

QUALITY AND COMPLIANCE OF VIDEO-BASED INFORMATION WITH KNEE OSTEOARTHRITIS TREATMENT GUIDELINES

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ABSTRACT

Purpose: This study aimed to evaluate the current knee osteoarthritis (OA) information available on YouTube and to evaluate if these videos report information about core treatment methods in the current guidelines.

Material and Methods: We searched for the keyword as “knee osteoarthritis” on YouTube. A total of 61 videos were evaluated and their quality, reliability and knee OA specific content were analyzed. Popularity of the videos and the number and kind of treatment recommendations were recorded. The videos were dichotomized into two groups according to their content if they were including core non-drug treatment methods or not.

Results: The majority of the content was uploaded by health-care professionals (37.8 %) and exercise was the most recommended treatment method. Reliability and quality of the videos uploaded by health-care professionals, academic and health-care organizations were higher than other sources ($p<0.05$). The academic and health-care organizations had the highest knee OA content score and health-care professionals had the highest popularity ($p<0.05$). Videos uploaded by physicians and physical therapists mostly included evidence-based non-drug treatment recommendations.

Conclusion: Exercise and patient education were the main topics in knee OA-related videos. Patients can be referred to the videos uploaded by academic and healthcare organizations to obtain comprehensive information about knee OA.

Keywords: Video analysis; knee osteoarthritis; exercise; guideline

INTRODUCTION

Osteoarthritis (OA) is a major contributor to disability and healthcare costs worldwide. (1) OA causes pain, stiffness, loss of function, and a diminished quality of life, leading to increased mortality and morbidity (2, 3). Various guidelines recommend pharmacological and non-pharmacological treatment options to manage pain, enhance functionality, and prevent further complications. Evidence-based recommendations encompass exercise, patient education, and weight management as core non-pharmacological approaches for patients with knee

OA (4, 5). Implementing these methods into the treatment programs yields cost-effectiveness (6). However, individuals with knee OA may be less likely to utilize exercise and weight management as part of their treatment plan (7). Rehabilitation interventions are necessary to maintain, develop, and restore physical capacity and movement since these are critical components of optimal general health and quality of life (8). Although the benefits of rehabilitation and physical therapy are well-recognized, these services may be underutilized. Inadequate services or patient resources and high

demand to physiotherapy access may result in long waiting lists. Thus, restricting access to treatment becomes necessary (9, 10).

In cases where rehabilitation is necessary but not adequately implemented, alternative rehabilitation models have been created to improve coverage using new resources such as digital health tools (9). Thus, telerehabilitation, considered as a branch of telehealth can be used to increase treatment adherence, satisfaction and overall health by enabling participants to take an active role in disease management and decision-making process. Telerehabilitation can replace the traditional treatment approach, allowing individuals to access treatment remotely (10, 11).

Digital health applications include web-based digital interventions, smartphone applications, and social media platforms such as Facebook, Twitter, Instagram, YouTube and patients can have a direct access to disease-related exercise and education using these platforms(12). Gürlü et al. compared social media platforms and found that the videos with the highest information content were on the YouTube platform. Additionally, the medical quality of Instagram and twitter videos was found to be quite low (13). However, the applicability of YouTube in telerehabilitation has some limitations, not allowing direct and real-time interaction between patient and clinician. Patients can also access therapy videos on YouTube that may be inappropriate or dangerous for their diseases. Therefore, the quality and reliability of the information on YouTube videos should be investigated for each disease(14).

A video-based program delivering information about knee OA, incorporating behavioral change strategies, proves to be a cost-effective solution (15, 16). Since OA means more than just the “wear and tear” theory and not all patients undergo surgical interventions (17), poor or incorrect online content can induce fear in patients, negatively impacting their health or health-related behaviors.

