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Educational Quality and Reliability of YouTube Videos on Greater Occipital Nerve Blocks

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What is known on this subject?

Greater occipital nerve block (GONB) is widely used in the diagnosis and treatment of headache syndromes, as well as many cranial and cervical pain conditions. Numerous videos about GONB can be found on YouTube; however, the quality of these videos has not been evaluated.

What this study adds?

The overall quality of GONB videos on YouTube is moderate and varies significantly depending on the content source. Videos produced by physicians tend to have higher educational quality, but video popularity does not necessarily reflect educational value. These findings indicate that using YouTube alone for implementation in clinical practice is not entirely sufficient.

ABSTRACT

Objective: The present study aimed to evaluate the educational quality and reliability of greater occipital nerve block (GONB)-related videos on YouTube and assess the adequacy of their content.

Material and Methods: A video search was conducted on the YouTube platform in April 2026. To evaluate the videos, the number of views, comments, and likes was recorded. The video duration, upload date, and source were also considered. Sources were categorized into three groups: patients, physicians, and health-related websites. The devices used for the procedures (e.g., ultrasound and blind techniques) were also evaluated. The quality and reliability of the videos were evaluated by two physiatrists using the DISCERN and the Global Quality Scale (GQS).

Results: Of the 150 videos screened, 74 were included. Most were produced by physicians (n=54), followed by health-related websites (n=18), and patients (n=2). Ultrasound guidance was used in 35 videos and blind techniques in 39. The medians for views, duration, likes, and comments were 4700, 216 seconds, 26.5, and 1.0, respectively. The median DISCERN and GQS scores were 39.0 and 3.0. No significant differences were observed between ultrasound-guided and blind techniques with respect to engagement metrics or quality scores. However, physician-produced videos had significantly higher DISCERN and GQS scores than other sources ($p<0.05$); no significant difference was observed between health-related websites and patient videos. Views were strongly correlated with likes (r_s: 0.951), comments (r_s: 0.694), and view rate (r_s: 0.751). DISCERN and GQS scores were very strongly positively correlated (r_s:0.888).

Conclusion: The overall quality of GONB videos on YouTube is moderate and varies significantly depending on the content source. Videos produced by physicians tend to have a higher educational quality, whereas video popularity does not necessarily reflect educational value.

Keywords: Block, greater occipital nerve, quality, reliability, YouTube

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Introduction

The greater occipital nerve is purely sensory, primarily innervating the posterior scalp. However, it also gives off sensory fibers towards the crown and front of the head (1). Therefore, greater occipital nerve block (GONB) is used to treat various headache disorders and neck pain (2,3). It is particularly applicable for both diagnostic and therapeutic purposes in conditions such as occipital neuralgia, migraine, and cervicogenic headache (4,5). Thus, performing GONB with the correct technique and in appropriate indications is critical for patient safety and treatment effectiveness (6).

YouTube is easy to use for healthcare professionals and students because of its extensive content and accessibility. In particular, healthcare professionals may consult YouTube videos prior to interventional procedures. However, the lack of academic reviews of the content on this platform raises significant questions about the accuracy, reliability, and educational quality of the information shared (7,8). Many studies have shown that YouTube videos may contain medically poor quality, incomplete information, or misleading content (9,10,11,12). In relatively risky procedures, such as interventional procedures, accuracy is vital for both the physician and the patient. This study aims to evaluate the educational quality and reliability of GONB videos on YouTube and analyze the adequacy of their content. The goal is to inform healthcare professionals who may wish to perform these procedures in the future.

Material and Methods

Video scanning was performed on the YouTube platform in April 2026. The browser was reset between searches to minimize algorithmic bias. The search terms were defined in English as “greater occipital nerve block”, “GON block”, and “occipital nerve block”. For every keyword, the first 50 search results were examined. A total of 150 videos were analyzed; duplicate YouTube Shorts videos and videos lacking audio narration or written subtitles were excluded from the study. The study did not involve human participants; therefore, ethical approval and informed consent were not required.

To evaluate the videos, the number of views, comments, and likes were recorded. The video duration, upload date, and source were also considered. Sources were categorized into three groups: patients, physicians, and health-related websites. The devices used for the procedures (ultrasound, blind, etc.) were also evaluated.

