ORIGINAL ARTICLE

YouTube as a Source of Information about the Lumbar Radiculopathy: A Content-Quality Analysis

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ABSTRACT:
This research was intended to appraise the reliability and quality of YouTube videos regarding lumbar radiculopathy **Methods:** On January 2023, a survey was done on YouTube (www.youtube.com) using the terms "lumbar radiculopathy," "sciatica," "sciatica physical therapy," and "lumbar radiculopathy physiotherapy." The most popular videos were displayed first in the video sort. Based on four keywords, we similarly assessed the top 40 videos out of 200 videos. Videos were assessed by two independent observers. The date of upload, the duration of each video, the number of views, likes and comments were all noted for every video. The global quality score (GQS) (score range: 0-5), the Journal of the American Medical Association (JAMA) score (0-5), and the DISCERN (15-75) score were used to evaluate the video quality and reliability**.** **Results:** Out of 40 videos, 55% were uploaded by physiotherapists, 22% were uploaded by orthopaedists, and were uploaded by chiropractors. According to GQS most of the videos are of moderate quality. JAMA scoring scale concluded that all videos are of poor quality. The DISCERN scale shows that most of the videos are of poor quality (29-41). An Independent t-test with a p-value of 1.000 for JAMA, 0.310 for DISCERN, and 0.22 for GQS, demonstrated a statistically insignificant association between the GQS, JAMA, and DISCERN. According to Pearson's correlation test, likes on videos are statistically significant with GQS (p=0.002) and DISCERN (p=0.005) but not significant with JAMA (p=0.455) scores. On the other hand, views on YouTube videos are statistically significantly correlated with DISCERN (p=0.001), and with GQS (0.000). But views on YouTube significantly not correlated with JAMA (p=0.595). **Conclusion:** The reliability and quality of YouTube videos regarding lumbar radiculopathy range from poor to moderate. Our findings imply that professional groups should offer and advertise highest rated content to YouTube viewers and patients.
Key Words: YouTube, lumbar, radiculopathy, social media, Information

INTRODUCTION:

Lumbar radiculopathy, also known as sciatica, is pain brought on by compression of the sciatic nerve. The searing discomfort that was radiated after the lower back down the leg along the sciatic nerve route is the primary symptom of lumbar radiculopathy. Sciatica was derived from the Greek word "ischia," which refers to the area where ancient Greek physicians believed the condition originated. The word ischia evolved into sciatica over a period of 1,500 years.[1] usually affecting only one side of the body, sciatica might be caused by an underlying injury.[2] radiating leg pain below the knee in one or more lumbar or sacral regions might be indicative of lumbosacral radicular syndrome, nerve root compromising nerve root discomfort, or nerve root entrapment.[3] Lumbar radiculopathy was a syndrome that affected 13% to 40% of people in their lifetime. The annual incidence of a sciatica episode correspondingly ranges from 1% to 5%. Height, age, genetic predisposition, jogging (if there is a history of sciatica), and some physically demanding jobs, such as driving, were factors that affected the incidence of sciatica.[4] Studies had found a wide range in the prevalence of lumbar radiculopathy, from 1.6% to 43%. [5] A UK study (609 patients) found that roughly 60.0% of patients with back pain had a clinical diagnosis of sciatica, in contrast to a Danish study that concluded that 2.0% of pts. in chiropractic clinics and 11.0% in general care units exhibit neurological findings on examination confirming sciatica.[6] According to studies, it had a greater effect on women than men.

