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Research Article

Evaluation of YouTube Videos for Learning Interfascial Plane Blocks

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Abstract

Aim: The internet and social media are becoming integral to our lives today. YouTube was founded in 2005 and can be helpful in health matters by providing quick and easy access to medical information. However, the reliability of medical videos on YouTube could be improved. Many videos on YouTube about interfascial plane blocks are widely used for analgesic purposes in anesthesia practice. In order to avoid causing incorrect and incomplete information and to prevent information pollution, interfascial plan block videos on YouTube should be examined. Therefore, this study evaluated the educational content and preparation quality of the interfascial plan block videos on YouTube.

Material and Method: Educational videos of eight different interfascial plane block types on YouTube were evaluated using two surveys. Each survey consists of 14 questions. Each question receives a score between 0 and 5. Each video receives a total score between 0 and 70 for each survey.

Results: A statistically significant positive correlation exists between video educational quality scores and video characteristics. A statistically significant positive correlation exists between the video preparation quality score and video characteristics. As the number of video views increases, the video quality score increases.

Conclusion: Although YouTube contains medical training videos, their reliability is questioned. Therefore, it is more accurate and reliable for researchers to obtain medical information from reliable sources, academic articles, or publications of official medical institutions.

Keywords: Analgesia, regional anesthesia, interfascial plane block, YouTube videos

INTRODUCTION

The Internet and social media are becoming integral to our lives today. People communicate, exchange information, have fun, and learn through these platforms. Platforms like YouTube offer a wide range of content, allowing users to gain knowledge in various fields. YouTube was founded in 2005, and over time, it has become one of the largest video platforms in the world with millions of video content. Users: They can obtain information from different perspectives on educational videos, entertainment content, news, works of art, and many more (1). Platforms such as YouTube provide a great environment that allows people to learn new skills in many subjects, discover content related to their interests, and get to know different cultures. With it, users find a space to share their experiences, ideas, and talents. Thus, YouTube users can influence each other by learning and sharing experiences, exchanging information, and making their voices heard on a global platform. YouTube can be helpful in health matters by providing quick and easy access to medical information. However, widespread use of these platforms may also lead to access to accurate and reliable information. This may make it difficult to access accurate information, especially on health issues, and lead to misdirection. It is essential to access accurate and reliable information on health-related issues. Medical content videos on YouTube are essential for healthcare professionals and medical students.

Moreover, these contents can make a significant contribution to learning. However, while watching these videos, there are points that viewers should pay attention to, such as 'checking the sources, taking into account reliable sources, paying attention to scientifically based content, seeking expert opinion' (2-8). Some health-related videos may have been created by people who need to gain experience in their expertise. In this case, there may be doubts about the content's accuracy, reliability and scientific basis. Additionally, some content may contain misleading or inaccurate information and mislead viewers (9,10). Although there are a limited number of studies evaluating regional anesthesia videos on YouTube, there

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are studies evaluating the reliability of the videos (11-13). Interfascial plane blocks, one of the regional anesthesia techniques, are now widely applied by anesthesiologists and assistants to reduce postoperative pain. There are various videos related to interfascial plan blocks on platforms where health videos are available, such as YouTube. Some of the studies evaluated the preparation quality of these videos (11,14). Studies have generally examined interfascial plane blocks specifically. Our study aimed to evaluate the educational content quality and video preparation quality of videos of eight different interfascial plan block types on YouTube.

MATERIAL AND METHOD

Since human and animal subjects were not used in this study, ethics committee approval is not required. Searching for videos on YouTube and recording URLs was completed in a single session on 29/10/2023. Searching videos can be found in the YouTube search engine using the terms 'Paravertebral block ultrasound, serratus plane block ultrasound, quadratus lumborum block ultrasound, transversus abdominis plane block, erector spinae plane block, pectoralis blocks 1 and 2, thoracolumbar interfascial plane block ultrasound, rectus sheath block ultrasound'. It was done by writing. Sorting was done according to the number of views in the filtering. For each block, the top 5 most watched videos were recorded according to the number of views. Because after the first five videos, the number of views decreased significantly. Five anesthesiologists with at least five years of clinical experience with interfascial plane blocks watched and evaluated the videos. Two different surveys were used to evaluate the videos on YouTube, evaluating the educational content of the videos (Survey 1) and the quality of the videos (Survey 2).

Inclusion criteria: Videos in English, videos with ultrasound guidance, and videos about interfascial plane blocks.

Exclusion criteria: Videos whose language is not English, videos that do not contain ultrasound images, irrelevant videos, videos less than 1 minute and longer than 20 minutes, videos without sound, and duplicate videos.

