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A Quality and Reliability Analysis of YouTube Videos on Chronic Prostatitis/ Chronic Pelvic Pain Syndrome

Kronik Prostatit/Kronik Pelvik Ağrı Sendromu ile İlgili YouTube Videolarının Kalite ve Güvenilirlik Analizi

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ÖZET

Amaç: Kronik prostatit/kronik pelvik ağrı sendromu (KP/KPAS) hakkında YouTube'da bulunan bilgilerin güvenilirliğini ve kalitesini değerlendirilmesi amaçlandı.

Gereç ve Yöntemler: "Kronik prostatit" ve "erkek kronik pelvik ağrı sendromu" arama terimleri kullanılarak toplam 200 video toplandı. İki ürolog videoları analiz etti ve kullanışlılıklarına, kalitelerine ve içerik güvenilirliklerine göre derecelendirdi. Videoların güvenilirliğini ve kalitesini değerlendirmek için modifiye DISCERN aracı ve Global Kalite Puanı (GQS) sıralama sistemi kullanıldı.

Bulgular: 200 videodan 120'si değerlendirme için uygun bulundu. Videoların çoğunluğu faydalı bulunmakla birlikte (%65,83) çoğunlukla sağlık profesyonelleri tarafından üretildiği saptandı (86 video). Akademik kökenli sağlık çalışanları tarafından üretilen videolar, özel sektör kökenli olanlara kıyasla daha yüksek görüntülenme sayısına ve daha uzun süreye sahipti (p=0.043 ve 0.011). Akademik sağlık çalışanları tarafından yüklenen videoların yüklenmesinden bu yana geçen sürenin daha uzun olduğu izlendi (p=0,003). Ortalama güvenilirlik puanı, ortalama GQS puanı ve ortalama içerik puanı akademik sağlık çalışanları tarafından yüklenen videolar için anlamlı derecede yüksek saptandı (p<0.001). Tüm değişkenlerin sağlık çalışanlarının uzmanlık alanlarına göre farklılık göstermediği bulundu (p=0.349; 0.349; 0.263; 0.307; 0.901; 0.118 ; 0.308 ; 0.114 ; 0.435 ve 0.187)

Sonuç: YouTube'da KP/KPAS hakkında bilgi arayan hastaların, özellikle akademik kurumlarla ilişkili sağlık uzmanları tarafından oluşturulan videolara odaklandıklarında değerli ve güvenilir içerik bulmaları muhtemeldir.

Anahtar Kelimeler: Prostatit; Pelvik Ağrı; Yaşam Kalitesi.

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This study was approved by the Uludag University Faculty of Medicine Clinical Research Ethics Committee (Decision No: 2023-7/38, Date: 11.04.2023).

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ABSTRACT

Objective: To evaluate the reliability and quality of information about chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) available on YouTube.

Material and Methods: A total of 200 videos were gathered using the search terms "chronic prostatitis" and "male chronic pelvic pain syndrome." Two urologists analyzed and rated the videos based on their usefulness, quality, and reliability of content. The modified DISCERN tool and the Global Quality Score (GQS) ranking system were used to assess the reliability and quality of the videos.

Results: Out of the 200 videos, 120 were found to be suitable for evaluation. The majority of videos were found to be useful (65.83%), and were mostly produced by healthcare professionals (86 videos). Videos produced by healthcare professionals of academic origin had higher views and longer duration compared to those from private origin (p=0.043 and 0.011 respectively). Time since upload was longer for videos uploaded by academic healthcare professionals (p=0.003). The average reliability score, average GQS score, and average content score were all significantly higher for videos uploaded by academic healthcare professionals (p<0.001). All variables were not different according to the specialty of healthcare professionals (p=0.349; 0.349; 0.263; 0.307; 0.901; 0.118 ; 0.308 ; 0.114 ; 0.435 and 0.187 respectively)

Conclusion: Patients seeking information on CP/CPPS on YouTube are likely to find valuable and trustworthy content, particularly when focusing on videos created by healthcare professionals, notably those associated with academic institutions.

