



IS DR YOUTUBE GUIDING OUR PATIENTS WELL ON TOTAL KNEE ARTHROPLASTY? - AN ORTHOPAEDICIAN'S ANALYSIS

Orthopaedics

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ABSTRACT

Background: Youtube has become a popular platform for disseminating health-related information. The objectives of this study was to explore the educational quality of youtube videos pertaining to total knee arthroplasty.

Material And Methods: Youtube search was done on 12 April 2021 for TKR related videos by using the following search terms total knee replacement, total knee arthroplasty, TKR, knee replacement. Data from 40 most relevant videos were collected. Quality assessment check list with the scale of 0-10 points were developed to evaluate the video content. On the basis of this, videos were grouped into poor quality (grade 0-3), acceptable quality (grade 4-7) and excellent quality (grade 8-10) respectively.

Results: 92.5 % of videos were of poor educational quality (37/40), 7.5% were of acceptable quality (3/40) and none of the video were of excellent quality. Common missing information included discussion of operative complications and implant duration.

Conclusion: The current study suggests that youtube is a poor education source for patients concerning knee arthroplasty.

KEYWORDS

Youtube, knee replacement, informational quality, total knee arthroplasty.

INTRODUCTION:

Total knee arthroplasty is a surgical procedure to resurface a knee impaired by arthritis. arthritis is a leading cause of chronic pain and disability.^{1,3} The gold-standard treatment option for endstage knee arthritis includes total knee arthroplasty (TKA).⁴ TKAs are common, with more than 600,000 procedures performed each year in the United States.⁵ It is projected to become one of the most common procedures in the forthcoming decades.⁶ While doctors have traditionally been the source of health information for patients, a increasing number have inclined to the Internet as a source of health-care information. There is plenty of information about TKR on the internet. One of the most used social media site is youtube and now has over one billion users. Social media provides easy access to medical information, but information received is neither accurate nor free of bias and has a greater impact on patient doctor relationship and also affect treatment compliance. As anyone can publish and upload youtube videos regardless of qualifications or profession thus making the quality questionable.⁷ The purpose of the present study was to determine the educational quality of YouTube videos related to TKR.

MATERIAL AND METHODS:

A YouTube search was done on 12 april 2021 for TKR related videos by using the following search terms: Total knee replacement, Total knee arthroplasty, TKR, knee replacement. The search was done via a web browser without any saved history or "cookies" Exclusion criteria comprised videos that were not in English, did not address the primary topic, or did not contain audio or captions. Duplicated videos were viewed as one. Data assembled from included videos were video title, Universal Resource Locator (URL), total views, duration (minutes), publication date, number of likes, dislikes, and comments. Initially 102 videos were their 62 were disqualified as they did not meet inclusion criteria 40 videos were included in the present study. The videos were assessed for educational quality regarding the use of TKA. Videos were evaluated using a grading checklist, taken from the former works of MacLeod et al and Koller et al.^{8,9} Videos were categorized according to educational quality as either poor (grade 0-3), acceptable (grade 4-7), and excellent (grade 8-10). All the scoring was done by one author. For intra observer reliabilities, grading was performed two times on different occasions by the same author at interval of six weeks and scoring was compared with the previous score. Institutional review board consent was not essential for the current study.

