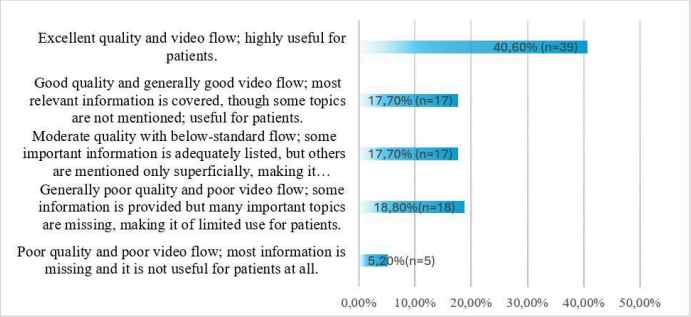
The parameters used in scoring the Global Quality Scale (GQS) are presented in Figure 3. The mean GQS score was calculated as 3.70 ± 1.315, and the distribution of its parameters indicated that the videos varied in terms of quality and usefulness for patients.

Table 3. Video Metrics by the Purpose of Sharing

	Information for Parents (n=25)		**General Information (n=71)**		**Test Statistic**	**p**
	Mean ± SD	**Median (min–max)**	**Mean ± SD**	**Median (min–max)**		
Number of Views	54422,6± (144439,46)	934 (47- 654873)	12592,45± (30482,76)	788 (16-174848)	770,5	0,329
Video Duration (min)	6,24± (3,97)	5 (2- 15)	6,2± (3,92)	5 (2-15)	884,5	0,98
Number of Likes	1239,96± (3026,64)	27 (0- 12000)	175,41± (651,22)	9 (0-5200)	729	0,185
View Rate	3207,97± (7536,85)	103,55 (3,83- 34197,02)	3788,48± (11165,8)	137.81 (0.78-65042.86)	878	0,937

*Mann-Whitney U test

Figure 4. Distribution of the parameters of the global quality scale (GQS)



As shown in Figure 3, the largest proportion, comprising 40.6% of the videos, was rated as having excellent quality and video flow and was considered highly useful for patients. This was followed by 17.7% of videos with good quality and generally good video flow, which included most relevant information but had some omissions, and were therefore deemed useful for patients. The same proportion (17.7%) applied to videos of moderate quality with below-standard flow; although these videos adequately listed some important information, they were found to be weaker in other aspects and thus only partially useful for patients. A total of 18.8% of the videos were generally of poor quality with poor video flow, offering limited usefulness for patients. The smallest proportion, 5.2%, consisted of videos with poor quality, poor video flow, and missing information, which were not useful for patients at all. These findings highlight the important role of quality and flow characteristics in determining the potential of video content to provide information to patients.

The videos were also evaluated using the modified DISCERN scale (Information Reliability Scores), and the total information reliability score—calculated individually for each video with a maximum possible score of 5—was analyzed. The mean reliability score for all videos was found to be 2.99 ± 1.365. Examination of the distribution of parameters used in calculating the total Information Reliability Score revealed that different criteria were assessed at varying levels across the videos, and the distribution of these criteria is presented in Table 5.

Table 4. Distribution of Information Reliability Score (DISCERN) Parameters

Assessment Parameter	N	%
1. Is the video clear, concise, and understandable?	84	87,5
2. Are valid sources cited?	59	61,5
3. Is the information balanced and unbiased?	51	53,1
4. Are additional sources listed for patient reference?	15	15,6
5. Does the video address controversial/uncertain areas?	78	81,3

Of the videos, 87.5% were clear, concise, and understandable, while 61.5% cited valid sources. In 53.1% of the videos, the information provided was found to be balanced and unbiased. Only 15.6% of the videos listed additional sources of information for patient reference. A total of 81.3% of the videos addressed controversial or uncertain areas.