The videos were evaluated by two physiatrists (G.Y.S. and R.S.). The Global Quality Scale (GQS) and DISCERN were used to assess quality and reliability. DISCERN is a commonly used questionnaire consisting of 16 questions. Questions are scored between 1 and 5, and the Total DISCERN score is calculated by summing these questions (13). GQS rates overall quality on a scale of 1 to 5, with higher scores indicating higher quality (14).

Statistical Analysis

Descriptive data were reported using medians and interquartile ranges where appropriate, as well as minimum and maximum values. Categorical data were presented as numbers and percentages. Independent groups were examined using the Mann-Whitney U test, and differences among three groups were assessed using the Kruskal-Wallis test. Relationships between continuous variables were investigated using the Spearman rank correlation coefficient. Agreement between two raters on DISCERN and GQS assessments was determined by calculating the intraclass correlation coefficient (ICC). Statistical significance was defined as a two-sided p-value less than 0.05. All analyses were performed using Statistical analyses were performed using IBM SPSS Statistics for Windows, Version 22.0 (IBM Corp., Armonk, NY, USA).

Results

Of the 150 videos evaluated, 74 were included in the study (Figure 1). 54 of these videos were produced by physicians, 18 by health-related websites, and 2 by patients. Ultrasound was used in 35 of these videos, while procedures were performed blindly in 39. The views and duration of the videos were 4700 (601-29,500) and 216 (107-296), respectively. The numbers of likes and comments were found to be 26.5 (5-134) and 1.0 (0-6), respectively. The DISCERN total and GQS scores were 39.0 (31.0-51.0) and 3.0 (2.0-3.0), respectively (Table 1).

No significant differences were found between the groups in views, view ratio, likes, duration, comments, or time since upload for videos produced using ultrasound or blind techniques. Furthermore, no significant differences were found between the groups for the DISCERN total and GQS scores (Table 2). The inter-rater reliability was excellent for both the DISCERN and GQS scores, with ICC values of 0.850 and 0.884, respectively. When physicians, health-related websites, and patient-generated videos were evaluated using DISCERN and GQS, a significant difference was found among the groups. Using post-hoc analysis (Bonferroni correction), a significant difference was found between videos made by