L4 over S3 nerve roots devised the sciatic nerve. Several nerve roots fused to form the large sciatic nerve in the pelvic cavity. The posterior sciatic foramen was then used by the sciatic nerve to exit the pelvis. After exiting the pelvis, the nerve exited inferiorly and anteriorly to the piriformis and posteriorly to the gemellus superior, inferior, obturator internus, and quadratus femoris. The biceps femoris is the next structure the sciatic nerve crossed as it entered the posterior thigh. Last but not least, the posterior popliteal fossa of the knee is where the sciatic nerve gives birth to the tibial and common fibular nerves. [7] Herniated disc, lumbar canal stenosis, obesity, spondylolisthesis, piriformis syndrome, sedentary lifestyle, jobs (carrying heavy weights, twisting action), smoking, and cauda equina syndrome are the main causes of sciatica. [8] A variety of signs and symptoms were present in every patient, including One-sided leg pain that was more demanding than LBP (usually spreading posteriorly after the leg and under the knee) Lower leg pain or numbness in the affected area, Positive femoral nerve test, SLR test, or slump test results with discomfort in the afflicted limb, Neurological deficiency related to the affected nerve root (sensory disturbance, lack of tendon reflexes, and muscle weakness).[9] Pain from sciatica can vary greatly. It could have a slight tingling, aching, or burning sensation, OR sometimes the agony was so bad that a person is unable to move. Many clinical tests, including the Special Test (straight-leg-raising Test) and Imaging Tests, had been developed to assess whether sciatic pain was brought on by disc compression of a spinal nerve root (X-

ray, CT- scan, MRI). MRI, CT-scan, X-rays, and myelography were all used as a diagnostic imaging. The preferred imaging technique at the moment was MRI, which had the benefit of not utilizing ionizing radiation and had good visualizing capabilities, particularly for soft tissue. For the detection of morphologic changes, CT was frequently employed and was available. It also played an eminent part in the finding of slipped discs. In myelography, contrast media was injected into the lower back, continued by X-ray, CT, or MRI projections.[10] Most of the time, sciatica disappeared completely without any kind of treatment. A conservative method of therapy was therapeutic physical exercise, which comprised analgesics and methods of relaxation including stretching and exercise. NSAIDs, muscle relaxants, opioids, and analgesics were among the medications utilized for therapy. A thorough rehabilitation program should include a manual program for hip and lumbar flexibility, strengthening exercises, and prescription drugs. Surgery (Decompressive laminectomy) was the sole remaining treatment option for some severe instances.[11] for clinical use, the type of exercise should be by the patient's specific complaints and requests as well as the physiotherapist's particular training.[12] Today, using the internet had grown increasingly widespread. Its facilitation of quick and simple information access boosts its use. The internet made it possible to learn about a variety of topics.[13] The endorsement of web-based services was not surprising given that nowadays, approximately 2.3 billion people had access to the internet, with internet penetration rising from 23.5% in 2008 to 32.7% in 2011. 74% of adults in North America used the web daily, and 80.0% of all users had looked for a description of health.[14] Most adults used the internet to access information about their health.[15] However, even though everybody can access info over the internet, the usefulness and accuracy of social media were still debatable.[16] Due to the ease with which patients can now access health information, search engines and social media completely changed how patients and doctors interact. Patients were now more involved in all aspects of the diagnostic and therapeutic process. There was an increase from 25% in 2000 to 60% to 80% of patients looking for health information online between 2008 and 2010, with the reliability of the information remaining the main concern. One of the most popular resources for medical info was Google, and using Google Trends had previously been shown to be a practical way to address epidemiological issues related to illness tracking. As a result of user-generated content and the absence of a certified review for scientific content, several authors appraised the quality of information shared via YT for various medical branches and noted that at least 30% of the information was deemed to be unreliable, misleading, or dangerous.[17] YouTube is the biggest media platform among different social media platforms; it is used by 95.0% of individuals with an Internet connection and has greater than 30.0M active users every day.[18] It is one of the most well-known social networking platforms and was launched in 2005. More attention is paid to visual information than to reading knowledge, from this perspective, YouTube (YT) is a fantastic source that can be accessed online. However, "YouTube" is a platform designed more for pleasure than for learning.[16]Greater than 500 hours of video were uploaded to YouTube per min. as of March 2021, and users watched more than a billion hrs. of video every day.[19] In the absence of a peer-review procedure, patients who searched on YouTube® for more medical information faced the risk of receiving poor, inaccurate, or misleading content.[20] Before their appointment visits, patients might have educated themselves using online resources, and they might arrive prepared with a presumed diagnosis and their recommended course of action. 75% of individuals with chronic ailments claimed that their most recent web research about the condition had an impact on their choice of treatment. Patients might be exposed to false or misleading information given that there were no quality management processes or peer-review procedures to guarantee the veracity of health-information videos on YT. In the context of different orthopedically illnesses and therapies, such as arthritis of the hip and knee region, compression of the femoro-acetabular, anomalies in the articular cartilage, and others, the quality of patient information videos had been examined.[21] Investigations evaluating the eminence of YT exercise videos for disorders have found that the videos for ankylosing spondylitis are of high quality, the videos for pelvic floor muscles are of medium quality, and the videos for kyphosis, constipation and carpometacarpal osteoarthritis are of low quality.[22] The accuracy of YouTube® videos regarding hallux valgus was low.[23] The quality of data on TMJD on YT was of poor quality.[24] The quality and reliability of videos on sciatica have not been assessed until. This research was designed to evaluate the content, reliability, and quality of YouTube videos associated with Sciatica, which was easily accessible and potentially an alternative resource. We expect that YouTube viewers would prefer watching informative videos produced by healthcare professionals. This might reveal whether or not YouTube is a suitable and useful medium for the transmission of sciatica (lumber radiculopathy). The identification of factors that might be crucial for choosing reliable and high-quality videos serves another purpose.

