

YouTube as a source of information on sacroiliac joint injection

A reliability and quality analysis

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Abstract

Sacroiliac joint (SIJ) injection is recommended for both diagnosis and relief of SIJ pain. YouTube has become a widely used source for health professionals and patients to obtain information about various procedures but the quality of YouTube videos including medical content is questionable. Therefore, the aim of this study is to evaluate the quality of SIJ injection videos on YouTube. This cross-sectional study was conducted through March 2022 by searching the phrase “sacroiliac joint injection” on YouTube. After resetting search history top 100 videos were screened. Duration of videos, number of views, number of likes, number of comments, view ratio (number of views/d), time passed since upload date, guide used for injection, and source of videos were recorded. The DISCERN and the Global Quality Scale were used to assess the quality and reliability of the videos. Of the 100 videos screened 42 videos met the inclusion criteria. The videos (73.8%) were predominantly uploaded by physicians. Most frequently used guide for injections was ultrasound with 45.4%. According to the DISCERN classification, 35.7% of the videos were “very poor,” 30.9% were “poor,” 21.4% were “fair,” 7.1% were “good” and 4.7% were “excellent.” Physicians and patients should be aware of that many of the videos about SIJ injections are categorized as “poor” or “very poor,” which means they may mislead trainees, resulting in inadequate treatments.

Abbreviations: GQS = Global Quality Scale, SIJ = sacroiliac joint.

Keywords: quality, sacroiliac joint injection, video, YouTube

1. Introduction

The sacroiliac joint (SIJ), which has both synovial and syndesmosis parts, is an important source of low back pain, accounting for up to 30% of cases. Etiological causes include degenerative or inflammatory arthritis, trauma, infection, etc. A positive response to 3 or more provocative maneuvers might make the examiner suspect from SIJ originated pain, but the diagnosis is often hard. Although periarticular structures such as ligaments may also be a pain generator, diagnostic intra-articular injections still stand as the best option to determine SIJ pain.^[1-5] Therapeutic SIJ injections with corticosteroids are widely performed by physicians based on their intermediate-term benefits with level 1b evidence.^[6] They have also been found to be effective in cases of active sacroiliitis.^[7]

Fortunately, continuous progress of social media provides novel training tools in various fields. YouTube has become a popular source for obtaining information about different surgical and interventional treatments in medicine. Besides patients, fellows, or residents new on a particular field use YouTube as an instructional medium during their training period. There are now over 7 billion open-access videos on this social media

platform which makes it a faster alternative to traditional written sources.^[8-12] However, almost everyone can upload videos involving medical information, and as far as we know there is not any reviewing process. To date, some authors evaluated the quality of videos about several surgical and interventional procedures but most of all did not find their contents satisfactory.^[8,10,13] Consequently, the aim of this study is to evaluate the quality and educational value of SIJ injection videos on YouTube and to inform our colleagues about the video contents.

2. Materials and methods

2.1. Video selections

This cross-sectional study was conducted through March 2022 by searching the phrase “sacroiliac joint injection” on YouTube (www.youtube.com). First, the search history was reset, and then the top 100 videos were listed by relevance. Only English language videos were included, and duplicate videos, videos without audio or subtitles were excluded.

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The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Table 1
General features and the quality of videos.

Source of upload	N	%
Physician	31	73.8
Health-related websites	10	23.8
Patient	1	2.4
Injection technique		
Fluoroscopy guided	14	33.3
Ultrasound guided	19	45.4
Other (CT, blind)	9	21.4
Video features	Mean ± SD	Min–Max
Duration (s)	268.28 ± 337.66	30–1860
Time since upload (d)	1967.78 ± 1127.27	210–4015
Number of views	33,593.92 ± 68,558.42	43–294,000
View ratio	19.79 ± 42.18	0.2–223.2
Number of comments	3.98 ± 9.63	0–48
Number of likes	135.5 ± 416.2	0–2800
DISCERN reliability	22.11 ± 8.42	8–40
DISCERN treatment	10.61 ± 10.69	7–33
DISCERN quality	2.57 ± 1.04	1–5
DISCERN total	32 ± 73	15–71
GQS score	2.44 ± 0.98	1–5

GQS = Global Quality Scale, SD = standard deviation.