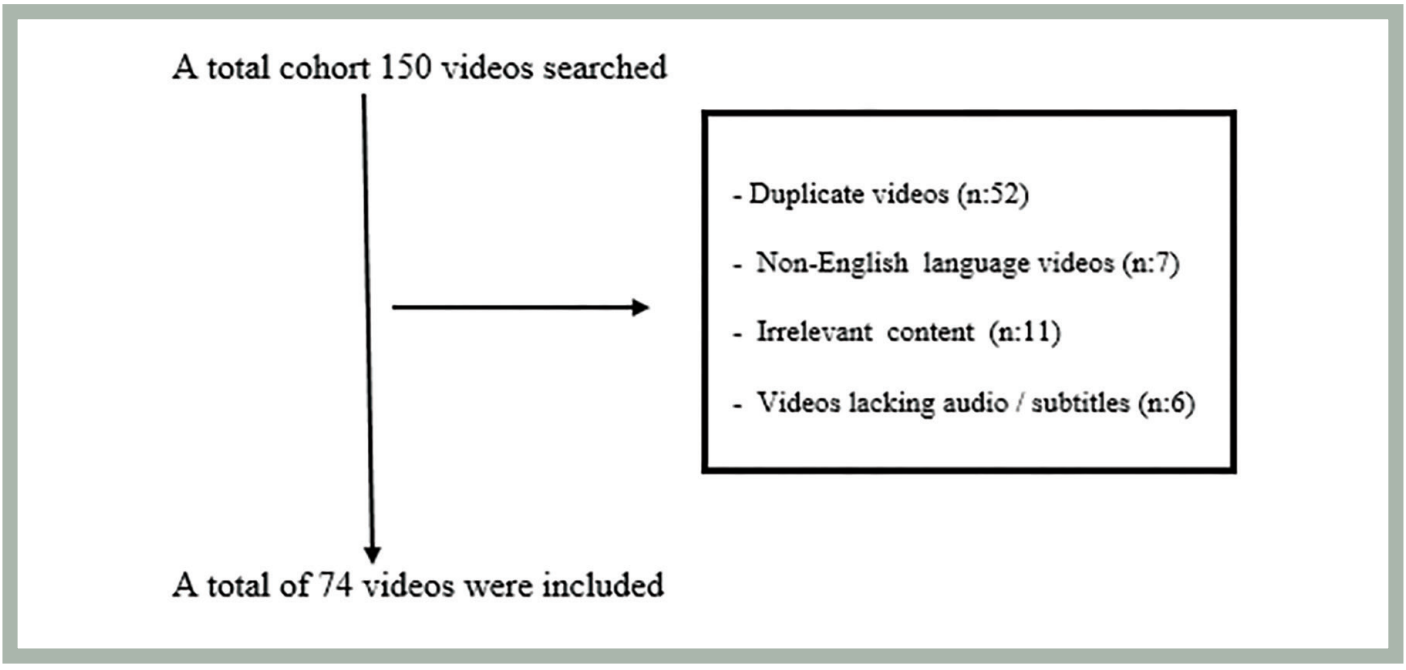

Figure 1. Flow diagram of video selection process

Table 1. General features and video quality of the videos

Source of upload	Number (n)	Percent (%)
Physician	54	73.0
Health-related websites	18	24.3
Patient	2	2.7
Injection technique		
Ultrasound guided	35	47.3
Blind	39	52.7
Video features	**Median (IQR)**	**Min-max**
Duration (s)	216 (107-296)	40-3.660
Time since upload (d)	2.160 (720-3.240)	30-5.400
Views (n)	4.700 (601-29.500)	14-36.1000
View ratio	0.019 (0.003-0.092)	0-1.071
Comments (n)	1.0 (0-6)	0-453
Likes (n)	26.5 (5-134)	0-2.700
DISCERN reliability	24.0 (24.0-32.0)	8-40
DISCERN treatment	14.0 (7.0-28.0)	7-28
DISCERN quality	3.0 (2.0-3.0)	1-5
DISCERN total	39.0 (31.0-51.0)	15-68
GQS score	3.0 (2.0-3.0)	1-5

GQS: Global Quality Scale, IQR: Interquartile range, Min-max: Minimum-maximum

physicians and those made by other groups. However, no significant difference was found between health-related websites and patient videos (Table 3).

A very strong positive association was observed between video views and likes (r_s: 0.951). View counts were also significantly correlated with both the number of comments (r_s: 0.694) and the view ratio (r_s: 0.751). Likewise, the number of likes demonstrated strong positive relationships with comments (r_s: 0.730) and view ratio (r_s: 0.862). Video duration showed a moderate positive correlation with the DISCERN score (r_s: 0.635), whereas no significant associations were identified between video duration and the remaining variables. Although upload time exhibited weak positive correlations with DISCERN and GQS scores (r_s: 0.180 and r_s: 0.117, respectively), these correlations did not reach statistical significance. Furthermore, DISCERN and GQS scores were highly correlated (r_s: 0.888), suggesting substantial concordance between the two assessment tools (Table 4).

Discussion

The number of videos on YouTube about interventional pain treatments has been increasing recently (11,15). Some of these studies have been evaluated in terms of quality and reliability (15,16,17). The present study evaluated videos related to GONB and found that the majority were performed by physicians and were of moderate quality. Videos produced by non-physicians were found to be of low quality. Furthermore, procedures were mostly performed blindly rather than with ultrasound guidance.

Ozturk et al. (9) evaluated the YouTube quality of sacroiliac joint injections and found that 65% of videos had poor quality. Cho et al. (18), on the other hand, evaluated the quality of brachial plexus block videos on YouTube and found that the reliability and quality of videos differed depending on their source. In the present study, video quality was moderate overall but low in videos produced by non-physicians. The low quality, particularly of non-physician videos, may be due to a lack of information on complications and treatment.