An increasing number of patients search the internet for healthcare information about diseases and treatment methods (18). YouTube, as the third most visited website and a video-sharing platform, has become a valuable resource for healthcare information. However, the reliability of the videos on YouTube is not regulated, as they do not undergo an editorial process (19). Consequently, this platform may contain misleading and inaccurate information, potentially influencing decision-making process (20).

Nevertheless, it is important to note that patients may access accurate information easily by producing appropriate content due to the accessibility and free use of YouTube. Therefore, it is crucial to assess the alignment of information on social media platforms with current scientific recommendations (21).

Several studies have evaluated the reliability, quality and content of Youtube videos on various diseases and have found it to be a poor or important source of information regarding diseases and treatment methods (18,20,22-24). YouTube has been characterized as an inadequate resource for patients with knee OA (20). However, this video platform has been served as a reliable source for knee OA exercises (25). To date, no study has investigated the compatibility of the videos with current treatment guidelines.

Therefore, the aim of this study was to assess the current information available on knee OA and determine whether these videos include information about core non-drug treatment methods recommended in the current knee OA guidelines.

MATERIAL AND METHODS.

Search strategy

The present study was designed as a cross-sectional observational study. Two independent researchers both of whom have clinical experience with knee OA patients, conducted a search on YouTube (www.youtube.com) using the keywords “knee osteoarthritis” and “knee arthritis”. The videos that appeared for each search term were sorted by applying the “view count” filter which enables to identify the most viewed videos on this platform. The researchers logged out their personal Google accounts, deleted the cookies and cleared their search history. A pilot search was carried out on 10 August 2021, to identify potential discrepancies between the researchers. The final search was conducted on September 10, 2021, at the same time, and each observer independently selected the first 200 videos. The search results were compared, and the final selection of videos was determined. Only videos in the English language were included. Exclusion criteria were as follows; 1) duplicate videos, 2) videos in languages other than English, 3) videos without or with inappropriate audio, and 4) advertisements. Additionally, educational videos designed to demonstrate interventional procedures such as surgery and intra-articular injection were

excluded. The Universal Resource Locator (URL) links were saved by the researchers.

This study obtained ethical approval and the present study followed the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) reporting guideline. (26) Study was approved by Acıbadem Mehmet Ali Aydınlar University, Medical Research Ethics Committee (Decision Date: 24.02.2023, Number: ATADEK 2023-03/75).

Video features

The following information was recorded for each video; i) the type of the video (program, videoconference, animation), ii) duration (in minutes), iii) time elapsed since the upload date (days), iv) the category of the speaker (physician, physical therapist, trainer, massage therapist, chiropractor, layperson), v) the source of the content (healthcare professionals including physicians and allied health professionals such as physical therapists, exercise trainers, academic and health-related organizations, and other sources (health-related websites and commercials)), vi) intention (general information about the disease, general information about the disease and treatment recommendations, information on diagnosis, exercise demonstrations, other treatment methods, manual therapy). Additionally, the number of likes and dislikes, the number of comments, and the number of views were recorded. The view ratio (views/days) and the like ratio (number of likes*100)/(number of likes + number of dislikes), as well as the Video Power Index (VPI) were calculated using the following formula: $[(\text{number of likes} \times 100) / (\text{number of likes} + \text{dislikes})] \times [\text{views per day}] / 100$. (24)

Video content

The quality and reliability of the included videos were evaluated by two independent physical therapists (authors) both of whom are assistant professors at the university and have a minimum of 10 years of clinical experience in orthopedic physiotherapy. Items with differences were discussed among the researchers, and a consensus was reached. The educational value of the videos was evaluated using the Global Quality Score (GQS) which was developed by Bernard et al. (27) The GQS assesses the flow, the quality of the web-related information, and ease of use by the patient, using a five-item scale to determine whether the videos are useful for patients. If a video is scored 4 or 5 points, it is considered high quality, 3 points indicate moderate quality, and 1 or 2

indicate poor quality (Table 1). (27) The reliability of YouTube videos was assessed using the modified DISCERN tool, which is a shortened version of the DISCERN tool adapted by Singh et al (28). The modified DISCERN consists of 5 questions and evaluates video content in terms of clarity, bias, uncertainty of the content, and resources used and addressed. Each "yes" response is scored as 1 point with a maximum score of 5 (Table 1).

