ORIGINAL ARTICLE

EVALUATING THE ACCURACY AND QUALITY OF INFORMATION IN LUMBAR LORDOSIS VIDEOS SHARED ON YOUTUBE

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ABSTRACT:

The Internet has become the most convenient means of obtaining quick and comprehensive information throughout all aspects of one's life. It is believed that global Internet usage increased by 962.6% between 2000 and 2017, with 51% population of the world being able to use the world wide web. **Methods:** On December 1, 2022, the research involved a YouTube search using the terms "lumbar lordosis," "lumber hyper lordosis," "Rehabilitation of lumbar lordosis," "Treatment of hyper lordosis," and "physiotherapy of lumber lordosis." The first 40 videos were recorded for evaluation based on their relevance to this keyword. Two independent observers evaluated the videos. View counts, number of likes, video content, and days since upload were all recorded. The video quality was assessed using the global quality score (GQS), the Journal of the American Medical Association (JAMA), and the DISCERN scores. **Results:** Likes on videos are not statistically significant with GQS ($p=0.068$), DISCERN ($p=0.468$), and JAMA ($p=0.638$) scores. According to PEARSON'S correlation test, views on YouTube videos are not statistically significantly correlated with DISCERN ($p=0.507$), but views on YouTube are significantly correlated with JAMA ($p=0.039$), views on YouTube videos are statistically correlated with GQS (0.048). The t-test value was 0.000 for JAMA, 0.429 for DISCERN and 1.215 for GQS with a p-value of 1.000 for JAMA, 0.669 for DISCERN and 0.22 for GQS which was greater than 0.05. It demonstrated a statistically insignificant association between the JAMA, GQS, and DISCERN. **Conclusion:** The Smartphone goniometric application was found to be a reliable and valid measurement method for active wrist range of motion in this investigation. **Key Words: Lumbar Lordosis, YouTube, Social media**

INTRODUCTION:

The Internet has become the most convenient means of obtaining quick and comprehensive information throughout all aspects of one's life. It is believed that global Internet usage increased by 962.6% between 2000 and 2017, with 51% population of the world being able to use the world wide web 1. There is presently an abundance of low-quality and inaccurate information available for patients to check. Physicians must be conscious of and assess the resources available to help direct and advise people through their illnesses 2. According to reports, YouTube is an important channel for care coordination. Nevertheless, the vast amounts of information of questionable quality, combined with the lack of knowledge regulation, may pose a major obstacle to delivering efficient health services. With few ways for users to assess the dependability of the data presented, the section of comments on YouTube videos frequently offers a chance for audiences to negotiate information presented in the video, thereby vindicating the video's effectiveness 4. With over 101 countries and 80 local dialects viewable and more than 700 million visitors every month, it is one of the most well-known and easily accessible knowledge sources on the Internet. 5. With 300 hours of audio and video content posted every 30 seconds, YouTube® has evolved into the most popular freely accessible multimedia website. The operational and health-related significance of lumbar lordosis is becoming increasingly acknowledged in research studies. "Neutral upright sagittal spinal alignment," a laparoscopic, ergonomic, and physiotherapeutic postural goal 8. Regular lumbar lordosis 10

safeguards the posterolateral ligament system of the spine from overstress. An increase in lordosis has been identified a crucial reason for postural pain, spinal cord compression, and facet distress 7. Surprisingly, an increased lumbosacral angle is known to increase tension on the posterolateral ligaments and facet joints, resulting in LBP. The fact that most health professionals counsel their patients to eliminate lumbar lordosis to relieve LBP illustrates the widespread belief that LLC is a cause of LBP 9. An angle greater than 40 degrees specify hyper lordosis whereas normal angle is 30 degrees 20. Lumbar lordosis is a critical proprioceptive constituent that has long piqued the interest of medical professionals and scholars. Because of the wide range of factors that affect the analysis of lumbar lordosis, along with the total count of vertebral bodies used in the method of calculating and patient positioning, researchers recommended establishing a consistent approach for assessing the lordosis angle. Based on the findings, shoulders should be flexed at a 30° angle standing with arms supported appears to be the best position for radiologic lordosis measurement 19. YouTube has grown in popularity as a resource for patients and fellow learning on medical subjects and processes. However, because video uploads are only partially edited, YouTube content quality is variable 12. Researchers conducted a study to determine the extent to which their patients obtain accurate information about this condition through online searches. There are few orthopedic and physical therapy studies in previous studies that assess the specificity and characteristics of

the videos on YouTube. These studies focus on scoliosis, bone tumors, hip arthritis, and anterior cruciate ligament tears 3.