Survey 1 consists of 14 questions about the educational content quality of the videos. This survey form was created concerning previous studies (Table 1) (11,12,15).

Survey 2 consists of 14 questions and evaluates the quality of the videos' preparation (Table 2). It was created according to the guidelines prepared by the American National Career Development Association (NCDA) (16).

Table 1. Video educational content quality evaluation

Survey 1	
1.	Are the clinical indications for the block clearly explained?
2.	Are anatomical landmarks clearly explained or marked?
3.	Has the block anatomy been clearly explained?
4.	Has the suspected mechanism of action been clearly explained?
5.	Has technical information regarding probe selection and frequency of the ultrasound device been explained?
6.	Has ultrasound anatomy been clearly demonstrated and explained?
7.	Were the recorded sono-anatomical images and anatomical structures in the recording clear and easy to perceive?
8.	Was the ultrasound image of the needle visible and easy to follow?
9.	Are instructions for depth, alignment, and direction of needle movements clearly explained?
10.	Has information regarding the spread of local anesthetic been explained?
11.	Is information about in-plane or out-of-plane technique given in the video?
12.	Has sterile technique been clearly explained or emphasized?
13.	Has the information regarding the local anesthetic agent been explained clearly?
14.	Have the possible complications associated with this block technique been explained?

Table 2. Video preparation quality assessment

Survey 2	
1.	Is the purpose of the video clearly stated and explained in the first quarter of the video?
2.	Was the title or name of the video appropriate to the purpose of the video?
3.	Were the design and content of the video suitable for the intended educational purpose?
4.	Have the skills and technique of the procedure been explained using a standard, comparable, "step-by-step" method?
5.	Was the information provided in the video useful for viewers to develop/improve their skill base?
6.	Was the content of the video appropriate for the health and safety of both the patient and the practitioner?
7.	Was the quality of the picture acceptable in terms of colors and clarity?
8.	Was the quality of the video audio acceptable? (No sounds should be scored as zero)
9.	Was the length of the video balanced with the content of the video?
10.	Is information regarding production or release date, producers and references clearly explained?
11.	Are the objectives, learning tasks, and terminology clearly stated in the video to enable viewers to perform these tasks?
12.	Does the video contain additional aids such as stop-and-discuss points, scenarios, and/or summary of the procedure?
13.	Has information been provided about a way to evaluate the effectiveness and repeatability of the video?
14.	Did the content of the video encourage viewers to move from passive spectators to active practitioners in the implementation of the practice?

Anaesthesiologists who evaluated the videos scored each question between 0 and 5. (0- very bad, 1- bad, 2- fair, 3- good, 4- very good, 5- excellent). Each video was scored from 0 to 70 according to the questions shown in Survey 1 and Survey 2 (0-14: very bad, 15-28: bad, 29-42: fair, 43-56: good, 57-70: very good).

The following data was recorded for the videos: The relevant URLs of the videos, the duration of the videos, the number of days the videos were available, the number of viewers of the videos, the source of the videos (whether academic or not), the total number of likes of the videos, the survey one and survey two scores given to the videos by experts were recorded.

RESULTS

The words "Paravertebral block ultrasound, serratus plane block ultrasound, quadratus lumborum block ultrasound, transversus abdominis plane block, erector spinae plane block, pectoralis blocks 1 and 2 ultrasound, thoracolumbar interfascial plane block ultrasound, rectus sheath block ultrasound" were posted on YouTube. The first five most watched videos for each block (39 videos) were evaluated. Four videos were evaluated for the 'Thoracolumbar interfascial plane block'. A limited number of videos for 'Thoracolumbar interfascial plane block' and only four videos were evaluated according to the number of views (Table 3).

Table 3. Video characteristics and quality score values

Video characteristic feature		n (%) median (25-75th percentile)
Video views		68085 (30100-132694)
Number of video likes		444 (174-966)
Video duration (seconds)		629 (440-853)
Duration of presence on YouTube (months)		67 (38-107)
Video educational quality score		31 (21-39)
Video educational quality score classification	Very bad	4 (10.3%)
	Bad	11 (28.2%)
	It will do	16 (41%)
	Good	8 (20.5%)
Video preparation quality score		34 (30-42)
Video preparation quality score classification	Very bad	1 (2.6%)
	Bad	2 (17.9%)
	It will do	22 (56.4%)
	Good	9 (23.1%)
Group	PVTB	5 (12.8%)
	ESPB	5 (12.8%)
	TAPB	5 (12.8%)
	PECSB	5 (12.8%)
	SPB	5 (12.8%)
	TLIPB	4 (10.3%)
	QLB	5 (12.8%)
	RSB	5 (12.8%)

