

Spinal Cord Stimulation and YouTube

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YouTube as a Source of Medical Information About Spinal Cord Stimulation

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Background

- Patients may not understand the risks, benefits, and utility of SCS for their pain condition
- Social media is used as a modality for patients to gather medical and procedural information
- Why do patients utilize social media?
 - Autonomy
 - Social support
 - Enhance knowledge
 - Other patient opinions
- Social media may contain inaccurate medical information from unreliable sources

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D'Souza RS, et al. Glob Public Health 2020;15.

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Materials and Methods

- YouTube queried with keywords: “spinal cord stimulator,” “spinal cord stimulation experience,” “spinal cord stimulation risks”
- 2 reviewers looked at videos independently; labeled as useful, misleading, or neither
- Excel data collection tool: title, author, length of video, date of video, viewership, number of likes/dislikes, production source
- Quality of videos assessed using the 5 item mDISCERN scale
 - Score ranges from 0-5; higher indicates better quality and reliability

Results

- 117 videos reviewed, 103 included
- 77% useful, 14% misleading, 9% neither
 - Hospitals, group practices, physicians more likely to produce useful videos when compared to misleading (63.3% vs 26.7%; $p=0.008$)
 - Nonmedical independent users more likely to produce misleading videos than useful (73.3% vs 16.4%, $p<0.001$)
- Useful videos shorter than misleading (7.1 ± 7.1 vs 12.3 ± 12.2 ; $p=0.024$)
- No difference in number of views or likes
- Media organizations and device manufacturers more likely to produce high-quality videos than low quality; nonmedical independent users more likely to produce low-quality

Results cont...

- Useful videos compared to misleading videos: higher mDISCERN scores (2.6 vs 1.9; $p=0.009$), contained reliable sources of information (57% vs 27%; $p=0.031$), and provided additional sources of information (69% vs 27%; $p=0.002$)
- Post hoc analysis revealed that only three videos were published by professional societies for patient education (International Neuromodulation Society (n=2), American Society of Anesthesiologists (n=1))

TABLE 1. YouTube Video Characteristics and Video Production Sources.

Video characteristics	Useful (N = 79)	Misleading (N = 15)	Neither (N = 9)
Duration (minutes); mean \pm SD	7.1 \pm 7.1	12.3 \pm 12.2	5.1 \pm 3.2
Total days posted on YouTube	1463 \pm 910	1752 \pm 1136	3536 \pm 1043
Total views	31,913 \pm 47,175	27,991 \pm 28,305	27,253 \pm 19,637
Daily viewership	55 \pm 278	15 \pm 14	8 \pm 6
Number of likes	145 \pm 184	199 \pm 231	38 \pm 39
Number of dislikes	11 \pm 14	13 \pm 16	7 \pm 10
Video production source			
Hospital, group practice or physician; N (%)	50 (63.3)	4 (26.7)	1/9 (11.1)
Nonmedical independent user	13 (16.4)	11 (73.3)	8/9 (88.9)
Nonmedical media organization	3 (3.8)	0 (0)	0 (0)
Professional medical society	0 (0)	0 (0)	0 (0)
SCS or other non-SCS device manufacturer	13 (16.4)	0 (0)	0 (0)

Mean and standard deviations are provided for continuous outcomes, and number with percentage is presented for categorical outcomes. Pairwise comparisons were performed among cohorts ("misleading" vs. "useful," "misleading" vs. "neither," and "useful" vs. "neither") using t-test for continuous dependent variables and chi-square test for categorical dependent variables (p -values are not displayed, but significant associations are described in the text).

Discussion

- Majority (77%) of SCS videos on YouTube are useful; however, production source is of importance
- SCS-related risks were poorly described in general
- Although patient experiences are important, nonmedical independent user videos may be biased and also misleading
- Useful SCS videos should define SCS, list indications and contraindications, define risks and benefits, and briefly describe how it is performed in a clear and unbiased manner that patients can understand
 - Additional resources should be provided
- Opportunity for professional pain societies to develop informative videos about SCS for patients