Table 5. Relationship between Information Reliability Score (DISCERN) and Video Source

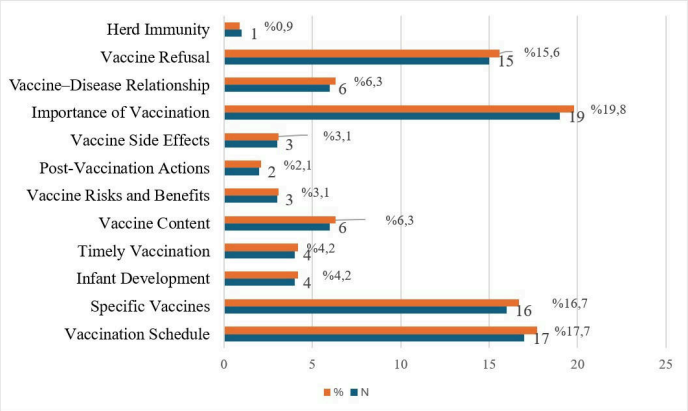
Information Reliability Score					
	N	Mean Rank	Median (min–max)	Test Statistic	p
Video Source				12,5	0,006
Individual Healthcare Professionals	34	52,15	4(0-5) [b]		
Health Institutions	27	33,56	2(0-4)[a]		
Health Websites	12	60,17	4(0-5) [b]		
Independent Users	23	54,57	4(0-5) [b]		

* [a-b]: For each measurement, there is no difference between groups sharing the same letter (Bonferroni test): Kruskal-Wallis

As shown in Table 6, according to the results of the Kruskal-Wallis test, there was a statistically significant difference in the reliability scores depending on the source from which the video was uploaded (H(3) = 12.556, p = .006). Based on the mean ranks, health-related websites (mean rank = 60.17) had the highest reliability scores, while healthcare institutions (mean rank = 33.56) had the lowest. Content from health-related websites and individual healthcare professionals scored higher in terms of reliability. The median values of the video-uploading sources differed significantly between the groups, with statistically significant differences observed between healthcare institutions and individual healthcare professionals (p = .042), independent users (p = .033), and health-related websites (p = .025). Videos uploaded by healthcare institutions had significantly lower reliability scores compared with other sources (p = 0.006).

When the topics addressed in the video content were evaluated, as shown in Figure 4, the most frequently covered topic was the importance of vaccination (19.8%). This was followed by the vaccination schedule (17.7%), special vaccines (16.7%), and vaccine refusal (15.6%). The relationship between vaccines and diseases and vaccine content were each covered in 6.3% of the videos, while topics such as post-vaccination procedures (2.1%) and herd immunity (1%) were addressed less frequently. Additionally, infant development and timely administration of vaccines were each featured in 4.2% of the videos, while the benefits–risks of vaccines and vaccine side effects were each addressed in 3.1% of the videos.

Figure 5. Topics addressed in the video content



In the study, the relationship between video duration and thematic content codes was examined, as shown in Table 7. According to the results of the Pearson Chi-square test, no statistically significant relationship was found between the groups, $\chi^2(22, N = 96) = 19.11$, $p = .639$. Videos with a duration of less than 4 minutes were more common. Themes related to vaccine refusal tended to have longer durations because they are considered controversial topics.

Table 6. Relationship between Video Duration and Thematic Codes

	Video Duration				
Thematic Code	**<4 min**	**5–10 min**	**11–15 min**	**Total**	**p**
Vaccination Schedule	8	6	3	17	0,639
Specific Vaccines	5	8	3	16	
Infant Development	0	2	2	4	
Timely Vaccination	3	1	0	4	
Vaccine Content	1	4	1	6	
Vaccine risks and benefits	2	0	1	3	
Post-Vaccination Actions	1	1	0	2	
Vaccine Side Effects	1	1	1	3	
Importance of Vaccination	12	5	2	19	
Vaccine–Disease Relationship	1	3	2	6	
Vaccine Refusal	5	6	4	15	
Herd Immunity	1	0	0	1	
Total	40	37	19	96	

*Pearson Ki-kare test

The coefficients and values for the correlations among all these variables are presented in Table 8. A statistically significant positive correlation was found between the video duration and DISCERN score ($r = 0.497$, $p < 0.001$), as well as between the video duration and GQS score ($r = 0.500$, $p < 0.001$). As the video duration increased, the GQS tended to increase. Longer videos were generally evaluated as being of higher quality.