The content of the videos was independently reviewed by the two researchers to verify the accuracy of information pertaining to important issues in knee OA. To better assess the accuracy of information within the videos, a knee OA content scoring system was employed, as previously established in similar study designs (20, 29). This scoring system comprises 9 items and evaluates aspects such as the definition, diagnosis of knee OA, and information about the disease based on available literature (30). Videos scoring between 7 to 10 points were categorized as high content, those scoring between 4 to 6 were classified as moderate content and, scores of 0 to 3 were labeled as poor content (Table 1).

Furthermore, the videos were examined for compliance with current treatment guidelines for knee OA, utilizing a checklist prepared by combining treatment approaches recommended in guidelines (4, 5, 31-33). The number of videos included treatment recommendations, as well as the type and quantity of treatment recommendations included in each video, were recorded (Table 1). The evaluated videos were categorized into three groups based on the source of their content; health-care professionals (physicians, physical therapists, exercise trainers, personal trainers and chiropractors), academic and healthcare organizations (university personnel and research groups) and other sources (health-related websites, healthcare organization, commercials). Healthcare organization included foundations and patient organizations aiming to give information about knee osteoarthritis." Additionally, the videos were compared based on the speaker's qualifications (physician, physical therapist, massage therapist, chiropractor, layperson, athletic trainer).

Statistical Analysis

The Statistical Package for the Social Sciences version 22.0 package program (SPSS Inc., Chicago, IL, USA) was used for data analysis. Median

Table 1. Assessment tools for quality, reliability and content of the videos

Quality (Global Quality Score)		
1.	Poor quality, poor flow, most information is missing, not helpful for patients	
2.	Poor quality, some information is present, but of very limited use to patients	
3.	Moderate quality, some information is adequately discussed	
4.	High quality and flow, most important information is covered, useful for patients	
5.	Excellent quality and flow, very useful for patients.	
Reliability (Modified DISCERN Tool)		
1.	Is the video clear and understandable?	
2.	Are valid sources cited?	
3.	Is the information in the video unbiased and balanced?	
4.	Are additional sources of information given from which the reviewer can benefit?	
5.	Does the video address areas of controversial or uncertain?	
Knee Osteoarthritis Specific Content Score		
•	Definition of the knee OA	1 point
•	Risk factors	1 point
•	Symptoms	1 point
•	Prevention	1 point
•	Diagnosis of knee OA	1 point
•	Statistics and Epidemiology	1 point
•	Prognosis	1 point
•	Treatment methods (non-surgical) (if partially mentioned 1, fully mentioned 2)	2 points
•	Treatment methods (surgical)	1 point
List of non-surgical treatment recommendations		
A.	Patient education including information about disease, joint protection, self-management	
B.	Structured exercise therapy (strengthening, aerobic, aquatic)	
C.	Weight reduction / weight management	
D.	Appropriate footwear, use of insoles and braces	
E.	Use of NSAIDs or paracetamol for pain	
F.	Use of chondroitin sulfate or glucosamine	
G.	Use of modalities (electrotherapy devices, manual therapy, acupuncture, cold and heat)	
H.	Gait aids or assistive devices	
I.	Intra-articular injection	

(minimum-maximum), number, and percentage were used to express descriptive data. The videos were dichotomized based on their content, determining if they included evidence-based non-drug core treatment methods (exercise, patient education, and weight management) or other treatment methods. The chi-squared test was used to compare these groups with the speaker of the videos.

The distribution of the data was assessed using the Shapiro-Wilk test. Continuous variables were compared using the Kruskal-Wallis test, followed by pairwise comparisons using Dunn-Bonferonni post-

hoc method after significance was established. The agreement between the two researchers was measured using the Kappa coefficient. P values less than 0.05 were considered significant.