Keywords: Prostatitis; Pelvic Pain; Quality of Life.

INTRODUCTION

In the age of the internet, individuals globally are increasingly resorting to digital platforms for health-related information. Particularly, YouTube has emerged as a prominent platform where patients not only seek information about various health issues but also share their experiences (1). One such health concern that is frequently discussed is Chronic Prostatitis/Chronic Pelvic Pain Syndrome (CP/CPPS), a complex clinical entity with an unknown etiology which significantly impacts the quality of life of affected individuals (2–6).

While traditional therapies for CP/CPPS often prove suboptimal, patients typically explore various treatment alternatives, including non-pharmacological modalities such as physiotherapy (7–10).

This quest for knowledge and alternative treatments has been facilitated by the internet, with YouTube offering a plethora of videos on the topic. However, with numerous videos produced by individuals lacking a medical background or expertise, the reliability and quality of the information provided may be questionable. Further complicating this scenario is the fact that personal testimonies about specific treatments may not necessarily represent their general efficacy. Therefore, there is a need to scrutinize and assess the quality and reliability of CP/CPPS-related information available on YouTube (6).

In this research, our objective was to assess the dependability and caliber of CP/CPPS-related information available on YouTube and compare these findings across various information sources.

MATERIAL AND METHODS

In this study, we adhered to the ethical guidelines outlined by our institution's local ethical committee, which reviewed our research protocol and deemed that it did not require formal ethical approval due to its non-clinical nature (Approval number:2023-7/38).

On November 12, 2022, the terms "chronic prostatitis" and "male chronic pelvic pain syndrome" were searched on using the Google Chrome internet browser. The search history was cleared prior to the search, and VPN settings were adjusted to mimic a user in the United States. The first 100 results for each search term were recorded.

Exclusion criteria for the videos included non-English language, lack of audio, irrelevance, and a focus on physical therapy exercises. Duplicate videos were also excluded, with only one entry considered. Data

collected for each video included the duration, upload date, and the number of views, likes, and comments.

Two urologists (BC, OA) independently assessed the videos for their utility, quality, and reliability. In cases of disagreement, a senior urologist (OK) provided a third opinion. Videos were classified as "useful" if they contained accurate scientific information about the condition and treatment options. Conversely, videos were deemed "non-useful" if they presented unproven pathophysiological relationships or treatment options. This classification methodology has been employed in various other studies (11,12).

Two distinct approaches were employed to assess the reliability and quality of the videos. Firstly, the modified DISCERN tool was utilized to evaluate the reliability of the content in the videos. The DISCERN tool is a widely recognized and established instrument designed specifically for assessing the quality of health information provided to patients (13).

The DISCERN tool comprises 15 questions, each rated on a scale of 1 to 5, that evaluate different aspects of the presented information. Aspects assessed include the clarity and achievement of the video's objectives, the inclusion of reliable sources of information, and the balanced and unbiased presentation of the content. In this study, a modified 5-item version of the DISCERN tool was used, which has been employed in previous research (14,15). Additionally, the Global Quality Score (GQS) ranking system was employed to assess the overall quality of the videos. The GQS employs a scale ranging from 1 to 5, with 1 signifying low quality and 5 indicating good quality (16). The GQS takes into account factors such as the accessibility of the provided information, its accuracy and reliability, as well as the overall flow and organization of the video. Each video's content was assessed based on five key areas: coverage of epidemiology, pathogenesis, clinical presentation, potential differential diagnoses, and treatment options. The final content score was determined by summing up the relevant information discussed within each of these areas.

The videos were categorized based on the source of information into the following groups: Healthcare professionals, patient experiences, and individuals. The healthcare professionals group was further classified by specialization, including urologists, physiotherapists, and other healthcare professionals. Additionally, this group was divided into private and academic origin.