The number of likes showed a positive and significant correlation with both the DISCERN score ($r = 0.353$, $p < 0.001$)

Table 7. Correlation Analysis of Video Metrics

		GQS	**View Rate**	**DISCERN**	**Number of Comments**	**Number of Likes**	**Days Since Upload (day)**
	r	,500**	,321**	,497**	,437**	,427**	0,047
Video Duration	p	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	0,646
	r	0,007	-,249*	−0,077	0,165	0,176	
Days Since Upload (day)	p	0,946	0,014	0,457	0,108	0,086	
	r	,246*	,682**	,353**	,819**		
Number of Likes	p	0,016	**<0,001**	**<0,001**	**<0,001**		
	r	,234*	,627**	,366**			
Number of Comments	p	0,022	**<0,001**	**<0,001**			
	r	,726**	,285**				
DISCERN	p	**<0,001**	0,005				
	r	,204*					
View Rate	p	0,047					

r: Spearman rho correlation coefficient

and the GQS score (r = 0.246, p = 0.016). Users tended to perceive high-quality videos as also being reliable.

A significant positive correlation was found between the number of comments and the DISCERN score (r = 0.366, p <0.001), as well as the GQS score (r = 0.234, p = 0.022). The view rate showed a significant correlation with the information reliability score (r = 0.285, p = 0.005) and the GQS score (r = 0.204, p = 0.047).

No significant correlation was found between the time elapsed since upload (in days) and any quality parameter (p> 0.05). These results indicate that longer videos with more likes and comments tend to have higher reliability scores and quality.

DISCUSSION

This study contributes to the limited body of research examining the quality and reliability of online video content on childhood vaccination. We conducted a quantitative analysis of the YouTube videos and evaluated the content quality and reliability using the DISCERN (2.99 ± 1.365) and GQS (3.70 ± 1.315) scores. In the literature, similar approaches have been used to evaluate YouTube videos across various health topics. For example, in a study analyzing videos on Fuchs' endothelial corneal dystrophy, overall scores were generally moderate DISCERN (40.1), GQS (2.5), and JAMA (2.01) and videos themed around patient experience tended to have lower quality scores (25). Çakmak evaluated umbilical hernia videos for accuracy and quality and reported that only 20% of the videos were uploaded by physicians; these physician-uploaded videos had significantly higher DISCERN and GQS scores (26). Similarly, Karagöz et al. analyzed YouTube videos on lateral epicondylitis (tennis elbow) and reported mean scores of DISCERN (46.66), JAMA (3.13), and GQS (3.85), concluding that overall quality was moderate (27). In an analysis of German-language YouTube videos on basal cell carcinoma, DISCERN (mean 3.3) and GQS (mean 3.8) scores were moderate to good, whereas JAMA reliability scores were low; videos uploaded by healthcare professionals had significantly higher quality and understandability (25–28).

To our knowledge, this is the first study in the field that used Turkish search phrases—"infant/childhood vaccines," "risks of infant/childhood vaccines," "side effects of infant/childhood vaccines," "benefits of infant/childhood vaccines," "Should I vaccinate my baby/child?," "vaccine facts," and "vaccine opposition"—directly in the YouTube search bar. Prior work in the literature includes analyses focusing on HPV and influenza vaccines (29–31).

In an analysis of Turkish-language videos about coronavirus during pregnancy, 73% of the informative videos were uploaded by physicians and 20% by news agencies (32). In our study, likewise, the largest share belonged to individual healthcare professionals (35.4%). Healthcare providers should be continuously supported by public health authorities to produce content that helps build vaccine confidence, which is especially important for improving attitudes among vaccine-hesitant groups (33). Ekram et al. examined the tone, accuracy, and user comments in YouTube videos on the HPV vaccine and observed that a considerable portion of online commentary contained anti-vaccine views—suggesting that dissemination of information alone is insufficient and that accurate information should also be actively promoted by healthcare professionals. Directing internet users to verified sources may encourage more informed decision-making about vaccination (29).