2.1.1. Video features. Duration of videos, number of views, number of likes, number of comments, view ratio (number of views/d), time passed since upload date, and source of videos were recorded. The sources were categorized as physicians, health-related websites, and patients. The guide used for the procedure was also noted (ultrasound, fluoroscopy, etc.).

2.1.2. Evaluation of quality and reliability. The DISCERN and the Global Quality Scale (GQS) were selected for the interpretation of the videos by 2 pain medicine specialists (S.S. and O.H.G.). The DISCERN which is developed for information providers to assess the quality and reliability of information consists of 3 sections and 16 questions. The first part consists of 8 questions and measures reliability. The second part consists of 7 questions and evaluates the quality of treatment options, and the third part gives the overall quality. Each question is scored between 1 and 5, and higher scores indicate better quality. The total DISCERN score is calculated by sum of these questions, and there are 5 categories: excellent (63–75), good (51–62), fair (39–50), poor (27–38), and very poor (<27).^[14,15] The GQS also allows users to assess the overall quality of videos on a 5-point Likert scale: 1 to 2 points were considered as low, 3 points as moderate, and 4 to 5 points as high quality.^[16]

2.2. Ethical statement

As there are no human or animal participants, ethical committee approval is not required.

2.3. Statistical analysis

Statistical analysis was performed using SPSS version 20 (SPSS Inc., Chicago, IL). The normality of the data was tested using Shapiro–Wilk tests. The Kruskal–Wallis test was used to determine the statistical differences between more than 2 independent variables. The inter-rater agreement was assessed with the kappa coefficient. Continuous variables were expressed as mean, standard deviation, frequency, minimum and maximum values. Categorical variables were expressed in number and frequency. A *P* value of <.05 was considered statistically significant.

3. Results

A total of 100 videos were screened for the study, 58 videos were excluded; 45 were off-topic, 7 were duplicates, 3 were

not in English, and 3 had no audio or subtitles. At the end, 42 videos were analyzed. The videos (73.8%) were predominantly uploaded by physicians. The average duration of the videos was 268.28 (30–1860) seconds, the number of views was 33,593 (43–294,000), and the number of likes was 135.5 (0–2800). The mean GQS and DISCERN total scores were found to be “poor” with 2.44 (1–5) and 32 (15–71), respectively (Table 1). The Cohen kappa score was calculated as 0.878 for the GQS score and 0.834 for the DISCERN total. We found that the most frequently used guide for injections was ultrasound with 45.4%, followed by fluoroscopy with 33.3% (Table 1). When ultrasound or fluoroscopy-guided injection videos were analyzed, no significant difference was found between the 2 groups in terms of number of views, duration, comments, loading time, and video quality (Table 2). A significant difference was found in favor of the videos uploaded by physicians in the total score and all subgroup scores of DISCERN. In addition, GQS scores were also significantly higher for the videos uploaded by physicians (Table 3). According to the DISCERN classification, 35.7% of the videos were “very poor,” 30.9% were “poor,” 21.4% were “fair,” 7.1% were “good” and 4.7% were “excellent.” 18 (56.2%) of the videos uploaded by physicians and 9 (90%) of the videos uploaded by health-related websites were classified as “poor” or “very poor” (Table 4).

4. Discussion

The present study assessed the quality of 42 YouTube videos about SIJ injections. Only 11.8% of the videos were “good” or “excellent” according to the DISCERN score. Most of these high-quality videos were uploaded by physicians; however, 56.2% of the videos uploaded by physicians were “poor” or “very poor” concerning the DISCERN classification. On the other hand, 90% of the videos uploaded by non-physician sources like health-related websites were categorized as “poor” or “very poor.” There was only 1 video uploaded by a patient which was classified as “poor.” Therefore, either physicians or health-related websites should exert more effort to produce reliable videos on SIJ injections after comprehensive research and consulting with credible sources of medical information.

Since we are in the age of data, medical professionals tend to seek information rapidly other than books and scientific papers. Besides, interventional pain procedures are easier to learn from illustrations or videos supported mediums. YouTube may serve

Table 2
Video features of fluoroscopy or ultrasound guided injections.

