Quality and Reliability of Trigger Finger YouTube Videos

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SUMMARY

Introduction. Orthopedic video contents published on YouTube are not scanned and do not go through an editorial evaluation process. It is important to determine the quality and content accuracy of health-related videos. Trigger finger is a common disease and the deterioration in quality of life. However, the quality, content and adequacy of YouTube videos as a source of information about this disease have not been evaluated. The aim of this study is to investigate the quality and adequacy of the medical content of the videos on YouTube about trigger finger disease.

Methods. In September 2022, the phrase "trigger finger" was entered in the YouTube search bar and the 50 most watched videos were included in the study, provided that the language of the video was English. Who uploaded the videos, real or animated content, number of views, upload date, number of comments, number of like-dislikes and video length were recorded. 3 orthopedic surgeons and 1 hand surgeon watched the videos simultaneously and separately. JAMA, DISCERN and GQS scores were calculated.

Results. Average length of 50 videos is 321 seconds, number of views is 244,150, number of days from upload date to evaluation date is 1,789 days, VPI was 94, view ratio was 300. The average scores of 4 different surgeons from the parameters used for the quality and relevance analysis of the videos: JAMA 2, DISCERN 36, and GQS 2. The scores of 4 different surgeons were statistically compatible with each other (p = 0.000). The interclass correlation coefficient (ICC) was 0.906 for the JAMA score, 0.889 for the DISCERN score, and 0.831 for the GQS score.

Conclusions. YouTube videos about trigger finger were low quality and unreliable. In the light of our study and other studies, the possibility of high-quality and reliable videos for patients can be increased by the evaluation and inspection of videos presented by YouTube.

KEY WORDS

Patient education; reliability; social media; trigger finger; YouTube; quality.

INTRODUCTION

Currently, the first source that patients refer to in order to get information about their diseases is the internet. Although the Internet provides easy access to information, it is not always possible to evaluate the quality and accuracy of this information. YouTube is the second largest search engine and social media platform after Google, with more than 6 billion hours of video watched every month. Although YouTube is mostly used for entertainment purposes, it also contains many academic and educational videos. In this way, it is easier for patients to access information (1-3). It is thought that video-based information will be the primary data source in the coming years, emphasizing the increasing importance of video quality accuracy (4). Orthopedic video contents published on YouTube are not scanned and do not go through an editorial evaluation process (5). For this reason, it is important to determine the quality and content accuracy of health-related videos.

Trigger finger is a disease that causes pain, triggering and locking in the finger that occurs as a result of the size

disproportion between the flexor tendon and the A1 pulley. It is seen in 2-3% of the society and is more common in women (6, 7). It is most commonly seen in the long and ring fingers (6). Splinting, physical therapy, anti-inflammatory drugs and corticosteroid injection can be applied in non-surgical treatment. Open or percutaneous release of the A1 pulley is commonly used when nonsurgical treatment has failed. Although the success rate of surgical treatment is high, it is not completely uncomplicated. Infection, stiffness, nerve injury, scarring, recurrence, and flexor tendon bowstring are among the complications of surgical treatment (6-9). Due to the fact that the trigger finger is a common disease and the deterioration in the quality of life caused by delayed diagnosis and treatment, patients need to be informed correctly, diagnosed quickly, and guided accordingly. However, the quality, content and adequacy of YouTube videos as a source of information about this disease have not been evaluated.

The aim of our study is to investigate the quality and adequacy of the medical content of the videos on the YouTube social media platform about trigger finger disease. We planned such a study because we did not find a similar study published before on trigger finger video evaluation in the literature.

MATERIALS AND METHODS

In September 2022, the phrase "trigger finger" was entered in the YouTube search bar and the 50 most watched videos were included in the study, provided that the language of the video was English. Who uploaded the videos, real or animated content, number of views, upload date, number of comments, number of like-dislikes and video length were recorded. Video power index (VPI) was calculated to determine the popularity of the videos. The video power index is an index that defines the popularity of YouTube videos. It is calculated as like ratio × view ratio/100.

In order to evaluate the quality and reliability, 3 orthopedic surgeons and 1 hand surgeon watched the videos simultaneously and separately. JAMA (Journal of the American Medical Association), DISCERN (Quality Criteria for Consumer Health Information) and GQS (Global Quality Score) scores were calculated.