RESULTS

Among the 200 videos, 139 videos were excluded, leaving a total of 61 videos for analysis (Fig 1). The Kappa values for the two observers were 0.91 for the GQS, 0.91 for the modified DISCERN score, 0.92 for the knee OA specific content score. When we analyzed the type and intention of the videos, 78.7 %

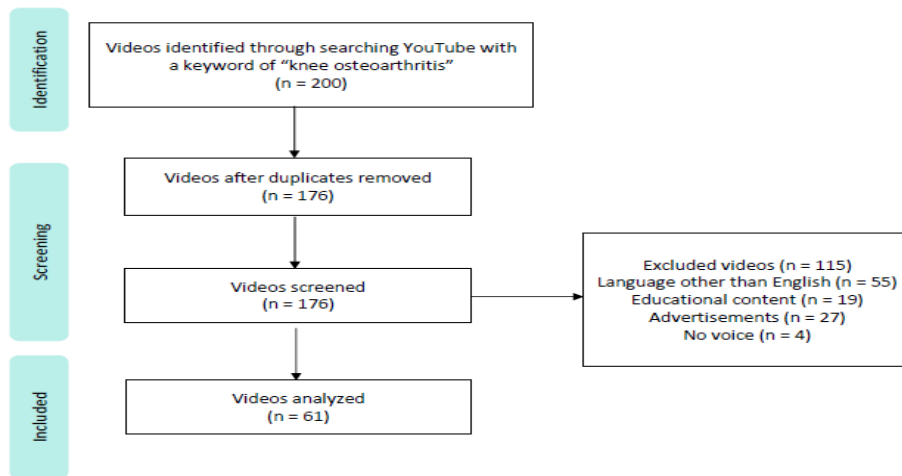


Figure 1. Flow chart

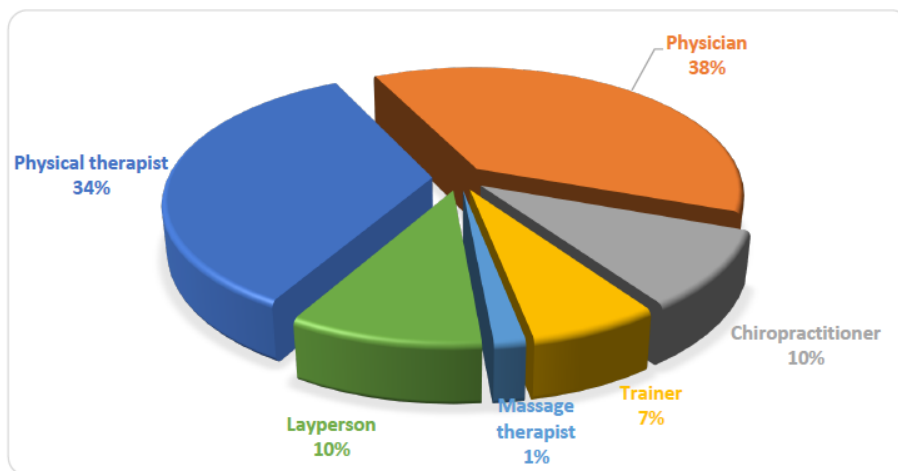


Figure 2. Videos according to the speaker

of them were categorized as programs, with exercise demonstration being the most common intention (Table 2). Additional characteristics of the YouTube videos can be found in Table 2. Figure 2 illustrates the distribution of speakers, with physicians presenting 38 % of the uploaded videos. A total of 41 (67.2 %) videos included evidence-based core treatment methods, while 20 (32.8 %) videos included other treatment methods.

