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Quality and content analysis of hip arthroscopy videos on YouTube™

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ABSTRACT

Aims: We have planned a study aimed at analyzing the content and quality of videos related to hip arthroscopy on YouTube. YouTube™ is indeed one of the most popular platforms for video content on the Internet, offering a vast array of videos on various topics ranging from entertainment to educational resources. The platform hosts a substantial amount of orthopedic video content that is not subject to any screening or editorial review process. The quality of videos on hip arthroscopy has not been assessed before. This study aimed to evaluate the quality and comprehensiveness of YouTube™ videos on the topic of hip arthroscopy.

Methods: The videos were evaluated by one orthopedic surgeon using the Journal of the American Medical Association (JAMA) criteria, the DISCERN tool for consumer health information quality and the Global Quality Score (GQS). This evaluation aimed to determine the accuracy of these assessment methods.

Results: Among the first 50 videos evaluated, 20 (40%) were uploaded by doctors, 10 (20%) by physiotherapists, 8 (16%) by individual patients sharing their experiences, 3 (6%) by clinics, 4 (8%) by health channels, and 5 (10%) by hospitals. The average number of views was 1.150 (range: 1-18.553), the average video length was 12 minutes and 10 seconds (range: 24 seconds to 1 hour and 10 minutes), the average number of likes was 102.46 (range: 1-3,546), and the average number of dislikes was 8 (range: 0-98). The average DISCERN score was 32.46 (range: 14-68), the average VPI was 40.36 (range: 0-460), the average GQS was 2.24 (range: 1-4), and the average JAMA score was 2.41 (range: 1-3).

Conclusion: The quality of information about hip arthroscopy on YouTube is generally low and offers limited educational value. Therefore, healthcare providers should caution their patients about relying on these sources and provide more reliable educational alternatives.

Keywords: Hip arthroscopy, video quality, video analysis, YouTube

INTRODUCTION

Today, the easiest, cheapest and fastest way to access information is using the internet. As in other fields, many people refer to online resources to get an idea before medical applications. Video sharing sites and online search sites have become quite popular in this respect.[1]

YouTube has emerged as one of the most prominent platforms for video content, catering to a diverse audience with interests spanning from entertainment to education. More than 400 videos are uploaded on YouTube per minute and more than hundred million hours of videos are watched every day.[2] YouTube hosts a vast collection of medical education videos.[3] Many patients turn to the platform to utilize its extensive video archive as they seek information about their health conditions.[4]

In wide video in pain, there is a significant amount of content related to orthopedic procedures, including hip arthroscopy.[5] However, unlike traditional medical literature, the content on YouTube is not subjected to any formal screening or editorial review process, raising concerns about its quality and reliability.

Patients with hip joint disorders also frequently search for their diseases on video sharing sites. Hip arthroscopy is a relatively new and very popular topic in orthopedic surgery. Hip arthroscopy is a minimally invasive surgery that employs an arthroscope to both diagnose and address issues within the hip joint. Conditions such as impingement, labral tear, bone spurs, synovitis and loose fragments can be treated with hip arthroscopy.[6]

Despite the growing presence of hip arthroscopy videos on YouTube, there has been no comprehensive assessment of their quality and educational value. Given the potential influence of these videos on patient knowledge and decision-making, it is crucial to evaluate their accuracy and comprehensiveness.

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This study aims to fill this gap by systematically analyzing the quality of YouTube videos on hip arthroscopy, utilizing established evaluation tools such as the Journal of the American Medical Association (JAMA) criteria, the DISCERN tool for consumer health information quality, the Global Quality Score (GQS), and the hip score. By doing so, we seek to provide insights into the current state of online educational resources for hip arthroscopy and offer recommendations for healthcare providers and patients alike.

METHODS

Our study was designed as a cross-sectional study and no ethics committee approval was obtained because no animal or human material was used and none of the similar studies in the literature required ethics committee approval. In accordance with the World Medical Association Declaration of Helsinki, we did not apply to any medical ethics committee for the approval of this study because all of the videos used in the study were obtained from a public social media site and did not contain human or animal subjects.

This study aimed to evaluate the quality and comprehensiveness of YouTube™ videos on the topic of hip arthroscopy. A systematic search was conducted on June 1, 2024, using the keyword "Hip arthroscopy" on YouTube, which yielded 28 million results. From these, the first 50 videos were selected for detailed analysis.