The JAMA scoring system is a scoring system used to evaluate health-related videos (10). It consists of four main titles. The scoring system ranges from 0 to 4. Each criterion is scored with 1 point. The highest possible score is 4. Transparency and reliability of information are evaluated (**table I**). DISCERN was jointly developed by Oxford University and British Library staff and evaluates the reliability, relevance and quality of treatment options of video. DISCERN scoring system consists of 15 questions. The first 8 questions evaluate the reliability of the video, the next 6 questions the details of the treatment options, and the 15th question the overall quality of the video. Each question is scaled from 1 to 5 points from No to Yes. The total score varies between 15-75. Scoring results are evaluated as excellent (63-75), good (51-62), moderate (39-50), bad (28-38) and very bad (16-27) (11). The criteria evaluated in scoring are given in **table II**.

GQS is a non-specific assessment of health-related website quality and evaluates the educational content of videos based on 5 criteria. The maximum score that can be obtained is 5. A video with a score of 5 is considered to be of high educational quality (12, 13) (**table III**).

Ethical approval was not required as this article does not contain any studies with human participants or animals performed by any of the authors.

Statistical analysis

Data were analyzed with International Business Machines Statistical Package for the Social Sciences Statistics, version 20 software (IBM SPSS Corp., Armonk, NY, USA). Continuous variables were presented as means with standard deviations and ranges. Cate-

Table I. JAMA Scoring System.

JAMA Scoring System		Rating	
Section		**No**	**Yes**
Authorship	Authors and contributors, their affiliations and relevant credentials should be provided	0	1
Attribution	References and sources for all content should be clearly and all relevant copyright information should be noted	0	1
Disclosure	Website "ownership" should be prominently and fully disclosed, as should any sponsorship, advertising, underwriting, commercial funding arrangements or support, or potential conflicts of interest	0	1
Currency	Dates when the content was posted and updated should be indicated	0	1

Table II. Discern Scoring System.

	No		Partly		Yes
Section 1 – Is the publication reliable?					
1. Are the aims clear?	1	2	3	4	5
2. Does it achieve its aims?	1	2	3	4	5
3. Is it relevant?	1	2	3	4	5
4. Is it clear what sources of information were used to compile the publication?	1	2	3	4	5
5. Is it clear when the information used in the publication was produced?	1	2	3	4	5
6. Is it balanced and unbiased?	1	2	3	4	5
7. Does it provide details of additional sources of support and information?	1	2	3	4	5
8. Does it refer to areas of uncertainty?	1	2	3	4	5
Section 2 – How good is the quality of information?					
9. Does it describe how each treatment works?	1	2	3	4	5
10. Does it describe the benefits of each treatment?	1	2	3	4	5
11. Does it describe the risks of each treatment?	1	2	3	4	5
12. Does it describe what would happen if no treatment is used?	1	2	3	4	5
13. Does it describe how the treatment choices affect overall quality of life?	1	2	3	4	5
14. Does it provide support for shared decision making?	1	2	3	4	5
Section 3 – Overall rating of the publication					
15. Based on the answers to all of these questions, rate the overall quality of the publication as a source of information about treatment choices?	1	2	3	4	5

Table III. GQS Scoring System.

Score	Global score description
1	Poor quality, poor flow of site, most information missing, not at all useful for patients
2	Generally poor quality and poor flow, some information listed but missing many important points, very limited use for patients
3	Moderate quality, suboptimal flow, some important information is adequately discussed but others poorly discussed, somewhat useful for patients
4	Good quality and generally good flow, most of the relevant information is listed but some issues not covered, useful for patients
5	Excellent quality and excellent flow, very useful for patients

gorical variables were shown as relative frequencies with percentages. One-way analysis of variance (ANOVA) tests (for normally distributed data) and Kruskal-Wallis tests (for non-normally distributed data) were used to determine whether the video reliability and quality differed based on video source and video content. The Spearman correlation test was used to analyze the relationships between quantitative variables. For video quality assessment, agreement between the 4 reviewers was analyzed using the interclass correlation coefficient (ICC). Interclass correlation coefficient values < 0.5 were categorized as poor reliability, values between 0.5 and 0.75 as moderate reliability, values between 0.75 and 0.9 as good reliability, and values > 0.90 as excellent reliability.

RESULTS

Average length of 50 videos is 321 seconds (min: 77- max: 858), average number of views is 244,150 (min: 517-max: 2,306,934), average number of days from upload date to evaluation date is 1,789 days (min: 128-max: 4,670), average VPI was 94 (min: 66.6-max: 100), average view ratio was 300 (min: 0-max: 5,172).