General features of the videos and total values for GQS, DISCERN, and knee OA content score are summarized in Table 2. According to the GQS, of the 61 videos evaluated 44.2 % (n=27) were of high quality, 36.1 (n=22) were of moderate quality, and 19.7 (n=12) were of poor quality. When analyzed by the source of content, 44 % (n=11) of the videos

uploaded by healthcare professionals were of high quality, 40 % (n=10) were of moderate quality, and 16 % (n=4) were of poor quality. Among the 20 videos uploaded by academic and healthcare organizations, 60 % (n=12) were of high quality, 35 % (n=7) were of moderate quality, and only 5% (n=1) were of poor quality. Finally, 25 % (n=4) of the videos uploaded by other sources were of high quality, 31.3 % (n=5) were of moderate quality, and 43.8 % (n=7) were of poor quality.

Based on the speaker of the videos, physical therapists uploaded 13 (61.9 %) high quality videos, 5 (23.8 %) moderate quality videos, and 3 (14.3 %) poor quality videos. Physicians uploaded 12 (52.1 %) high quality videos, 8 (34.8 %) moderate quality videos, and 3 (13 %) poor quality videos. Among 6 videos uploaded by chiropractors, 1 (16.7 %) video

Table 2. Characteristics of YouTube videos

Type of video	
Program	48 (78.7 %)
Animation	10 (16.4 %)
Videoconference	2 (3.3 %)
Videoclass	1 (1.6 %)
<i>Treatment recommendations</i>	
No treatment recommendations	7 (11.4 %)
At least one treatment recommendation	54 (88.5 %)
<i>Intention</i>	
General information about the disease	9 (14.8 %)
General information about the disease and treatment methods	17 (27.9 %)
Information on diagnosis	4 (6.6 %)
Exercise demonstration	23 (37.8 %)
Other treatment methods (taping, injection, stem cell treatment, nutritional support)	5 (8.1 %)
Manual therapy	3 (4.9 %)
<i>Video features</i>	
Duration (minutes)	7.08 (1.2-122)
Number of views	71 556 (9520-3 202 204)
Number of likes	783 (0-88 000)
Number of dislikes	34 (0-1200)
Number of comments	47 (0-3508)
View ratio	72.4 (0 – 2160.7)
Like ratio	94.4 (0 – 99.1)
VPI	56.6 (0 – 1983.1)
GQS	3 (1 – 5)
DISCERN	3 (1 – 5)
Knee OA content score	3 (1 – 9)

Data are presented as median (minimum-maximum) and frequency (proportion).

GQS, Global Quality Score; VPI, Video Power Index.

was of high quality, and 3 (50.0 %) videos were of moderate quality. Athletic trainers uploaded 2 (50.0 %) moderate quality videos and 2 (50.0 %) poor quality videos. Among the 6 videos uploaded by

laypersons, 1 (16.7 %) of was of high quality, 4 (66.7 %) were of moderate quality, and 1 (16.7 %) was of poor quality. A video uploaded by a massage therapist was of poor quality.