The inclusion criteria for the videos were: content related to hip arthroscopy, available in English, and accessible to the public without any restrictions. One orthopedic surgeon evaluated the selected videos using the following assessment tools: JAMA: This tool assesses video quality based on authorship, attribution, disclosure, and currency. By assigning 1 point for the presence of each criterion, the total JAMA benchmark score was calculated. DISCERN: This tool evaluates the quality of consumer health information, focusing on reliability and treatment options.[8] DISCERN consists of 16 questions (graded 1-5) and three parts: reliability (questions 1-8), quality information on treatment choices (questions 9-15), and overall score (question 16). The DISCERN manual contains detailed information for each question, as well as instructions and examples to make the evaluation easy. According to this tool, considering the total average scores, websites were divided into 5 groups as follows: score between 16 and 26 is very poor, score between 27 and 38 is poor, score between 39 and 50 is fair, score between 51 and 62 is good,and score higher than 63 is excellent. GQS: This score rates the overall quality and flow of the video, considering its educational value to the general public.[9,10] The video power index (VPI) is a metric used to measure the popularity of YouTube videos. It is calculated by multiplying the like ratio by the view ratio and then dividing the result by 1000.[11]

For each video, the following data was collected: Upload source (doctor, physiotherapist, patient, clinic, health channel, hospital). Number of views, video length, number of dislikes and likes. Scores based on the JAMA criteria, DISCERN, GQS, and hip score.

Descriptive statistics were used to summarize the data, standard devaition, including mean and range where applicable. The scores from the various assessment tools were analyzed to determine the overall quality and comprehensiveness of the videos.

By using these established criteria and tools, this study aimed to provide a thorough evaluation of the quality and educational value of hip arthroscopy videos available on YouTube™.

RESULTS

A total of 50 videos were included in the analysis. The average number of views per video was 1.150, with a range from 1 to 18.553. The average duration of the videos was 12 minutes and 10 seconds, ranging from 24 seconds to 1 hour and 10 minutes. The videos received an average of 102.46 likes (range: 1-3.546) and 8 dislikes (range: 0-98) (Table 1).

Table 1. Demographic and quality scores of YouTube video analysis

Metric	Average value	Range
Number of views	1150	1- 18.553
Video length	12m 10s	24s-1h 10m
Number of likes	102.46	1-3.546
Number of dislikes	8	0-98
DISCERN score	32.46	14-68
VPI	40.36	0-460
GQS	2.24	1-4
JAMA score	2.41	1-3

VPI: Video power index, GQS: Global Quality Score, JAMA: Journal of the American Medical Association

The distribution of video upload sources was as follows: 20 (40%) by doctors, 10 (20%) by physiotherapists, 8 (16%) by individual patients, 3 (6%) by clinics, 4 (8%) by health channels, and 5 (10%) by hospitals (Figure).

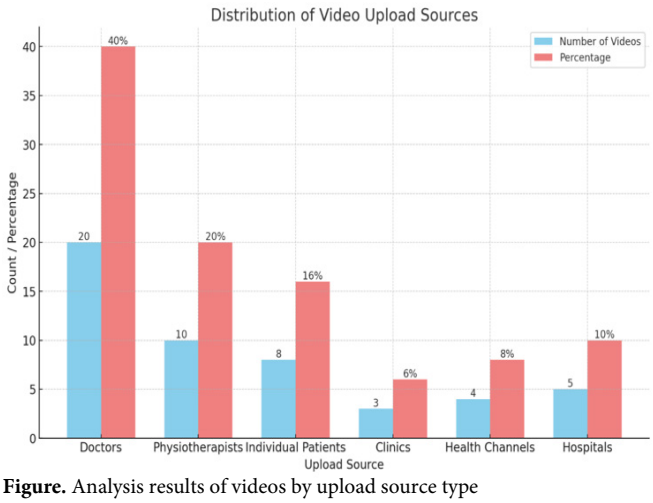

Figure. Analysis results of videos by upload source type

Quality assessment scores were calculated using several standardized tools. The DISCERN score, which evaluates the quality of consumer health information, had an average of 32.46, with scores ranging from 14 to 68. The VPI, measuring video popularity, averaged 40.36, with a range from 0 to 460.

The GQS, assessing overall video quality, averaged 2.24, with scores between 1 and 4. Finally, the JAMA score, evaluating the reliability and quality of medical information, averaged 2.41, ranging from 1 to 3 (Table 1). The average DISCERN score was 32.46 (range: 14-68), the average VPI was 40.36 (range: 0-460), the average GQS was 2.24 (range: 1-4), and the average JAMA score was 2.41 (range: 1-3). There was a statistically significant relationship observed between the video length, likes, VPI, and the JAMA, GQS, and DISCERN scores (p<.05) Here, it shows inverse correlation with rho values (Table 2).