Statistical Analysis

The Shapiro-Wilk test was employed to determine if the variables followed a normal distribution. Continuous variables were represented as median (25th percentile: 75th percentile), while categorical variables were expressed as n (%). Group comparisons were conducted using Mann-Whitney or Kruskal-Wallis tests. Subgroup analysis was performed utilizing the Dunn-Bonferroni method after overall significance was achieved. The source of the content rate was compared between useful and non-useful videos using the chi-squared test. For post hoc comparisons, the chi-squared test with Bonferroni correction was applied.

The agreement between the observers who rated the videos was assessed using the intraclass correlation coefficient (ICC). Statistical analysis was carried out using SPSS (IBM Corp. 2012, IBM SPSS Statistics for Windows, version 21.0, Armonk, NY: IBM Corp.), and the significance level was set at $\alpha=0.05$.

RESULTS

After applying the exclusion criteria to the first 100 videos obtained by each search term (200 in total), a total of 120 videos were found to be suitable for evaluation (Figure 1). The median length of the videos was 7.3 (0.49-88.50) minutes, the median days since upload was 727.5 (15-4834) days, the median number of views was 5305 (77-267,554), the median number of daily views was 6.91 (0.09-373.72), the median number of likes was 41.5 (0-2800), and the median number of comments was 7 (0-1152).