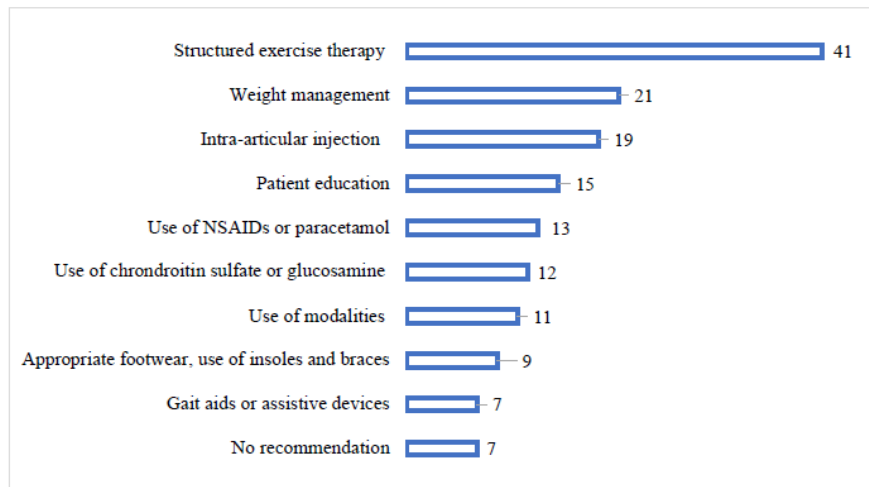


Figure 3. Number of videos including treatment recommendations

When the features, quality, reliability, and content score of the videos were compared among the groups, no significant differences were found in views, like ratio, and dislikes ($p > 0.05$). However, significant differences were observed in likes, the number of comments, view ratio, VPI, GQS, DISCERN, and knee OA content score between the groups ($p < 0.05$) (Table 3). According to the results of the Dunn-Bonferonni post-hoc method, both the GQS and DISCERN scores of the academic and healthcare organization group and healthcare professionals were significantly higher than those of other sources. No difference was found between the videos uploaded by academic and healthcare organizations and healthcare professionals in terms of GQS and DISCERN scores ($p > 0.05$). Additionally, the knee OA content score of the videos uploaded by academic and healthcare organizations was significantly higher than that of videos uploaded by healthcare professionals and other sources. The view ratio, number of comments, number of likes, and VPI were significantly higher for videos uploaded by healthcare professionals compared to the other two groups (Table 3).

Comparisons among the groups based on the video speaker revealed that physicians and physical therapists uploaded more videos containing core treatment methods ($p = 0.04$). Additionally, DISCERN, GQS, and knee OA content scores differed among the groups. While GQS, DISCERN, and knee OA scores for videos uploaded by physical therapists and physicians did not differ significantly, their quality surpassed that of videos uploaded by other speakers, with the exception of massage therapists (Table 4).

Figure 3 displays the number of treatment recommendations in the evaluated videos. Out of the 148 recommendations, 27.7 % of them pertained to structured exercise therapy. Of the treatment recommendations, 47.3 % originated from healthcare professional sources, 33.7 % from academic and healthcare organizations, and 18.9 % from commercial and health-related websites.

DISCUSSION

This study aimed to evaluate the current information related to knee OA and determine if these videos include core non-drug treatment methods recommended in knee OA current guidelines. Most videos on the management of knee OA align with the evidence-based recommendations and include core treatment methods such as exercise, patient education, and weight management. Exercise was the most frequently recommended method among the analyzed videos. Additionally, we found that videos uploaded by academic and healthcare organizations had the highest quality, and their knee OA content score was higher than that of the two groups. However, healthcare Professional-sourced videos were more popular than the other evaluated videos. More than half of the uploaded videos included evidence-based core non-drug treatment methods presented by physicians and physical therapists.

Patients are increasingly using online platforms as a source of information to learn about their diseases and treatment methods (34). Therefore, the quality, reliability, and accuracy of information in online resources are becoming more critical over time. The average number of views in our study was 349 910,

Table 3. Analysis of the videos according to the source of upload.

Variables	Healthcare professionals (n=25)	Academic and healthcare organization (n=20)	Other sources (Commercial and health-related website) (n=16)	P value
View	285 518 (10 636 – 2 217 828)	105 588 (9520 – 743 225)	42 373 (12 281 – 3 202 204)	0.20
Like	2400 (0 – 88 000)	386.5 (0 - 5200)	414.5 (0 – 22 000)	0.01
Dislike	70 (0 – 1200)	30.5 (0 - 333)	20.5 (0 – 737)	0.10
Number of comments	143 (2 – 3508)	23 (0 – 534)	28 (0 – 769)	0.00
View ratio	145.3 (3.2 – 2014)	49.7 (0 – 340)	26 (4.4 – 210.7)	0.02
Like ratio	95.8 (0 - 99.1)	93.2 (0 – 96.1)	95.5 (0 – 99.1)	0.07
VPI	90.2 (0 – 1983.1)	29.6 (0 – 320.7)	22.3 (0 – 1423.6)	0.04
GQS	3 (2-5)	4.5 (2 – 5)	3 (1 – 5)	0.01
DISCERN	3 (2-5)	4 (1 – 5)	2 (1 – 5)	0.02
Knee OA content score	2 (1-9)	4.5 (1 – 9)	3 (1 – 5)	0.00

Values are presented as median (minimum – maximum).