Many interventional procedures are performed under ultrasound guidance. This is particularly preferred because it allows access to soft tissue and does not involve radiation (19). In the present study, nearly half of the videos were recorded under ultrasound guidance. This is due to the ease and practicality of applying ultrasound to GONB (20,21). However, the blind technique remained the most common. Kissoon et al. (22) compared blind and ultrasound-guided GONB and found that both were effective. Mason et al. (23) stated that access to the greater occipital nerve is highly probable using the landmark method in cadaver study. The superficial location of the occipital nerve and its easy accessibility via anatomical landmarks contribute to the continued prevalence of blind procedures.

A very strong positive correlation was observed between video views and likes. Significant positive correlations were also found among the number of views, the number of comments, and the viewing rate. However, the lack of a significant relationship between these interaction parameters and DISCERN and GQS scores indicates that video popularity

Table 2. **Video features according to injection technique**

	Ultrasound	Blind	p
Views	12.000 (3.100-44.500)	11.000 (592-24.000)	0.931
View ratio	0.063 (0.015-0.095)	0.015 (0.001-0.095)	0.418
Likes	76 (22-268)	18 (4-104)	0.615
Duration (s)	125 (72-253)	228 (105-243)	0.606
Comments	1 (0-6)	1 (0-8)	0.212
Time since upload (d)	2160 (540-3.240)	2160 (1.080-3.600)	0.694
DISCERN total score	39.0 (31-51)	38.0 (31-45)	0.186
GQS score	3.0 (2-4)	3.0 (2-4)	0.079

Data are shown as median (IQR). GQS: Global Quality Scale, IQR: Interquartile range

Table 3. **Video quality assessments according to the source of the video**

	Physician	Health-related websites	Patient	p
DISCERN reliability	25.0 (24-32)	16.0 (13-24)	17.5 (16-19)	0.001
DISCERN treatment	16.0 (7-21)	7.0 (7-15)	7.50 (7-8)	0.007
DISCERN quality	3.0 (2-5)	2.0 (1-4)	1.50 (1-2)	0.001
DISCERN total	45.0 (31-51)	23.0 (20-38)	25.0 (24-26)	0.001
GQS score	3.0 (2-4)	2.0 (1-3)	2.0 (2-2)	0.001

GQS: Global Quality Scale, IQR: Interquartile range

Table 4. **Correlation analysis between video characteristics and quality scores**

	Views	View ratio	Likes	Duration	Comments	Upload time	DISCERN	GQS
Views	1.00	0.751*	0.951*	-0.220	0.694*	0.306*	-0.053	-0.075
View ratio		1.00	0.862*	0.003	0.685*	-0.227	0.046	0.031
Likes			1.00	-0.114	0.730*	0.176	0.007	-0.024
Duration				1.00	0.043	-0.027	0.635*	0.562
Comments					1.00	0.061	-0.070	-0.122
Upload time						1.00	0.180	0.117
DISCERN							1.00	0.888*
GQS								1.00

**Indicates statistically significant differences (p<0.05), GQS: Global Quality Scale*

does not reflect the quality of education. This is important because it shows that users should not consider high views or like counts as indicators of quality.

In the present study, a strong positive correlation was found between GQS and DISCERN scores. This finding shows that both measurement tools evaluate video quality similarly and corroborate each other. Therefore, the combined use of these scales is recommended in similar future studies.

Study Limitations

The first limitation is the relatively small number of included videos and the very limited number of patient-generated videos, which may have introduced bias into the quality assessment. Furthermore, evaluating only English-language videos and excluding videos in other languages present limitations. However, the study's ability to evaluate the quality of data on GONB from a popular source such as YouTube is a strength.

Conclusion

The overall quality of GONB videos on YouTube is moderate and varies significantly across content creators. Videos produced by physicians are of higher educational quality, whereas video popularity is not correlated with educational quality.

Ethics

Ethics Committee Approval: The study did not involve human participants; therefore, ethics committee approval was not required.

Informed Consent: As the study did not involve human participants, informed consent was not required.

Footnotes

Authorship Contributions

Surgical and Medical Practices: G.Y.S., Concept: G.Y.S., R.S., Design: G.Y.S., Data Collection or Processing: G.Y.S., R.S., Analysis or Interpretation: G.Y.S., R.S., Literature Search: G.Y.S., R.S., Writing: G.Y.S., R.S.

Conflict of Interest: No conflict of interest was declared by the authors.

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