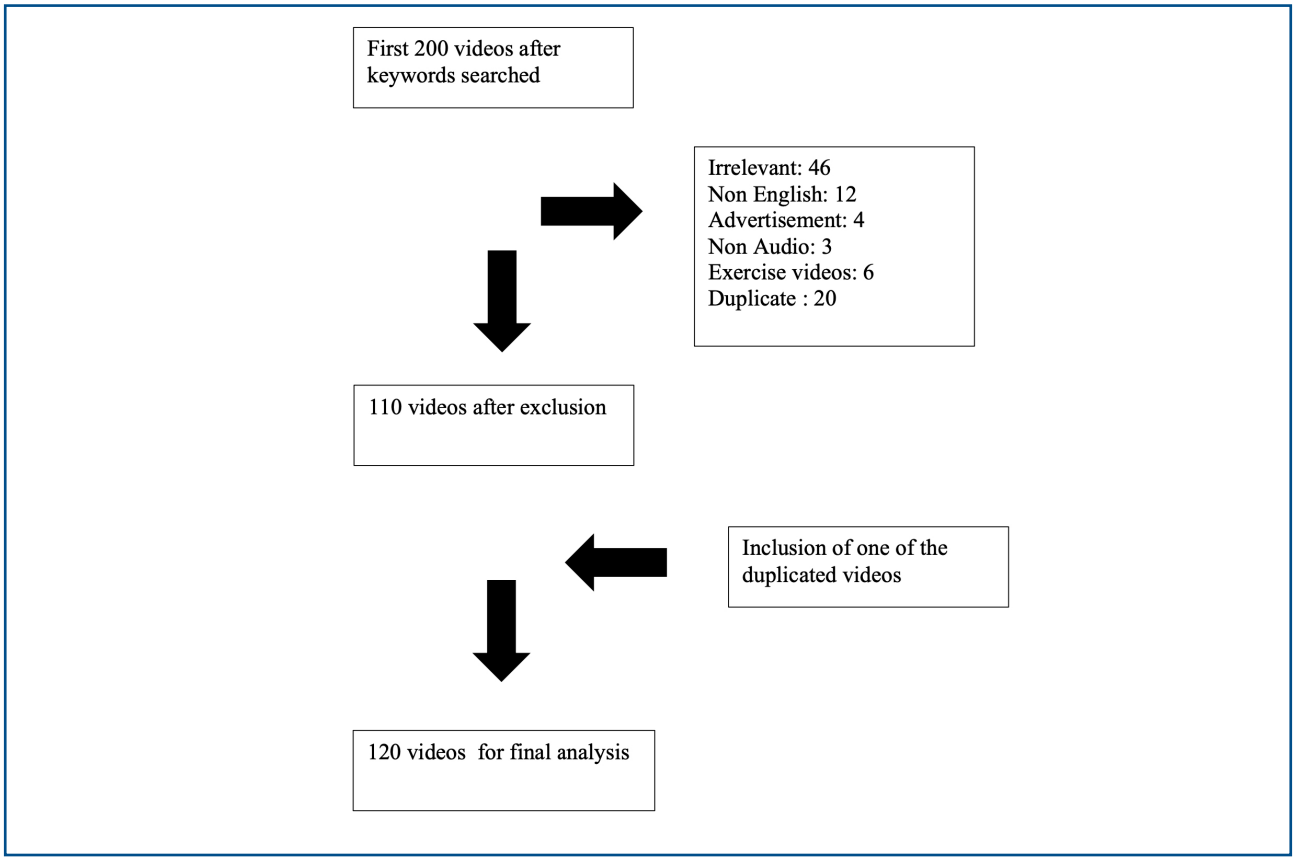

Figure 1. The diagram illustrates the process of selecting and evaluating videos for the study.

Evaluations on the usefulness of the videos were found to have a good level of agreement between the evaluators for all scores. The ICC for the Reliability Score, GQS Score, and Content Score were 0.89, 0.82, and 0.88 respectively, indicating very good to good agreement between the two raters in their ratings. All the ICC values were statistically significant, with p-values less than 0.001.

The comparison of video ratings, quality, reliability, content, and information source according to their usefulness is presented in Table 1. Time since upload was longer in useful videos (770 days vs. 340 days; p=0.003). The median average reliability score was higher for useful videos (3.50 vs. 1; p<0.001). The median average GQS score was higher in useful videos (3.50 vs. 2; p<0.001). The median average content score was higher in useful videos (4 vs. 1.50; p<0.001). There was a significant difference between useful and non-useful videos according to the distribution of source of video content (p<0.001). In the subgroup analyses, it was determined that the rate of videos uploaded by healthcare professionals was higher in the useful videos than in the non-useful videos (p<0.05).

The comparison of video ratings, quality, reliability, and content according to the source of information is presented in Table 2. There was a significant difference between videos according to the number of comments (p=0.001). In the subgroup analyses, it was found that the median number of comments to the videos uploaded by patients was higher than the median number of comments of videos uploaded by healthcare professionals (p=0.001). There was also a significant difference between the video groups according to the duration of videos (p=0.004). In the subgroup analyses, it was found that the duration of the videos originating from healthcare professionals and patients was longer than the videos uploaded by individuals (p=0.018 and p=0.002).

There was a significant difference in the average reliability scores between the video groups (p<0.001). In the subgroup analyses, it was found that the median score value of videos originating from healthcare

professionals was higher than the videos originating from patients (p<0.001). There was a difference in the average GQS score and average content score between the video groups (p<0.001), with the median score value of healthcare professional videos being higher than patient-based videos in both domains.

Table 3 represents the academic orientation of the healthcare professionals who uploaded the videos. It was determined that the number of views of the videos uploaded by healthcare professionals of academic origin was higher than the number of views for healthcare professionals of private origin (22.40 vs. 9624; p=0.043). The number of comments was higher in videos uploaded by private healthcare professionals (6 vs. 1; p=0.021). The median duration of the videos uploaded by healthcare professionals of academic origin was longer than the videos uploaded by private healthcare professionals (6.24 vs. 12.24; p=0.011). Time since upload was longer for videos uploaded by academic healthcare professionals (584.50 vs. 979; p=0.003). The average reliability score, average GQS score, and average content score were higher for videos uploaded by healthcare professionals of academic origin (2.75 & 4; p<0.001, 3 & 4.50; p<0.001, and 3 & 4.50; p<0.001, respectively).

Table 4 presents the comparison of video features, quality, and reliability among healthcare professionals by their specialties. It was found that all variables were not different according to the specialty of healthcare professionals (p>0.05).