	Ultrasound	Fluoroscopy	P
Number of views	21,821 ± 44,190	34,917 ± 79,119	.550
View ratio	7.1 ± 11.3	16.4 ± 25.7	.240
Number of likes	77.8 ± 131.2	52.4 ± 118.3	.580
Duration (s)	176.2 ± 116.2	202.0 ± 132.6	.552
Number of comments	3.8 ± 8.2	0.1 ± 0.2	.060
Time since upload (d)	1946 ± 1165	2029 ± 1120	.842
DISCERN total	27.7 ± 10.4	32.7 ± 10.4	.186
GQS score	2.05 ± 0.87	2.57 ± 0.85	.079

GQS = Global Quality Scale.

Table 3
Quality assessment according to the source of video.

	Physician	Health-related websites	Patient	P
DISCERN reliability	26.03 (8–40)	16.55 (8–24)	17.00	.013
DISCERN treatment	11.90 (7–33)	9.00 (7–13)	7.00	.023
DISCERN quality	2.80 (1–5)	2.00 (1–3)	2.00	.029
DISCERN total	35.93 (15–71)	23.55 (15–31)	24.00	.012
GQS score	2.64 (1–5)	1.77 (1–3)	2.00	.027

GQS = Global Quality Scale.

as a potential teaching module, especially for those at the beginning of their practice. Nonetheless, the quality and reliability of the videos regarding interventional or surgical procedures on YouTube seem to be questionable, and they may increase the risk of adverse effects or malpractices by manipulating physicians.^[17] Moreover, patient decisions may also be impressed after watching low quality videos.^[8,9,18] But on the bright side, although they are few, when it comes to SIJ injections “good” or “excellent” quality videos have the highest number of views and “excellent” quality videos have the highest number of likes.

Social media sources are now the fastest way to get technical information on interventional and surgical treatments. YouTube is the most widespread used video streaming service on the Internet and taking more place in our daily life over time. It is important to select reliable and high-quality videos if one utilizes them as a supplementary educational tool. As suggested previously, health professionals like official organizations of related subsections of medicine may provide these educational videos assuring a thorough reviewing process.^[8] The official institutions may also give credibility to some of these videos that have already been uploaded and ensure that health professionals or patients can attain reliable information. Finally,

physicians should never forget and underestimate the historic role of direct in-person supervision and feedback of a mentor in the process of training even for the easiest procedures.

Studies investigating the quality and reliability of YouTube videos about different surgical or interventional treatments are increasing.^[13,19] A recent review revealed that the utilization of SIJ injections tends to increase in the last decade unlike epidural injections, and to the best of our knowledge this is the first study to investigate the quality of YouTube videos regarding SIJ injections.^[20]

4.1. Limitations

Including only English videos, relatively low sample size in the final analysis, and selecting the first 100 videos among search results of “sacroiliac joint injection” are the limitations of the study. Even so, considering the small number of SIJ injection videos on YouTube and tendency of people to focus on the first results of their search queries, 100 videos seem fair.^[21]

5. Conclusion

Our results indicate that physicians should be aware of that many of the videos about SIJ injections are categorized as “poor” or “very poor,” which means they may mislead trainees, resulting in inadequate treatments. High-quality, reliable, and reviewed videos as supplementary educational tools should be provided by official health societies or medical professionals.

Author contributions

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Table 4
Distribution of DISCERN classification according to the source and video features.

	Very poor	Poor	Fair	Good	Excellent
DISCERN classification					
Physician	8	10	8	3	2
Health-related websites	7	2	1		
Patient		1			
Total	15	13	9	3	2
Video features (mean ± SD)					
Number of views	14,491.3 ± 25,824.7	7337.1 ± 11,967.3	61,834.1 ± 71,177.2	100,966.5 ± 167,199.0	139,483.0 ± 177,731.7
View ratio	8.8 ± 15.1	3.9 ± 6.9	50.3 ± 75.2	28 ± 45.7	65.2 ± 78.3
Number of likes	54.7 ± 107.0	68.3 ± 146.3	106.0 ± 106.2	42.6 ± 40.6	1480.1 ± 1886.7
Duration (s)	148.67 ± 118.54	174.5 ± 95.2	247.5 ± 84.0	515.0 ± 346.1	1563.3 ± 420.0
Number of comments	3.8 ± 11.0	2.6 ± 7.7	8.1 ± 10.4	0.4 ± 0.8	2.5 ± 0.7
Time since upload (d)	2077.4 ± 1100.3	1622.4 ± 968.0	2085.2 ± 1640.5	2546.7 ± 975.2	1825.0 ± 516.1

SD = standard deviation.

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