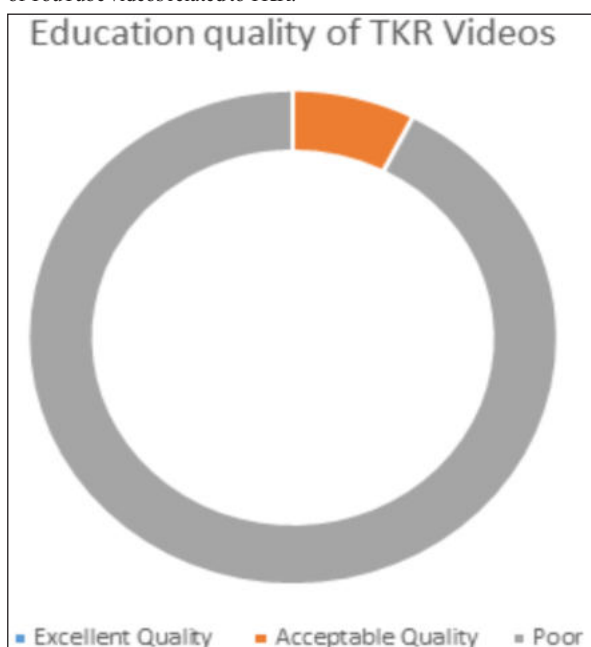


Figure 1 Scoring Of Videos Regarding Total Knee Replacement

Table 1 Knee arthroplasty video score checklist.	
Preoperative education	Available points
Discussion of preoperative preparation	1 point
Discussion on the concept of a knee arthroplasty	1 point
Surgical	
Discussion of implant duration	1 point
Discussion of reason for replacement	1 point
Discussion of nonoperative options	1 point
Restoration of physiologic knee biomechanics	1 point
Postsurgical	
Discussion of postoperative mobilization and/or physiotherapy	1 point
Discussion on functional outcome (improved mobility, pain, quality of life, and so forth)	1 point
Discussion on possible complications including but not limited to (infection, periprosthetic fracture, dislocation, nerve injury, implant failure, venous thromboembolism)	0.5 points each, for a maximum of 2 points

RESULTS:

A total of 40 videos were assessed. The mean duration was 1.5 min, the number of views per video was 1, 10,472 with a total view count of 4,86,2684. The average number of "likes", "dislikes, and comments per video was 401, 30, and 28 sequentially. In terms of the educational content of videos, 92.5% (37/40) were of poor quality, 7.5% acceptable quality (3/40) and no video was of excellent quality. The origins of videos were as follows: 60% non-physician, 15% physicians/hospital, 21% of videos were by patients, and 4% by others. Regarding the type of videos, 40% educational, 25% related to surgical technique and 25% were industry sponsored advertisements. Discussion on surgical

complications and implant duration was least discussed (15%). On comparing both scores of all the videos which were taken on two different occasions at interval of 6 weeks, it was seen that there was no significant difference between them ($p < 0.05$).

DISCUSSION:

YouTube is trusted by patients being a free online information source. It is vulnerable to misinformation, that has caused concern within academic and medical community. The limitations were: firstly, there is no validated tool to assess the quality of videos related medical information. secondly, these are based on one person centered perspective. After the approach of MacLeod et al.¹⁰ a new quality assessment checklist for the diagnosis and treatment of hip arthritis was evolved. The present study is relevant for physicians and patients both. The present study showed that videos available on YouTube are poor source of education for patients. Social media causes numerous threats on medical management that could probably influence the well being and reliability of patient particulars, patient authorization and patient doctor correlation. Therefore, it would be beneficial for health care organizations to counsel patients on the hazards of using YouTube as an information source for TKR. In our study no video was of excellent quality. 92.5% of videos were of poor educational quality. 7.5% were of acceptable quality [3/40]. The majority of videos only provide incomplete description. This study revealed that the accessible videos have a limited focus and are therefore of poor grade. thus, available videos are not helpful for patients looking for more detailed knowledge on the knee replacement. Most videos were uploaded by physiotherapists, which are well liked on YouTube with more 'likes' and views per day than clips of any other class. The correspondence between video attributes and educational quality has been formerly calculated. Video attributes comprises number of views, comments, "likes," and "dislikes". MacLeod et al. found no dissimilarity between educational quality and video attributes.⁸ Stauton et al. assessed 50 videos concerning scoliosis and found that greater educational quality videos were related with a lower number of views.¹¹ Videos of high quality may be less popular. This was also aided by Jones et al. who after their analysis of 55 videos regarding Dupuytren's disease explored that videos deemed "useful for patients" had the least number of mean views.¹² However, these findings were not shown in our study. In our consideration, discussion concerning surgical complications and implant duration were seen in only 15% of the videos. The shortfalls of discussion as regards to nonoperative treatments in videos is perceived in other studies.^{8,9} Brookes et al. found after evaluating 81 videos discussing lumbar discectomy and accounted that information about the pathophysiology of lumbar disc herniation and the natural course of disc herniation was lacking.¹³ The authors noted that these findings may reflect the market for which some of these videos were calculated, as a notable proportion of publishers were from individuals or organizations offering treatment options.

CONCLUSION:

YouTube is increasingly being accessed by patients for health particulars regarding TKA. However, our study suggests that regarding TKA, information on YouTube is overall insufficient. These findings provide a basis for physicians to upgrade online patient education by highlighting topics that were less talked in these videos. For educational material regarding knee arthroplasty, this includes discussion on surgical complications and implant duration. Physicians should be apprised of the limitations of YouTube to better guide their patients.

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