Table 1. Comparison of video futures, quality, and reliability of videos by accuracy

	Useful (n=79)	Non-Useful (n=41)	p- value
Number of views	6027(1170:26096)	1885(480:17164)	0.294[a]
Number of likes	51(14:236)	31(8.50:278)	0.646[a]
Comments	6(0:56)	17(2.50:100.50)	0.065[a]
Duration of video	7.39(4.13:23.15)	7.22(3.44:11.77)	0.317[a]
Time since upload	770(454:1580)	340(166.50:1058)	0.003[a]
Avarage views per day	6.24(1.62:22.59)	7.62(2.59:25.48)	0.396[a]
Avarage Reliabilty score	3.50(3:4)	1(0.50:1.50)	<0.001[a]
Avarage GQS score	3.50(3:4.50)	2(2:2.50)	<0.001[a]
Avarage content score	4(3:5)	1.50(1:2.25)	<0.001[a]
Source of video content			
Health care professional	66(83.50%)	20(48.80%)	
Patient experience	8(10.10%)	18(43.90%)	<0.001[b]
Individual	5(6.30%)	3(7.30%)	

Data were presented as median (25th percentile : 75th percentile) and n%.
a: Mann-Whitney U Test, b: Chi-Square Test

Table 2. Comparison of video futures, quality, and reliability of videos by source of information

	Health care professional (n=86)	Patient experience (n=26)	Individual (n=8)	P value[b]
Number of views	3959.5(517:21636.25)	5934(824:31067.25)	5576(4576.50:16687.50)	0.656
Number of likes	35(8:219.5)	138(21.75:635.5)	46(11.75:172.75)	0.095

Comments	5.5(1:38.25)	58.5(15:208.25)	5(0.25:101.25)	0.001
Duration of video	7.32(3.38:18.27)	10.70(6.08:20.73)	2.75(1.29:5.67)	0.004
Time since upload	727.5(366.75:1320.5)	728(275.75:1280.5)	834(583.25:2521.75)	0.445
Avarage views per day	4.83(1.61:22.72)	9.09(3.70:32.09)	9.03(1.96:12.99)	0.218
Avarage Reliabilty score	3.5(2.5:4)	1(0.38:2.5)	2.75(2:3)	<0.001
Avarage GQS score	3.5(2.5:4.5)	2.5(2:3)	3.25(2.5:3.5)	<0.001
Avarage content score	3.5(2.5:4.625)	1.5(1:2)	3(1.875:3)	<0.001
Pairwise Comparisons	**$p_{HCP.-PE.}$**	**$p_{HCP.-IND.}$**	**$p_{PE.-IND.}$**	
Comments	0.001	>0.999	0.140	
Duration of video	0.377	0.018	0.002	
Avarage Reliabilty score	<0.001	0.736	0.361	
Avarage GQS score	<0.001	>0.999	0.180	
Avarage content score	<0.001	0.418	0.405	

Data were presented as median (25th percentile : 75th percentile)
b: Kruskal-Wallis Test
HCP.: Health care professional, PE.: Patient experience, IND.,: Individual

Table 3. Comparison of video futures, quality, and reliability among health care professionals by their academic orientation

	Private (n=62)	Academic (n=31)	P value[a]
Number of views	2240.5(428.25:11648.75)	9624(1129:33690)	0.043
Number of likes	24.5(8:156.75)	84(19:338)	0.065
Comments	6(2:50)	1(0:34)	0.021
Duration of video	6.24(2.33:12.86)	12.24(5.31:23.15)	0.011
Time since upload	584.5(230.25:1023.75)	979(603:2723)	0.003
Avarage views per day	4.48(1.61:20.60)	6.05(1.83:17.30)	0.672
Avarage Reliabilty score	2.75(1.5:3.5)	4(3.5:5)	<0.001
Avarage GQS score	3(2.5:3.5)	4.5(3:5)	<0.001
Avarage content score	3(2:4)	4.5(3:5)	<0.001