GQS Global Quality Score, **VPI** Video Power Index, **DISCERN** Quality Criteria for Consumer Health Information

Table 4. Evaluation of the videos according to the speaker

Speaker of the video	Core non-drug treatment methods N (%)	Other treatment methods N (%)	DISCERN score Mean (Median)	GQS score Mean (Median)	Knee OA content score Mean (Median)
Physical therapist	19	2	3.5 (4)	4 (5)	3.4 (3)
Physician	14	9	3.3 (3)	3.7 (4)	4.4 (4)
Chiropractitioner	2	4	2.1 (2)	2.8 (3)	1.8 (1.5)
Athletic trainer	3	1	2.5 (2.5)	2.2 (2.5)	2 (1.5)
Massage therapist	0	1	2 (2)	2 (2)	4 (4)
Layperson	3	3	1.6 (2)	3 (3)	1 (1)
P value	0.04**		0.001*	0.021*	0.042*

consistent with previous studies reporting increased viewership among patients seeking information about medical conditions (20, 35). YouTube is a free video content platform available to everyone, and even non-

evidence-based or non-useful treatment approaches can spread easily due to the lack of a content control mechanism and reliability of the uploaded videos. In this study, the overall mean GQS was 3.5, and

DISCERN was 3.1, indicating moderate quality and reliability. Most published studies have found YouTube videos to be of low quality and unreliable (24, 36). However, some studies have reported that YouTube videos include accurate and reliable information that can be helpful for patients (18, 22). These differing results may reflect the subjective experience of independent evaluators. To minimize the differences between assessors, GQS and DISCERN scores were defined in detail before video analysis, and meetings were conducted to ensure a consistent perspective. Inter-rater kappa scores were calculated based on randomly selected videos related to the topic, and our study's kappa value was above 0.70, indicating strong agreement. Without classifying videos based on their publishing source, the knee OA content score in our study was 3.5, indicating poor content quality. This result is in line with previous studies on YouTube videos evaluating the medical information. (20, 24) Videos created by academic and healthcare organizations had the highest knee OA content score (median:4.5/10), surpassing videos from healthcare professionals or other sources. The 47.3 % of the 148 treatment recommendations were published by healthcare professionals, mostly featuring exercise demonstrations. The low knee OA content score may be related to the fact that non-surgical treatment recommendations were scored with 1 or 2 points. Academicians and healthcare organizations prepared videos covering a broader range of topics according to the content checklist, contributing to their higher content score.

The quality and reliability of videos uploaded by healthcare professionals, academics, or healthcare organizations have been found to be higher than those from medical advertisements, health-related websites, or independent users (18, 23, 37). However, Culha et al. reported no significant difference in GQS and DISCERN scores based on the source of the content (22). Our study revealed that when the source is an academician or healthcare organization, YouTube can provide valuable information about knee OA and its treatment methods. We also believe that healthcare professionals, academicians, or individuals working in healthcare organizations should be encouraged to produce unbiased and informative videos about diseases and evidence-based treatment recommendations (22). In line with this recommendation, patients should be educated on

how to find more useful and accurate content within these platforms.

Previous studies have investigated the reliability and quality of YouTube videos prepared for different diseases or conditions such as ankylosing spondylitis, sarcopenia, fibromyalgia, and rheumatoid arthritis (18, 23, 28, 38). Wong et al. evaluated YouTube content using the keyword "knee osteoarthritis" and concluded that YouTube is a poor educational source for knee OA information. However, their study did not investigate the reliability and quality of the videos using widely accepted tools, also they did not record the treatment approaches in detail. Their study reported that 82.14 % of the 56 videos included information about non-operative treatment approaches (20). Consistent with this study, 78.6 % of the videos in our study contained information about treatment methods or demonstrated some of them, such as exercise or manual therapy. Bağcıer et al. analyzed videos using a keyword "exercise for knee OA" and suggested that YouTube can be a reliable source for obtaining information (25).