PVTB: paravertebral block, ESPB: erector spinae plane block, TAPB: transversus abdominis plane block, PECS: pectoralis blocks 1 and 2, SPB: serratus plane block, TLIPB: thoracolumbar interfascial plane block, QLB: quadratus lumborum block, RSB: rectus sheath block

When video characteristics are evaluated, "Number of video views" is 68085 (30100-132694), "Number of Video Likes" is 444 (174-966) (median (25-75 percentile), "Video duration (seconds)" is 629 (440-853) (The median (25-75 percentile) and the "Duration of presence on YouTube" of the Video were 67 (38-107) (median (25-75 percentile) months. The video educational quality score was 8 (20.5%), with "good" and "very bad", and the median (25-75 percentile) Video educational quality score was 31 (21-39). The video preparation quality score was 9 (23.1%) with "good" and 1 with "bad". (2.6%) video and median (25-75 percentile) Video preparation quality score was 34 (30-42) (Table 3). The 14 parameters and evaluation scores examined for the Video educational quality score were shown separately. The two parameters most marked for the Video, with "very poor" as the evaluation score, were "Was the sterile technique clearly explained or emphasized?" There were 25 videos (64.1%) for the option and 29 videos (87.9%) for the option "Is the suspected mechanism of action clearly explained?" The two parameters most marked for the Video with "excellent" as an evaluation score were "Was the block anatomy clearly explained?" 12 videos (30.8%) for the option and "Was the ultrasound anatomy clearly shown and explained?" For the option, there were ten videos (25.6%) (Table 4).

Table 4. Video educational quality questions

Question	Degree	n (%)	Question	Degree	n (%)
Are the clinical indications for the block clearly explained?	Very bad	4 (10.3%)	Was the ultrasound image of the needle visible and easy to follow?	Very bad	8 (20.5%)
	Bad	11 (28.2%)		Bad	3 (7.7%)
	It will do	2 (5.1%)		It will do	4 (10.3%)
	Good	9 (23.1%)		Good	4 (10.3%)
	Very good	8 (20.5%)		Very good	14 (35.9%)
	Perfect	5 (12.8%)		Perfect	6 (15.4%)
Are anatomical landmarks clearly explained or marked?	Very bad	1 (2.6%)	Are instructions for depth, alignment, and direction of needle movements clearly explained?	Very bad	8 (20.5%)
	Bad	5 (12.8%)		Bad	13 (33.3%)
	It will do	9 (23.1%)		It will do	8 (20.5%)
	Good	11 (28.2%)		Good	8 (20.5%)
	Very good	7 (17.9%)		Very good	2 (5.1%)
	Perfect	6 (15.4%)		Perfect	0 (0%)
Was the block anatomy clearly explained?	Very bad	1 (2.6%)	Has information regarding local anesthetic dissemination been explained?	Very bad	9 (23.1%)
	Bad	1 (2.6%)		Bad	7 (17.9%)
	It will do	6 (15.4%)		It will do	15 (38.5%)
	Good	5 (12.8%)		Good	1 (2.6%)
	Very good	14 (35.9%)		Very good	7 (17.9%)
	Perfect	12 (30.8%)		Perfect	0 (0%)
Has the suspected mechanism of action been clearly explained?	Very bad	25 (64.1%)	Was information given about the in-plane or out-of-plane technique in the video?	Very bad	6 (15.4%)
	Bad	6 (15.4%)		Bad	7 (17.9%)
	It will do	2 (5.1%)		It will do	9 (23.1%)
	Good	3 (7.7%)		Good	9 (23.1%)
	Very good	2 (5.1%)		Very good	7 (17.9%)
	Perfect	1 (2.6%)		Perfect	1 (2.6%)
Has technical information regarding probe selection and frequency of the ultrasound device been explained?	Very bad	3 (7.7%)	Has sterile technique been clearly explained or emphasized?	Very bad	38 (97.4%)
	Bad	4 (10.3%)		Bad	0 (0%)
	It will do	9 (23.1%)		It will do	1 (2.6%)
	Good	14 (35.9%)		Good	0 (0%)
	Very good	9 (23.1%)		Very good	0 (0%)
	Perfect	0 (0%)		Perfect	0 (0%)
Has ultrasound anatomy been clearly demonstrated and explained?	Very bad	0 (0%)	Was the information regarding the local anesthetic agent explained clearly?	Very bad	19 (48.7%)
	Bad	2 (5.1%)		Bad	3 (7.7%)
	It will do	6 (15.4%)		It will do	5 (12.8%)
	Good	4 (10.3%)		Good	5 (12.8%)
	Very good	17 (43.6%)		Very good	7 (17.9%)
	Perfect	10 (25.6%)		Perfect	0 (0%)
Were the recorded sono-anatomical images and anatomical structures in the recording clear and easy to perceive?	Very bad	1 (2.6%)	Have possible complications related to this block technique been explained?	Very bad	16 (41%)
	Bad	2 (5.1%)		Bad	7 (17.9%)
	It will do	13 (33.3%)		It will do	4 (10.3%)
	Good	3 (7.7%)		Good	4 (10.3%)
	Very good	13 (33.3%)		Very good	6 (15.4%)
	Perfect	7 (17.9%)		Perfect	2 (5.1%)