The content of lumbar lordosis YouTube videos ranges from patient testimonials to instructional content, but the accuracy of the information remains to be ascertained. It is assumed that YouTube users would prefer to watch videos with a high academic standard offered by medical professionals. Lumbar lordosis has received little attention in research. The purpose of the study was to assess the accuracy, efficiency, and learning outcomes of Lumbar lordosis-related knowledge videos accessible via YouTube.

METHODS:

YouTube Search: A YouTube video quality control analysis was used in this cross-sectional observational study. Data had taken from the first 40 selected YouTube videos about lumber lordosis. For the collection of data, the following keywords were used "lumbar lordosis", "lumbar hyper lordosis", "Rehabilitation of lumbar lordosis", "Treatment of hyper lordosis", "and physiotherapy of lumhyperlordosis", This was deemed a defined specification for selection of the videos as it was a recognized analysis technique in other critically appraised publications on orthopedic procedures 21. A non-probability convenient sampling technique was used to recruit data. This analysis included all videos in The English language, uploaded by professionals (orthopedics, physiotherapists, and chiropractors) having at least 2k views. It excluded videos other than lumbar lordosis and lumbar hyper lordosis, uploaded by unprofessional, and videos in other languages other than English. Also, Videos less than 59 seconds and greater than 59 minutes are excluded.

Assessment Of Videos' Accuracy and Educational Quality: Two independent observers scored the videos according to the content quality and accuracy with a global quality score (GQS) 22, Journal of American Medical Association (JAMA) scores 23, and DISCERN score 17.

DISCERN scoring, a questionnaire for measuring the quality of the information presented was used. It was a trustworthy and valid tool for assessing the reliability of documented consumption healthcare data. DISCERN includes different questions, each scored on a scale of 5, 1 is equal to No (the publication does not meet the criterion) 5 is equal to Yes (That is, the article meets the requirement.)17. The GQS scale was used to assess the educational standards of the video content. The scale has five questions: one for very poor value, two for poor value with limited use, three for sufficient quality, great quality for four, and very excellent quality for five 16. The videos were graded on a five-point scale based on the following considerations: ease of being used, sound quality, understandability, and creativity, description, anatomy of the spine, indications, etiology pathophysiology, biomechanics, rehabilitation, and prevention of the disease under consideration 23. JAMA is a scale of quality measures for evaluating wellness website information. It is divided into four categories: authorship, attribution, disclosure, and currency. So, every item has a score either 0 (does not comply with the intended standards) or 1 point (meets the intended standards). On this scale, the lowest possible score is 0 and the highest possible rating is 4. Higher scale scores imply that the information under consideration is of higher quality 22.

STATISTICAL ANALYSIS:

The (SSPSS) sheet now includes quantitative data (adaptation 23). The average, as well as the SD for quantitative. variables, calculated and visualized using a bar chart. Discern, GQS, and JAMA scales were used to evaluate the accuracy and dependability of media content of the videos. A P value of less than 0.05, on the other hand, was found important.

RESULTS:

Tables 1-4 sum up all of the data. The mean and standard deviation of the number of comments on a video is 62.9500 and 205.13010 for observer 1. And the same with observer 2. The average and variance of likes on a video for observers 1 and 2 are 1796.6250 and 7741.22346, respectively. The average and variance of both the number of views as well as duration of videos for observers 1 and 2 are 85436.4500, 306820.2596, and 943.2250, 1599.51351, respectively. In Table GQS of YouTube videos of observer 1, recorded 18(45%) were generally poor quality, 15(37.5%) were of moderate quality, and 17.5% were good quality. In contrast, observer 2 recorded 17(42.5%) generally poor quality, 16(40.0%) moderate quality and 7(17.5%) good quality respectively. (Table 1) Poor-quality videos were 20%, low-quality videos are 25% and 50% while only 5% of videos were high quality according to JAMA. (Table 2) Based on DISCERN scoring, 49 (61.3%) videos are of poor quality, 30 (37.5%) videos are of fair quality, and 1 (1.3%) are of good quality. As a result, according to DISCERN, the overall performance of video content is poor. The t-test value was 0.000 for JAMA, 0.429 for DISCERN, and 1.215 for GQS with a p-value of 1.000 for JAMA, 0.669 for DISCERN, and 0.228 for GQS which was greater than 0.05. It demonstrated a statistically insignificant association between the JAMA, GQS, and DISCERN. (Table 3). According to Pearson's correlation test, likes on videos are not statistically significant with GQS (p=0.068), DISCERN (p=0.468), and JAMA (p=0.638) scores. (Table 5). According to PEARSON'S correlation test, views on youtube videos are not statistically significantly correlated with DISCERN (p=0.507), but views on youtube are significantly correlated with JAMA (p=0.039), views on YouTube videos are statistically correlated with GQS (0.048). (Table 6)