METHODS:

The first stage of this descriptive analysis resulted in the selection of a total of four target keywords. The search terms for videos were developed by exploration of earlier research regarding exercise on YT. On January 2023, a query was done on YouTube (www.youtube.com) by the terms "lumber radiculopathy," "sciatica," "sciatica physical therapy," and "lumber radiculopathy physiotherapy." The most popular videos were displayed first in the video sort. Based on four keywords, we similarly assessed the top 40 videos out of a total of 200 videos. Videos were evaluated by two independent observers. Duplicated videos, videos with incomprehensible audio, Videos on other diseases, Videos uploaded by non – professionals (gym trainers & osteopaths), Videos in languages other than English, Videos who's Comments section was disabled, and Dislikes were omitted. By the exclusion criterion, 92 videos were comprised in the examination. Among the clips that were rejected, there were 38 non-English videos, eight off-topic videos, and 72 duplicates. The date of upload, the length of each video, as well as views, likes, and comments, were all noted for individual videos. In the literature, different labels are used to categorize video sources. Sources of uploaded videos were listed under four headings: (i) physiotherapists (ii) orthopaedists (iii) chiropractors. The Global Quality Scale, a widely used but inconsistent scale that evaluates the usefulness and quality of online data, was used to evaluate the videos' quality. Five questions make up the scale: one point represents about very low, two means poor, three represents moderate, four means good, and five represents very good quality.[28] Through the usage of the modified DISCERN (mDISCERN) tool, the videos' reliability was evaluated. This scale, which was initially developed by Charnock et al.,[29] consists of five queries. For mDISCERN, a score of 3 or above indicates strong consistency. The JAMA scale was used for the accuracy and reliability of the content. The highest possible score was 4 points.[30]

RESULTS:

Out of 40 videos, 55% were uploaded by physiotherapists, 22% were uploaded by orthopaedists, and were uploaded by chiropractors. According to GQS most of the videos are of moderate quality. JAMA scoring scale concluded that all videos are of poor quality. The DISCERN scale shows that most of the videos are of poor quality (29-41). An Independent t-test with a p-value of 1.000 for JAMA, 0.310 for DISCERN, and 0.22 for GQS, demonstrated a statistically insignificant association between the GQS, JAMA, and DISCERN. According to Pearson's correlation test, likes on videos are statistically significant with GQS (p=0.002) and DISCERN (p=0.005) but not significant with JAMA (p=0.455) scores. On the other hand, views on YouTube videos are statistically significantly correlated with DISCERN (p=0.001), and

with GQS (0.000). But views on YouTube significantly not correlated with JAMA (p=0.595).