The 14 parameters and evaluation scores examined for the video preparation quality score were shown separately. The two parameters most marked for the video were "very bad" as an evaluation score, 38 videos (97.4%) for the option "Was information given about a way to evaluate the effectiveness and repeatability of the video?" and "Stop and discuss points in the video, such as scenarios." There were 26 videos (66.7%) for the option "Are there additional aids and summary information about the procedure?" As an evaluation score, "excellent" is the parameter marked for the most videos and "Was the title or name of the video appropriate for the video?" For the option, there were 12 videos (30.8%) (Table 5).

Table 5. Video preparation quality questions

Question	Degree	n (%)	Question	Degree	n (%)
Is the purpose of the video clearly stated and explained in the first quarter of the video?	Very bad	1 (2.6%)	Was the quality of the video audio acceptable? (No sounds should be scored as zero	Very bad	1 (2.6%)
	Bad	6 (15.4%)		Bad	4 (10.3%)
	It will do	11 (28.2%)		It will do	3 (7.7%)
	Good	15 (38.5%)		Good	11 (28.2%)
	Very good	6 (15.4%)		Very good	18 (46.2%)
	Perfect	0 (0%)		Perfect	2 (5.1%)
Was the title or name of the video appropriate to the purpose of the video?	Very bad	0 (0%)	Was the length of the video balanced with the content of the video?	Very bad	1 (2.6%)
	Bad	0 (0%)		Bad	3 (7.7%)
	It will do	4 (10.3%)		It will do	4 (10.3%)
	Good	6 (15.4%)		Good	20 (51.3%)
	Very good	17 (43.6%)		Very good	11 (28.2%)
	Perfect	12 (30.8%)		Perfect	0 (0%)
Were the design and content of the video suitable for the intended educational purpose?	Very bad	0 (0%)	Is information about the production or release date, producers and references clearly explained?	Very bad	0 (0%)
	Bad	2 (5.1%)		Bad	25 (64.1%)
	It will do	4 (10.3%)		It will do	8 (20.5%)
	Good	10 (25.6%)		Good	4 (10.3%)
	Very good	19 (48.7%)		Very good	2 (5.1%)
	Perfect	4 (10.3%)		Perfect	0 (0%)
Have the skills and technique of the procedure been explained using a standard, comparable, "step-by-step" method?	Very bad	4 (10.3%)	Are the objectives, learning tasks, and terminology clearly stated in the video to enable viewers to accomplish these tasks?	Very bad	7 (17.9%)
	Bad	7 (17.9%)		Bad	16 (41%)
	It will do	15 (38.5%)		It will do	10 (25.6%)
	Good	10 (25.6%)		Good	3 (7.7%)
	Very good	3 (7.7%)		Very good	2 (5.1%)
	Perfect	0 (0%)		Perfect	1 (2.6%)
Was the information provided in the video useful for viewers to develop/ improve their skill base?	Very bad	1 (2.6%)	Does the video include additional aids such as stop-and-discuss points, scenarios, and/or summary of the procedure?	Very bad	26 (66.7%)
	Bad	3 (7.7%)		Bad	5 (12.8%)
	It will do	6 (15.4%)		It will do	5 (12.8%)
	Good	10 (25.6%)		Good	2 (5.1%)
	Very good	16 (41%)		Very good	1 (2.6%)
	Perfect	3 (7.7%)		Perfect	0 (0%)
Was the content of the video appropriate for the health and safety of both the patient and the practitioner?	Very bad	1 (2.6%)	Was information provided about a way to evaluate the effectiveness and repeatability of the video?	Very bad	38 (97.4%)
	Bad	2 (5.1%)		Bad	1 (2.6%)
	It will do	8 (20.5%)		It will do	0 (0%)
	Good	17 (43.6%)		Good	0 (0%)
	Very good	9 (23.1%)		Very good	0 (0%)
	Perfect	2 (5.1%)		Perfect	0 (0%)
Was the quality of the picture acceptable in terms of colors and clarity?	Very bad	0 (0%)	Did the content of the video encourage viewers to shift from passive spectator to active practitioner in the implementation of the practice? technical?	Very bad	2 (5.1%)
	Bad	4 (10.3%)		Bad	4 (10.3%)
	It will do	4 (10.3%)		It will do	2 (5.1%)
	Good	7 (17.9%)		Good	12 (30.8%)
	Very good	20 (51.3%)		Very good	13 (33.3%)
	Perfect	4 (10.3%)		Perfect	6 (15.4%)