Table-1: Global Quality Score

GQS description, anatomy, indications, pathophysiology, biomechanics, rehabilitation, prevention, treatment			
Response		Frequency	Percent
OBSERVER 1	Generally poor quality	18	45.0%
	Moderate quality	15	37.5%
	Good quality	17.5	17.5%
	Total		100.0
OBSERVER 2	Generally poor quality	17	42.5%
	Moderate quality	16	40.0%
	Good quality	7	17.5%
	TOTAL		100.0

In this Table GQS of YouTube videos of observer 1 recorded 18(45%) generally poor quality, 15(37.5%) moderate quality and 17.5% good quality. In contrast, observer 2 recorded 17(42.5%) generally poor quality, 16(40.0%) moderate quality and 7(17.5%) good quality respectively.

Table-2: JAMA Total

JAMA Total		Frequency	Percentage
Valid	Poor	16	20.0%
	low quality	20	25.0%
	low quality	40	50.0%
	High	4	5.0%
	Total	80	100.0%

According to this table, poor quality videos are 20%, low-quality videos are 25% and 50% while only 5% of videos are high quality according to JAMA.

Table-3:

DISCERN_TOTAL		frequency	percentage
VALID	Poor (29-41)	49	61.3%
	Fair (42-54)	30	37.5%
	Good (55-67)	1	1.3%
	TOTAL	80	100%

According to the table, 49 (61.3%) videos are of poor quality, 30 (37.5%) videos are of fair quality, 1 (1.3%) are of good quality. so, the overall quality of videos according to DISCERN is poor quality.

Table-4: Independent Samples Test

Independent Samples Test				
	Levene's Test for Equality of Variances		t-test for Equality of Means	
	t	P value	95% Confidence Interval of the Difference	
			Lower	Upper
JAMA	0.000	1.000	-.23749	.23749
DISCERN	0.429	0.669	-1.92079	5.97079
GQS	1.215	0.228	-.14360	.59360

The t-test value was 0.000 for JAMA, 0.429 for DISCERN and 1.215 for GQS with a p-value of 1.000 for JAMA, 0.669 for DISCERN and 0.22 for GQS which was greater than 0.05. It demonstrated a statistically insignificant association between the JAMA, GQS and DISCERN.

Table-5:

Correlations		GQS	JAMA_CATEGORICAL	DISCERN_CATEGORICAL
GQS	Pearson Correlation	1	.004	.310**
	Sig. (2-tailed)		.973	.005
	N	80	80	80
JAMA_CATEGORICAL	Pearson Correlation	.004	1	.267*
	Sig. (2-tailed)	.973		.016
	N	80	80	80
DISCERN_CATEGORICAL	Pearson Correlation	.310**	.267*	1
	Sig. (2-tailed)	.005	.016	

	N	80	80	80
LIKES	Pearson Correlation	.205	-.053	-.082
	Sig. (2-tailed)	.068	.638	.468
	N	80	80	80

According to Pearson's correlation test, likes on videos are not statistically significant with GQS (p=0.068), DISCERN (p=0.468) and JAMA (p=0.638) scores.