Data were presented as median (25th percentile : 75th percentile)
a: Mann-Whitney U Test

Table 4. Comparison of video futures, quality, and reliability among health care professionals by their specialties

	Urologists (n=43)	Physio therapists (n=32)	Others (n=11)	P value[b]
Number of views	7786(423:22970)	1744(450.25:16804)	6502(1129:33690)	0.349
Number of likes	28(8:236)	28.50(9-191.50)	172(22:446)	0.263
Comments	4(0:28)	6(2:46.75)	5(0:42)	0.307
Duration of video	7.22(3.38:16.31)	6.92(2.90:25.62)	8.18(3.53:14.31)	0.901
Time since upload	906(433:1802)	592(276:1179.25)	413(368:729)	0.118

Avarage views per day	4.52(1.86:16.49)	4.13(1.15:22.31)	16.38(2.35:44.34)	0.308
Avarage Reliabilty score	3.5(2.5:5)	3(2.13:3.50)	3.5(3:4)	0.114
Avarage GQS score	3.5(2.5:5)	3(2.50:4)	4(2.5:4.5)	0.435
Avarage content score	3.5(2.5:5)	3.50(2:4)	4.5(3:4.5)	0.187

Data were presented as median (25^{th} percentile : 75^{th} percentile)
b: Kruskal-Wallis Test

DISCUSSION

Over the past decade, the internet has emerged as a prevalent source of health information. YouTube has evolved into a significant platform for both physicians and patients to seek and share information on a wide range of medical topics, CP/CPPS (1,14). Concerns have been raised about the accuracy and quality of information in this domain, as a considerable portion of the available content tends to be speculative in nature, and there are limitations in content organization (17).

While a recent study has been published evaluating YouTube videos in relation to prostatitis, to the best of our knowledge, our study is the first to specifically focus on CP/CPPS using validated measures (6).

The findings of the current study suggest that a significant proportion of YouTube videos pertaining to CP/CPPS are considered useful by the authors, with 65.83% of the videos being classified as such. Consequently, patients searching for information on CP/CPPS via YouTube may have a relatively high likelihood of encountering accurate and valuable information.

In the present study we found that videos uploaded by patients as their experiences had lower scores for quality and reliability when compared to videos uploaded by healthcare professionals. This is consistent with the paper written by Rudisill et al, which found that the videos uploaded by patients achieved significantly lower scores on the Journal of American Medical Association (JAMA) Benchmark Criteria for reliability when evaluating YouTube as a source of information on pediatric scoliosis (18). Additionally, the videos produced by healthcare professionals of academic origin were found to have higher reliability, quality, and content scores compared to videos produced by private healthcare professionals.

The distribution of videos uploaded by healthcare professionals by specialty in this study was 50% urologists and 39.53% physiotherapists, with no significant differences observed in the quality, reliability, and content scores of the videos based on the healthcare professional's specialty. There was a significant interest and engagement from both urologists and physiotherapists in providing information and education about CP/CPPS on YouTube.

One potential explanation for the high percentage of physiotherapists among the healthcare professionals who have uploaded videos on CP/CPPS on YouTube may be related to the growing recognition of the importance of physiotherapy in the management of CP/CPPS. Physiotherapy approaches such as pelvic floor muscle training have been shown to be effective in the treatment of CP/CPPS, which may have led to more physiotherapists creating content on this topic. (19,20). Another possible explanation may be related to the marketing strategies used by physiotherapists. As YouTube is a widely used platform and can reach a large audience, it may be an attractive platform for physiotherapists to market their services, share their knowledge and expertise, and reach a wider audience.

In terms of the reliability and the quality of the videos, the results of this study suggest that a majority of the videos were rated as useful and were of relatively high quality and reliability as determined by the modified DISCERN tool and the Global Quality Score (GQS) ranking system. This finding is consistent with other studies that have evaluated the quality and reliability of health information on YouTube for several urological conditions. In a study evaluating YouTube videos related to premature ejaculation found that the majority of the videos were rated as useful and of high quality and reliability using similar evaluation tools

(DISCERN and GQS) (12). Similarly, a study on YouTube videos related to testicular self-examination found that the majority of the videos were rated as high quality (21). However, a study on YouTube videos related to nocturnal enuresis in Japan found that the majority of the videos were rated as low quality and unreliable using similar evaluation tools (22).