Digital technologies offer major opportunities for accurately informing parents—particularly by strengthening vaccine confidence and enabling the dissemination of accurate information to broad audiences, especially to hesitant parents (34). They particularly contribute to increasing vaccine confidence and enabling the spread of accurate information to broad audiences, especially to hesitant parents (35). Keelan et al. found in their study that based on video content, anti-vaccine videos had higher view rates (36,37). Because anti-vaccine content spreads more rapidly, it is discovered more quickly by parents (38,39). In a study conducted in Italy by Covolo et al., when YouTube videos on vaccination were examined for positive, neutral, or negative content, it was concluded that although pro-vaccine videos were more numerous, negative videos received more likes and were shared more often in terms of engagement (40).

In a study in Spain evaluating 100 videos, when the accuracy and viewer engagement of YouTube content regarding influenza vaccination were analyzed, it was found that 65% contained positive messages, and 19 videos were identified as deceptive (30). During the COVID-19 pandemic, in videos examined as sources of information, it was found that the number of pro-vaccine videos had increased compared to the past; however, due to the presence of misleading information in 19.98% of the videos, they were considered risky for public health (41). Yiannakoulias et al. analyzed the transcripts of 116 influenza and 90 measles vaccine-related videos, showing that informative and balanced content about vaccines was more positively received by viewers (42). In an analysis by Elkin et al. of opinions about vaccines on Google, YouTube, and Facebook platforms, it was observed that YouTube contained messages promoting and supporting vaccination, while negative content generally developed a skeptical approach rather than directly opposing vaccines (43).

In our study, nearly all the analyzed videos contained positive messages aimed at encouraging vaccination and informing about the substantial benefits of adhering to the vaccination schedule. Of the videos, 53.1% were pro-vaccine, offering recommendations on the benefits of vaccines. The extremely limited amount of neutral content suggests that individuals seeking vaccination information on digital platforms are more likely to encounter guided or directed content. This suggests that online environments may have a significant impact on public perceptions of vaccination.

Within the limitations of our study, it should be noted that searches conducted using the predetermined keywords could have been expanded with alternative search terms to access other relevant videos. The videos analyzed were limited to those in Turkish, allowing for commentary from a regional perspective but limiting generalizability. Due to the algorithms of social media platforms, where new videos are constantly added, the videos accessed may vary. Furthermore, our inclusion criteria—focusing on content produced between 2019 and 2025 and with a duration of 1–15 minutes—may have excluded some most viewed videos.

CONCLUSION

This study evaluated the quality, reliability, and viewer engagement of Turkish-language YouTube videos related to childhood vaccinations. The findings demonstrate that while a proportion of videos provided accurate, evidence-based information, a significant number contained incomplete or potentially misleading content. Such videos may contribute to vaccine hesitancy by shaping negative perceptions among parents and the public. The high level of variability in content quality across different sources highlights the need for healthcare professionals, health authorities, and public health institutions to take a more active role in producing and disseminating scientifically sound, comprehensible, and engaging video content. Strengthening the presence of reliable health information on widely used platforms such as YouTube could help counter misinformation, enhance public vaccine literacy, and ultimately support higher immunization rates in the community.

Ethics Committee Approval: Ethics committee approval is not required for the study.
Peer Review: Externally peer-reviewed.
Author Contributions: Conception/Design of Study- K.Y.; Data Acquisition- K.Y., A.K.; Data Analysis/Interpretation- K.Y., A.K.; Drafting Manuscript- K.Y.; Critical Revision of Manuscript- A.K.; Final Approval and Accountability- K.Y., A.K.
Conflict of Interest: Authors declared no conflict of interest.
Financial Disclosure: Authors declared no financial support.

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