Exercise and patient education have been identified as core treatment methods in several guidelines. In accordance with these guidelines, exercise is the most recommended treatment method (67.2%) in our study and is typically demonstrated by physical therapists. This suggests that YouTube videos can serve as an informative tool for patients who have limited or no access to physical therapy services. Furthermore, evidence-based non-drug core treatment methods (exercise, physical education, and weight management) were presented in 67.2 % of the analyzed videos. However, the viewed videos on knee OA prioritized treatment methods and did not mostly include disease-related information, as mentioned earlier (21). Therefore, we can propose that informative videos not only focus on treatment approaches but also encompass the disease process, may better help patients to manage their condition.

Our results indicate that videos sourced from healthcare professionals were more popular, as evidenced by the view ratio, the number of comments, the number of likes, and the VPI compared to academic, healthcare organization, and other sources. Erdem et al. found that videos uploaded by academicians had the lowest VPI (24). In contrast, some studies reported no difference in popularity based on content source (22, 23). Ayoub

et al. suggested that low-quality videos tend to be more attractive (29). Our study showed that despite being less popular, videos uploaded by academic and healthcare organizations were rated as high quality and more comprehensive. Consistent with our results, Kocyigit et al. concluded that popularity does not predict video quality (18). The high popularity of healthcare professionals should motivate them to produce high-quality, comprehensive videos that cover both disease-related information and treatment methods. Patients diagnosed with knee OA should consider accessing videos produced by academic and healthcare organizations first, followed by those created by health professionals, to maximize the benefits of the YouTube platform. This approach can raise awareness of various treatment modalities for both the disease and its progression.

This study has several limitations. Similar to published studies, we have evaluated the videos using subjective and unvalidated tools (GQS, knee OA scoring system, modified DISCERN) which may be influenced by the evaluators' perspective. This limitation arises from the lack of valid and disease-specific metrics for assessing online or video-based information. To mitigate this, two independent authors evaluated each video twice. Additionally, the viewed videos were only in English which may limit the generalizability of our results. Another limitation is the sample size; we have evaluated 61 videos, which is consistent with the existing literature. Most internet users typically view the first two pages of their search results (39). Furthermore, this study is a "snapshot" of the content on YouTube, and the platform is dynamic affecting search results. In future studies, analyzing videos in the native languages of the countries may provide more useful information for patients and contribute more to the literature. Moreover, YouTube may promote videos uploaded by academicians and healthcare professionals through its embedded algorithm to serve more qualified information for the patients.

CONCLUSION

The popularity of YouTube is increasing among knee OA patients for health information. Exercise and patient education, core treatment methods in several guidelines, were the most prevalent content in line with the guideline recommendations. Videos uploaded by academic and healthcare organizations can be recommended to patients seeking comprehensive information about knee OA and its

treatment methods. Despite being less popular, healthcare professionals should provide informative videos to ensure that patients can access well-prepared healthcare information. Additionally, patients should be guided in selecting the right content while checking the video sources.

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Author contribution: Study concept and design: Ö.Ö.; acquisition of data: Ö.Ö, Ö.F.; analysis and interpretation of data: Ö.Ö, Ö.F.; drafting of the manuscript: Ö.Ö.; critical revision of the manuscript for important intellectual content: Ö.Ö, Ö.F.

Conflict of interests: Ö. Öztürk and Ö. Feyzioğlu declare that they have no competing interests.

Ethical approval: This study was approved by Acibadem Mehmet Ali Aydınlar University, Medical Research Ethics Committee (Decision Date: 24.02.2023, Number: ATADEK 2023-03/75)

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