In the present study, it was found that the median number of views for videos was 5305, with a range of 77 to 267,554 views. However, there was no significant difference in the number of views between videos rated as "useful" and "non-useful" by the evaluators. This suggests that people may be exposed to both high-quality and low-quality information on PE at similar rates and may not be able to distinguish between the two. Furthermore, the median number of likes and comments for videos was 41.5 and 7 respectively, and there was no significant difference in these metrics between the useful and non-useful videos. This highlights the importance of evaluating the quality of medical information on YouTube, as viewers may not be able to distinguish between reliable and unreliable sources.

One limitation of this study is that it only evaluated videos on YouTube, and therefore may not represent the entirety of online information available on chronic prostatitis/chronic pelvic pain syndrome. Additionally, the sample size of 120 videos is limited, and may not accurately reflect the overall quality and reliability of all videos on this topic. Furthermore, the study only focused on videos in English, which may exclude a significant portion of videos that could provide valuable information to patients. Lastly, the study did not assess the impact of the information provided in the videos on patient outcomes or satisfaction. In addition to its limitations, this study has several strengths. Validated measures were used to evaluate the quality and reliability of the videos, and videos uploaded by healthcare professionals from various specialties were included.

CONCLUSION

In conclusion, the result of the present study shows patients seeking information on CP/CPPS on YouTube may have a relatively high chance of finding useful and reliable information, particularly if they focus on videos produced by healthcare professionals, and specifically those affiliated with academic institutions. More research is needed to evaluate the quality and reliability of online information about CP/CPPS on other platforms as well.

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REFERENCES

1. Drozd B, Couvillon E, Suarez A. Medical YouTube Videos and Methods of Evaluation: Literature Review. JMIR Med Educ. 2018;12:4(1):e3. https://doi.org/10.2196/mededu.852
2. Schaeffer AJ. Epidemiology and evaluation of chronic pelvic pain syndrome in men. Int J Antimicrob Agents. 2008;31:108-111. https://doi.org/10.1016/j.ijantimicag.2007.08.027

3. Schaeffer AJ, Wendel EF, Dunn JK, Grayhack JT. Prevalence and significance of prostatic inflammation. J Urol. 1981;125(2):215–9. https://doi.org/10.1016/s0022-5347(17)54976-9

4. Breser ML, Salazar FC, Rivero VE, Motrich RD. Immunological Mechanisms Underlying Chronic Pelvic Pain and Prostate Inflammation in Chronic Pelvic Pain Syndrome. Front Immunol. 2017;31(8):898. https://doi.org/10.3389/fimmu.2017.00898

5. Wenninger K, Heiman JR, Rothman I, Berghuis JP, Berger RE. Sickness Impact of Chronic Nonbacterial Prostatitis and its Correlates. Journal of Urology. 1996;155(3):965–8. https://doi.org/10.1016/S0022-5347(01)66359-6

6. Aktas BK, Demirel D, Celikkaleli F, Bulut S, Ozgur EG, Kizilkan Y, et al. YouTube™ as a source of information on prostatitis: a quality and reliability analysis. Int J Impot Res [Internet]. 2023;16:(cited 2023 Mar 16). Available from: https://www.nature.com/articles/s41443-023-00666-9

7. Nickel JC. Understanding chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS). World J Urol. 2013;31(4):709–10. https://doi.org/10.1007/s00345-013-1121-4

8. Khattak AS, Raison N, Hawazie A, Khan A, Brunckhorst O, Ahmed K. Contemporary Management of Chronic Prostatitis. Cureus [Internet]. 202;Dec7 (cited 2023 Jan 14); Available from: https://www.cureus.com/articles/71977-contemporary-management-of-chronic-prostatitis. https://doi.org/10.7759/cureus.2024