DISCUSSION:

The relationship between healthcare professionals and patients has taken on a new dimension as a result of the numerous developments made possible by social media in the sectors of communication and healthcare. The third most visited website in the world is the well-known social platform YouTube, which quickly delivers material to big audiences.[31] YT was originally used as a source for sharing user-generated content, but now businesses, organizations, and educators use it to create digital content.[32] This platform, which sees a total of 100M video views a day, is at the lead of social media and web research for information on health services. Unfortunately, there are no classifiers at the posting stage, so there is a high likelihood of spreading false information. No defined system on YT that controls the effectiveness as well as trustworthiness of videos linked to health care.[31] Because YT is a non-peer-reviewed site, doctors and patients should be attentive to the numerous sources of healthcare info as well as the changing quality of the data. For several medical specialties, including internal medicine, urology, otorhinolaryngology, and neurology, the content on YouTube has previously been evaluated.[33] In the present research, only 62.5% of the video clips were of moderate quality, and the mDISCERN rating was 3.000. According to Kocyigit et al., 48.2% of exercise videotapes treating ankylosing spondylitis were of high quality.[34] 54.9% of the videos in a study that looked at YT as a source for individual education on exercises of dysphagia and compensation methods were determined to be of excellent quality.[35] Erdem and Karaca evaluated that most of the facts in videos regarding kyphosis were of poor quality and untrustworthy. According to this research, the majority of lumbar radiculopathy exercise videos are of low-to-medium quality. There may be a variety of explanations for why our study's findings are different from those of previous research in the domain of research, and the literature lacks a conclusive opinion on the matter. Even though these studies analyze exercises generally, each study evaluated a distinct subject, which would have produced different results. Additionally, the variables differ between research projects, notably the video sources, which could have impacted the outcomes. Finally, this discrepancy in the literature's findings may be described by the variation in the No. of videos reviewed in the present research. The current research's main finding was that YT videos do not offer enough info about lumbar radiculopathy. Sezgin and Erman observed that the mean of GQS, JAMA, and DISCERN ratings were 2.220 (1-4), 2.120 (1-3), and 33.480 (17-66), respectively, in their research on bone cancers and YouTube content. The JAMA, GQS, and DISCERN average scores utilized in current research to assess the videos' material, the relevance of treatment, quality, and accuracy were 1.0750, 3.23, and 2.612, respectively. In light of their observations, our research's video quality was poor. According to this research, the majority of lumbar radiculopathy exercise videos are of low-to-medium quality. There may be a variety of explanations for why our study's findings are different from those of previous research in the domain of research, and the literature lacks a conclusive opinion on the matter. Even though these studies analyze exercises generally, each study evaluated a distinct subject, which would have produced different results. Additionally, the variables differ between research projects, notably the video sources, which could have impacted the outcomes. Finally, this discrepancy in the literature's findings may be described by the variation in the No. of videos reviewed in current research. This study's findings showed that an impartial assessment and validation of video content is feasible using uncomplicated techniques and ought to be done to prevent inaccurate info transmission, inaccurate prospects, fears, or poor presentation. It is particularly regrettable that the YouTube evaluation criteria, for instance, views or likes, failed to correlate with information eminence in either this research or other research.

The fact that the YT platform's algorithms, which are driven via likes and views, order the millions of videos that are accessible makes this much more pertinent. It should be noted, though, that the YT video platform's content is depending on a lot of versatile procedures. This would be caused, in part, by concise content copying and editing, as well as the regular occurrence of different variations of a video that the researchers purposefully chose to eliminate copies from. Though, a very dynamic condition also affects the No. of views, likes, and subscribers. Any comparison must be made at a single point in time. Unfortunately, there aren't many other analyses available, like ones that track the evolution of "likes" or "subscriptions." Even though content can change in a matter of seconds, effective methods, such as checklists, for evaluating such video content are still hard to come by and can be used to evaluate new content at any time.

CONCLUSION:

The reliability and quality of videos regarding lumbar radiculopathy on YouTube range from poor to moderate. The rank of videos did not knowingly connect with their reliability or quality. Our findings imply that professional groups should offer and advertise highest rated content to YouTube viewers and patients.

Author Contributions:

Conception and design: *Rabia Iqbal*
Collection and assembly of data: *Iqra Ikram, Rabia Iqbal*
Analysis and interpretation of the data: *Iqra Ikram*
Drafting of the article: *Rabia Iqbal*
Critical revision of article for intellectual content: Iqra Ikram
Statistical expertise: *Armish Samavia Khan*
Final approval and guarantor of the article: *Rabia Iqbal*
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