Table-6:

Correlations				
		DISCERN_CATEGORICAL	JAMA_CATEGORICAL	GQS
VIEWS	Pearson Correlation	-.075	-.061	.198
	Sig. (2-tailed)	.507	.039	.048
	N	80	80	80
DISCERN_CATEGORICAL	Pearson Correlation	1	.267*	.310**
	Sig. (2-tailed)		.016	.005
	N	80	80	80
JAMA_CATEGORICAL	Pearson Correlation	.267*	1	.004
	Sig. (2-tailed)	.016		.973
	N	80	80	80
GQS	Pearson Correlation	.310**	.004	1
	Sig. (2-tailed)	.005	.973	
	N	80	80	80

According to PEARSON'S correlation test, views on you tube videos are not statistically significantly correlated with DISCERN (p=0.507), but views on you tube are significantly correlated with JAMA (p=0.039), views on YouTube videos are statistically correlated with GQS (0.048).

DISCUSSION:

The study's primary concern was how lumbar lordosis was described on YouTube, as well as the efficiency of the content of the videos uploaded on Youtube. The majority of the online videos used in the study were produced by healthcare providers. Despite the fact that the research study indicated that video uploads by the patient population should not be overlooked, this study discovered that the vast bulk of video content has been posted by healthcare providers 3. Because YouTube is not a critically appraised platform, patients and physicians must be mindful of the different sources of healthcare information as well as the varying data efficiency. YouTube data has been thoroughly evaluated for use in a variety of medical fields of study, including general surgery., nephrology, otorhinolaryngology, and neurophysiology 24. In their study on bone metastases and YouTube information, Sezgin and Erman 25 reported mean GQS, JAMA, and DISCERN scores of 2.22 (1-4), 2.12 (1-3), and 33.48 (17-66). In this study, the average JAMA, GQS, and DISCERN scores were 3.06, 1.96, and 43.94, respectively, and were used to assess various aspects of the videos such as information, suitability of value, and precision. Given these findings, our study's video quality was poor. Whereas this study indicated the total mean of JAMA is 1.0500. The total discerns mean of both of the observers is 2.4000. the mean of the GQS of both observers' readings was 2.7375. Table GQS of YouTube videos of observer 1 recorded 18(45%) generally poor quality, 15(37.5%) moderate quality, and 17.5% good quality. In contrast, observer 2 recorded 17(42.5%) generally poor quality, 16(40.0%) moderate quality and 7(17.5%) good quality respectively. According to the JAMA table and bar chart, poor-quality videos are 20%, low-quality videos are 25% and 50% while only 5% of videos were high quality according to JAMA.

According to DISCERN table and histogram, 49 (61.3%) videos are of poor quality, 30 (37.5%) videos are of fair quality, and 1 (1.3%) are of good quality. so according to DISCERN, the sheer performance of the videos was low. Aydin, M., and A. Mert (2021) 9 According to the Pearson correlations test results, likes were not proportionally correlated with GQS (p=0.772), DISCERN (p=0.713), or JAMA (p=0.486) results. There was a significant positive correlation between views and GQS scores (p=0.038). There wasn't a meaningful correlation between views and DISCERN (p=0.453) or JAMA (p=0.946) scores. The correlation between View and GQS scores was significant (p=0.036). There wasn't a meaningful correlation between views and DISCERN (p=0.442) or JAMA (p=0.938) scores. During the course of this research Likes on videos are not statistically significant with GQS (p=0.068), DISCERN (p=0.468), or JAMA (p=0.638) scores, according to Pearson's correlation test. According to PEARSON'S correlation test, views on youtube videos are not statistically significantly correlated with DISCERN (p=0.507), but views on youtube are significantly correlated with JAMA (p=0.039), views on YouTube videos are statistically correlated with GQS (0.048). The t-test value was 0.000 for JAMA, 0.429 for DISCERN, and 1.215 for GQS with a p-value of 1.000 for JAMA, 0.669 for DISCERN, and 0.228 for GQS which was greater than 0.05. It demonstrated a statistically insignificant association between the JAMA, GQS, and DISCERN.

CONCLUSION:

The current evaluation of YouTube video content demonstrates that information about lumbar lordosis is generally insufficient. In the coming years, the transfer of video-based knowledge will skyrocket, and videos are going to be the main information source. For educating patients about lumbar lordosis and its treatment, high-quality educational videos are essential. As a result, the

medical profession should seize the opportunity to establish the best examples for thorough and creative evidence-based instructional content acknowledging the diagnosis and treatment of lumbar lordosis.

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