15 of the videos were uploaded by the Doctor, 14 by the hospital channel, 11 by the physiotherapist, 6 by the health channel, 1 by the fitness trainer, 1 by the chiropractor, and 2 by other accounts (**figure 1**). 43 of the videos consisted of real images and 7 of them were animations.
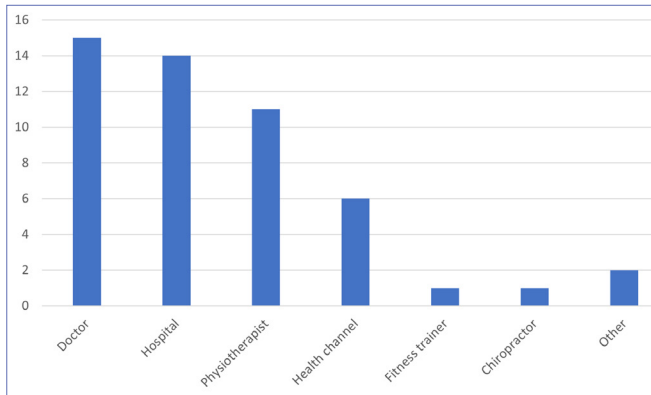

Figure 1. Distribution by video upload sources.

According to the DISCERN scoring system, 1 excellent, 4 good, 11 moderate, 24 bad and 10 very bad videos were evaluated. According to GQS, 6 videos were rated 1 point, 28 videos 2 points, 13 videos 3 points, and 3 videos 4 points. No statistically significant relationship was found between the number of views of the videos, the number of days uploaded to the YouTube, the type of content, the video power index and JAMA, DISCERN, GQS.

The average scores of 4 different surgeons from the parameters used for the quality and relevance analysis of the videos; They were JAMA 2 (Min: 1-Max: 2), DISCERN 36 (Min: 22-Max: 63), and GQS 2 (Min: 1-Max: 4).

When the videos uploaded by the doctors were compared with the others, a statistically significant difference was found only according to the JAMA score (p = 0.000), and no significant relationship was found between the DISCERN and GQS scores (p = 0.655, p = 0.745).

A significant correlation was found between JAMA score and minute, number of comments and VPI index (p < 0.005). A significant correlation was found between DISCERN and GQS among the scores (p < 0.005). No significant correlation was found between JAMA and other scorings (p > 0.05).

In addition, the scores of 4 different surgeons were statistically compatible with each other (p = 0.000). The interclass correlation coefficient (ICC) was 0.906 for the JAMA score, 0.889 for the DISCERN score, and 0.831 for the GQS score (**table IV**).

DISCUSSION

Trigger finger is a flexor tenosynovitis that is common in the community and presents with finger pain, triggering and locking. Conservative treatment methods, corticosteroid injection and surgical A1 pulley release methods can be used in the treatment (14). In particular, patients who are afraid of surgical treatment frequently watch YouTube videos about this disease in order to be informed about treatment options and possible complications.

However, the reliability and quality of these videos is a controversial issue.

Studies have been conducted to evaluate the content and quality of videos on many subjects such as hallux valgus, carpal tunnel syndrome, adhesive capsulitis, rotator cuff injury (2, 5, 11, 12, 15). There are also studies evaluating the quality of many websites in the medicine (16, 17). However, when we searched PubMed, it was seen that there was no study in this content about trigger finger and as we know, our study is the first study on this subject. In this study, it is aimed to evaluate the 50 most watched videos on YouTube about trigger finger in terms of quality, suitability and adequacy. According to the results of the evaluation analysis of the videos in our study, it has been determined that these videos are low quality and not reliable.

Low-quality and inappropriate videos cause patients to be misinformed and incompletely informed, but they can also negatively affect the patient-physician relationship (18). With this study and similar studies in the literature, we think that the number of better-quality videos that are properly informed and that go through the review process before publication will increase.

Various scores and scoring systems have been used in the literature to evaluate the quality and reliability of YouTube videos. Among these, the most frequently used are JAMA, DISCERN and GQS scoring systems (10-13). We also evaluated with these scoring systems in our study in order to

Table IV. The scores of 4 different surgeons were analyzed using the interclass correlation coefficient (ICC).