When looking at the relationship between the video educational quality score and the video characteristics and video preparation quality score, there is a statistically significant positive correlation between the video educational quality score and all parameters. When looking at the relationship between video preparation quality score and video characteristics, there is a statistically significant positive correlation between the score and all parameters (Table 6). IBM-Statistical Pack Age for Social Sciences (IBM-SPSS Inc., Chicago, IL, USA) 22.0 program was used to analyze the data obtained in the study. The suitability of the data for normal distribution was examined

with the "Shapiro-Wilk test". Continuous variables were expressed as median (25-75 percentile) according to their distribution status, and categorical variables were expressed as numbers and percentages. A Spearman rho correlation test was applied to the correlation analyses for continuous variables. The statistical significance level was accepted as p<0.05.

Table 6. Relationship between video evaluation scores and video characteristics

Characteristic property	Video educational quality score		Video preparation quality score	
	R value	P value	R value	P value
Video views	0.561	**<0.001**	0.518	**<0.001**
Number of video likes	0.698	**<0.001**	0.664	**<0.001**
Video duration (seconds)	0.358	**0.025**	0.468	**0.003**
Video educational quality score			0.893	**<0.001**
Video preparation quality score	0.893	**<0.001**		

DISCUSSION

In our study, we evaluated the educational content quality and preparation quality of the videos on YouTube about interfascial plane blocks, which are widely applied in anesthesia clinics. In regional anesthesia applications, visual information is as important as theoretical knowledge. Therefore, evaluating the videos on platforms that publish educational videos, such as YouTube, is essential. Some studies have evaluated educational videos with different YouTube content (15,17,18). Two studies in the literature specifically evaluate interfascial plane blocks (11,14). Our study is the first to collectively evaluate videos of eight different interfascial plane block types on YouTube. Studies show that medical education videos on YouTube must include complete and correct information (19-21). Other studies have emphasized that the quality of videos on YouTube is low regarding medical content (12,15,22). In our study, while there were no videos with very good scores according to surveys 1 and 2, 8 videos received good scores in Survey 1, 9 videos received good scores in Survey 2, 15 videos received bad or very bad scores in Survey 1, and 15 videos received bad or very bad scores in survey 2. 3 videos received bad or very bad ratings. This shows us that, as in other studies, in our study, the videos on YouTube could be at a sufficient level. Therefore, such platforms should strive to ensure users have access to more reliable, informative and impressive content by improving their quality monitoring processes. Providing feedback to content providers and encouraging them to create better content can be an effective way for platforms to improve the quality of content. It is important to guide content creators in conveying accurate information, especially on health, education or other specialized topics. We generally did not find any incorrect information in the videos we evaluated in our study, but much information needed to be included. However, we evaluated the most viewed videos and the quality of the videos needed to be improved. Therefore, it may cause misunderstanding and misdirection by physicians who need more knowledge about regional anesthesia and who have just started to apply regional anesthesia techniques. We found a significant positive correlation between the videos' number of likes and duration and the quality of education and preparation. This shows us that video content information is more reliable and complete as the video duration increases. It shows that the number of likes of videos is important in accessing accurate and secure information. We found a significant positive correlation between surveys 1 and 2. Thus, it shows that as the preparation quality of the videos, such as sound and image, increases, the content quality of the videos also increases.

Contrary to some studies, we found a significant positive correlation between the number of views and the quality of the videos in our study (12,23). This shows that as the number of views of the videos increases, the medical content of that video is safer and more helpful in terms of education. It shows that more people watch quality videos, which helps us get accurate information.

CONCLUSION

As a result, the interfascial plan block videos on YouTube could be more adequate in terms of video quality. Therefore, although YouTube and similar platforms provide great convenience in accessing information, there are also aspects that users should be careful about. Using these platforms correctly is essential to discovering helpful content and interacting with other users. It is more accurate and reliable for students or those working in the medical field to obtain medical information from reliable sources, academic articles, or publications of official medical institutions.

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