Table 2. Correlation between video metrics and quality assessment scores

Feature	JAMA (rho; p)	DISCERN (rho; p)	GQS (rho; p)
VPI	-0.70; <.01	-0.78; <.01	-0.73; <.01
Likes	-0.68; <.01	-0.80; <.01	-0.76; <.01
Duration	-0.80; <.01	-0.84; <.01	-0.74; <.01

VPI: Video power index, GQS: Global Quality Score, JAMA: Journal of the American Medical Association, Rho: Spearman's rho, p: p value

DISCUSSION

The Internet serves as a resource where patients can cross-reference information given by their clinicians and gather additional, new, or sometimes conflicting data.[4] Patients regard the Internet as an important source of health information, which has influenced the dynamics between patients and healthcare providers.[4] Several studies have been carried out to evaluate the quality of YouTube videos related to orthopedic diseases.[3] The findings of this study highlight a significant issue regarding the quality of hip arthroscopy videos available on YouTube. Despite the platform's popularity and its extensive array of video content, the educational value and reliability of the information presented in these videos are generally low.[5] This is particularly concerning given the high volume of search results and the potential influence these videos can have on patients seeking medical information online. Some studies have shown that low-quality content obtained from YouTube negatively affects the doctor-patient relationship.[11-13]

Among the first 50 videos evaluated, the majority were uploaded by doctors (40%) and physiotherapists (20%), followed by individual patients (16%), clinics (6%), health channels (8%), and hospitals (10%). While one might expect higher quality content from professional sources such as doctors and hospitals, the results indicate that even these videos often fall short of delivering comprehensive and accurate information. While it is often noted that clinicians are the primary uploaders of videos in various studies, there are also reports indicating that clinicians contribute fewer videos, similar to what our data suggests.[14] Despite the generally high-quality content of clinician-uploaded videos, literature indicates that these videos tend to have lower viewership because they may not be easily understood by patients.[15] Additionally, some studies highlight that videos uploaded by clinicians can be lacking in both content and quality.[16]

The average DISCERN score of 32.46 out of a possible 80 points underscores the inadequacy of the consumer health information provided in these videos. This score suggests that many videos lack essential details about treatment options and the reliability of the information presented. Similarly, the average GQS of 2.24 out of 5 indicates that the overall educational quality and flow of the videos are suboptimal. The relatively low JAMA scores, averaging 2.41 out of 4, further emphasize the deficiencies in authorship, attribution, disclosure, and currency of the videos. These scores reflect a need for greater transparency and adherence to quality standards in the creation and dissemination of online medical content. In our study, the average JAMA, the average GQS and the average DISCERN score were consistent with findings reported in the literature.[11-16] Higher quality videos were associated with higher DISCERN and JAMA scores.

While the number of publications on hip arthroscopy in our country has begun to increase in recent years, it remains quite low.[17] In addition to these publications, there has also been an increase in the number of informative videos. MacLeod et al.[18] also noted the low quality of these publications in their systematic review. While this low quality is to be expected in a relatively new treatment like hip arthroscopy, the same situation exists in publications covering meniscal injuries.[19] Therefore, the main problem with surgically informative YouTube videos remains the lack of quality.

The high variability in video length, views, likes, and dislikes suggests that there is no consistent standard for producing hip arthroscopy videos on YouTube. This inconsistency may contribute to the overall low quality of information available, as viewers are left to navigate a wide range of content without clear indicators of reliability.

This is particularly worrisome considering the wide audience reach of YouTube. The average view count we observed indicates that a substantial number of individuals are potentially exposed to inaccurate information about hip arthroscopy. This can lead to unrealistic expectations, poor treatment decisions, and unnecessary anxiety for patients.

Given these findings, it is imperative for healthcare providers to guide their patients towards more reliable and comprehensive educational resources. Providers should also consider creating and sharing high-quality videos that adhere to established guidelines for medical information. This would not only improve the quality of online health information but also help patients make more informed decisions about their care.

Limitations

This study has some limitations. First, the data is collected from YouTube and may not be generalizable to other platforms. Second, the study relies on the accuracy of the self-reported information in the video descriptions. Third, the scoring instruments used have limitations. For example, the JAMA criteria may not be fully applicable to all videos, and the hip score is a specific metric designed for a particular surgical procedure.

Despite these limitations, this study will provide valuable insights into the quality and content of hip arthroscopy videos on YouTube.

CONCLUSION

While YouTube offers a convenient platform for disseminating information about hip arthroscopy, the current state of video content is insufficient for educational purposes. Efforts must be made to improve the quality and reliability of these videos to ensure that patients receive accurate and valuable health information.

ETHICAL DECLARATIONS

Ethics Committee Approval

Our study was designed as a cross-sectional study and no ethics committee approval was obtained because no animal or human material was used and none of the similar studies in the literature required ethics committee approval.

Informed Consent

Since all of the videos used in the study were obtained from a public social media site, informed consent is not required.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

The authors declared that this study has received no financial support.

Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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