	Interclass Correlation Coefficient (ICC)	P-value
JAMA	0.906	
DISCERN	0.889	0.000
GQS	0.831	

make comparisons with the studies in the literature. The mean in our study was JAMA 2, DISCERN 36 and GQS 2. Tekin *et al*. (2) evaluated YouTube videos about Hallux valgus and found the average JAMA score as 2, GQS score as 3.02, and DISCERN score as 37.56. Mert *et al*. (13), in the study where they evaluated YouTube videos about carpal tunnel syndrome, they found the average JAMA 2.14, GQS 2.7 and DISCERN 33.62. Foster *et al*. (19) found an average of JAMA 0.7 and DISCERN 33.62 in the YouTube videos they evaluated regarding distal biceps tendon rupture. Kuru *et al*. (11) in his study, YouTube videos about rotator cuff tears were evaluated and the average was found to be JAMA 2.9 and DISCERN 35.7. Our results are similar to the literature. When the current studies in the literature and the evaluation results in our study are examined, it is seen that the videos are generally in the poor quality and weak category. Although it is seen that the videos published by physicians are of higher quality than the videos published by non-physicians, it is not possible to consider these videos sufficient according to the current scores. In addition, such videos may not be understood by patients and are less viewed (11, 20, 21). There are also publications stating that academic videos are insufficient in terms of content and quality (19, 22). In our study, 15 (30%) videos published by doctors were found to be statistically significantly higher only in terms of JAMA score compared to other videos. A similar result was found by Foster *et al*. (19) in a YouTube video evaluation study of distal biceps tendon ruptures. The apparent lack of quality videos means that the vast majority of patients will continue to receive inadequate education on their health issues. We think that more high-quality and professional videos should be prepared in a language that patients can understand by doctors and professional organizations such as the European Federation of Hand Surgery Associations in order to inform patients more accurately and to reduce the negative effects that may occur in the patient-physician relationship.

It is stated that patients find animation videos more useful and understandable (11). 14% of the videos in our study were animation and no statistically significant difference was found between the animated video and the real videos according to the video evaluation scores. This result may be related to the low number of animated videos. When the animation video ratio in our study was compared with the literature, it was lower than the animation video ratios in other studies (2, 11, 13). Although the number of animation videos varies according to the researched subject, we think that the videos can be more educational and understandable by increasing this rate for the trigger finger.

The average number of views of the videos in our study was 244,150 (min: 517-max: 2,306,934). In the literature, the rate of viewing varies in the YouTube video evaluation studies on orthopedic diseases. In the study conducted on rotator cuff tears (11), the average viewing rate was found to be 401,329, 137,494 in adhesive capsulitis (5), 150,977 in carpal tunnel syndrome, and 74,031 in hallux valgus. Our results were found to be consistent with the literature. These rates show that trigger finger attracts as much attention as other diseases and is being investigated by patients.

The video power index is an index that defines the popularity of YouTube videos. Evaluation is made by calculating the number of views of the video and the likes it receives. In our study, the VPI was determined as 94. It was found to be VPI: 41.35 in the study on hallux valgus (2), VPI: 27.6 in the study on cervical disc replacement (4), and VPI: 42 in the study on distal biceps rupture (19). In our study, no statistically significant correlation was found between the number of views of the videos and between VPI and JAMA, DISCERN, GQS. According to our results, the video popularity of trigger finger is higher, but unfortunately the videos appear to contain low quality patient information.

Our study has some limitations. First, only the first 50 videos in English were included in the study. A video with high content quality may not be rated because not all videos, including other videos published in different languages, are rated. Secondly, the number of likes and views on YouTube videos is constantly changing. Therefore, our current results are valid for the evaluation date of the videos. It is possible that new videos will be added in searches to be made on different dates, and the first 50 videos and study results may change.

CONCLUSIONS

As a result, according to the evaluation scores in our study, YouTube videos about trigger finger were low quality and unreliable. The effect of videos on patients is undeniable due to the increasing use of the internet and the easier access of patients to information. In the light of our study and other studies in the literature, the possibility of high-quality and reliable videos for patients can be increased by the evaluation and inspection of videos presented by YouTube to patients by professionals before they are published.

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None.

DATA AVAILABILITY

Data are available under reasonable request to the corresponding author.

CONTRIBUTIONS

KU: video analysis, writing – original draft. MKY: video analysis, statistical analysis. MAC, MA: video analysis.

CONFLICT OF INTERESTS

The authors declare that they have no conflict of interests.

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