9. Potts JM. Therapeutic options for chronic prostatitis/chronic pelvic pain syndrome. Curr Urol Rep. 2005;6(4):313-7. https://doi.org/10.1007/s11934-005-0030-5

10. Zhang J, Liang C, Shang X, Li H. Chronic Prostatitis/Chronic Pelvic Pain Syndrome: A Disease or Symptom? Current Perspectives on Diagnosis, Treatment, and Prognosis. Am J Mens Health. 2020;14(1):155798832090320. https://doi.org/10.1177/1557988320903200

11. Sood A, Sarangi S, Pandey A, Murugiah K. YouTube as a source of information on kidney stone disease. Urology. 2011;77(3):558-62. https://doi.org/10.1016/j.urology.2010.07.536

12. Gul M, Diri MA. YouTube as a Source of Information About Premature Ejaculation Treatment. The Journal of Sexual Medicine. 2019;16(11):1734-40. https://doi.org/10.1016/j.jsxm.2019.08.008

13. Charnock D, Shepperd S, Needham G, Gann R. DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. J Epidemiol Community Health. 1999;53(2):105-11. https://doi.org/10.1136/jech.53.2.105

14. Singh AG, Singh S, Singh PP. YouTube for Information on Rheumatoid Arthritis — A Wakeup Call? J Rheumatol. 2012;39(5):899-903. https://doi.org/10.3899/jrheum.111114

15. Esen E, Aslan M, Sonbahar BÇ, Kerimoğlu RS. YouTube English videos as a source of information on breast self-examination. Breast Cancer Res Treat. 2019;173(3):629-35. https://doi.org/10.1007/s10549-018-5044-z

16. Bernard A, Langille M, Hughes S, Rose C, Leddin D, Veldhuyzen van Zanten S. A systematic review of patient inflammatory bowel disease information resources on the World Wide Web. Am J Gastroenterol. 2007;102(9):2070-7. https://doi.org/10.1111/j.1572-0241.2007.01325.x

17. Madathil KC, Rivera-Rodriguez AJ, Greenstein JS, Gramopadhye AK. Healthcare information on YouTube: A systematic review. Health Informatics J. 2015;21(3):173-94. https://doi.org/10.1177/1460458213512220

18. Rudisill SS, Saleh NZ, Hornung AL, Zbeidi S, Ali RM, Siyaji ZK, et al. YouTube as a source of information on pediatric scoliosis: a reliability and educational quality analysis. Spine Deform. 2023;11(1):3-9. https://

doi.org/10.1007/s43390-022-00569-7

19. Berger RE, Ciol MA, Rothman I, Turner JA. Pelvic tenderness is not limited to the prostate in chronic prostatitis/chronic pelvic pain syndrome (CPPS) type IIIA and IIIB: comparison of men with and without CP/CPPS. BMC Urol. 2007;7(1):17. https://doi.org/10.1186/1471-2490-7-17
20. Rabal Conesa C, Cao Avellaneda E, López Cubillana P, Prieto Merino D, Khalus Plish A, Martínez Franco A, et al. Manual Therapy Intervention in Men With Chronic Pelvic Pain Syndrome or Chronic Prostatitis: An Exploratory Prospective Case-Series. Cureus. 2022;14(4):e24481. https://doi.org/10.7759/cureus.24481
21. Selvi I, Baydilli N, Akinsal EC. Can YouTube English Videos Be Recommended as an Accurate Source for Learning About Testicular Self-examination? Urology. 2020;145:181-9. https://doi.org/10.1016/j.urology.2020.06.082
22. Nishizaki N, Hirano D, Oishi K, Shimizu T. YouTube videos in Japanese as a source of information on nocturnal enuresis: A content-quality and reliability analysis. Pediatr Int. 2022;64(1):e15049. https://doi.org/10.1111/ped.15049