



YOUTUBE VIDEOS AS AN INFORMATION SOURCE ON SCABIES: IS IT RELIABLE AND QUALITY FOR PATIENTS?

UYUZ HASTALIĞINA İLİŞKİN BİLGİ KAYNAĞI OLARAK YOUTUBE VİDEOLARI: HASTALAR İÇİN GÜVENİLİR VE KALİTELİ Mİ?

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ABSTRACT

Introduction: Scabies, caused by the mite *Sarcoptes scabiei*, which necessitates accurate health information for proper management and treatment. The incidence of scabies has been rising globally and nationally, prompting more patients to seek reliable information and effective treatment. This cross-sectional study aims to assess scabies-related content on YouTube and evaluate the quality and reliability of health information in these videos.

Methods: Between March 15-17, 2024, we searched the search engine on YouTube using the keywords "scabies," "scabies disease," and "scabies treatment". Data collected included the time since the video was uploaded, view count, daily view count, likes, number of likes per day, video duration, content and source. The quality and reliability of the videos were assessed using the modified DISCERN tool, the Global Quality Scale (GQS), and the Journal of the American Medical Association (JAMA) benchmark criteria.

Results: Out of 180 videos screened, 53 met the inclusion criteria. Of the evaluated videos, 13 videos (24.5%) were rated as high-quality, 13 (24.5%) as medium-quality, and 27 (50.9%) as low-quality. High-quality videos had significantly higher DISCERN and JAMA scores than low-quality videos ($p<0.001$). Healthcare professionals uploaded 25 videos (47.2%), while non-professionals uploaded 28 (52.8%). Among healthcare professional videos, 12 (92.3%) were high-quality, compared to only 1 (7.7%) non-professional video ($p<0.001$). Videos by healthcare professionals had higher GQS, DISCERN, and JAMA scores ($p<0.001$).

Conclusion: This study found that scabies-related educational content created by non-healthcare professionals on social media is generally of lower quality and reliability. Patients with scabies should be directed to evidence-based, reliable information sources prepared by healthcare professionals during their diagnosis and treatment process.

Keywords: DISCERN, Global Quality Scale, scabies, video, YouTube

ÖZET

Giriş: *Sarcoptes scabiei* akarının neden olduğu uyuz, uygun yönetim ve tedavi için doğru sağlık bilgilerini gerektirir. Uyuzun görülme sıklığı küresel ve ulusal olarak artmakta ve daha fazla hastayı güvenilir bilgi ve etkili tedavi aramaya yöneltmektedir. Bu kesitsel çalışma, YouTube'daki uyuzla ilgili içerikleri değerlendirmeyi ve bu videolardaki sağlık bilgilerinin kalitesini ve güvenilirliğini değerlendirmeyi amaçlamaktadır.

Yöntem: 15-17 Mart 2024 tarihleri arasında, YouTube'daki arama motorunda "uyuz", "uyuz hastalığı" ve "uyuz tedavisi" anahtar kelimelerini kullanarak arama yaptık. Toplanan veriler arasında videonun yüklendiği zamandan bu yana geçen süre, görüntüleme sayısı, günlük görüntüleme sayısı, beğeni sayısı, günlük beğeni sayısı, video süresi, içerik ve kaynak yer aldı. Videoların kalitesi ve güvenilirliği, modifiye DISCERN (Tüketici Sağlığı Bilgileri İçin Kalite Kriterleri) ölçeği, Global Kalite Ölçeği (GQS) ve Journal American Medical Association (JAMA) benchmark kriterleri kullanılarak değerlendirildi.

Bulgular: Taranan 180 videodan 53'ü dahil etme kriterlerini karşıladı. 13 video (%24,5) yüksek kaliteli, 13 video (%24,5) orta kaliteli ve 27 video (%50,9) düşük kaliteli olarak derecelendirildi. Yüksek kaliteli videoların DISCERN ve JAMA puanları düşük kaliteli videolardan önemli ölçüde daha yüksekti ($p<0,001$). Sağlık profesyonelleri tarafından yüklenen 25 video (%47,2) varken, sağlık profesyoneli olmayanlar tarafından 28 video (%52,8) idi. Sağlık profesyonelleri videoları arasında 12'si (%92,3) yüksek kaliteydi, sağlık profesyonellerine ait olmayan videolarda ise yalnızca 1'di (%7,7) ($p<0,001$). Sağlık profesyonellerinin videoları daha yüksek GQS, DISCERN ve JAMA puanlarına sahipti ($p<0,001$).

Sonuç: Bu çalışma, sağlık profesyoneli olmayanlar tarafından sosyal medyada oluşturulan uyuzla ilgili eğitim içeriğinin genellikle daha düşük kalitede ve güvenilirliğe sahip olduğunu buldu. Uyuz hastalarının tanı ve tedavi süreçlerinde sağlık profesyonelleri tarafından hazırlanan, kanıtı dayalı, güvenilir bilgi kaynaklarına yönlendirilmesi gerekmektedir.

Anahtar kelimeler: DISCERN, Global kalite ölçeği, skabiye, video, YouTube

INTRODUCTION

The prevalence of scabies has been rising significantly both globally and nationally, leading to a growing demand for reliable information and effective treatment options. Scabies,

caused by the mite *Sarcoptes scabiei*, results in intense itching and skin irritation, necessitating accurate health information for proper management and treatment (1).

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With the advancement of technology, patients and their relatives now tend to search for information about their diseases on many platforms such as newspapers, television and social media platforms (2). Social media platforms in particular have become significant sources of health-related information, with YouTube being particularly popular. YouTube hosts a vast array of educational content on various medical conditions, including dermatological diseases such as atopic dermatitis, seborrheic dermatitis, isotretinoin treatment, warts, rosacea, hair loss, psoriasis, and eczema (3-12). Despite its popularity, the reliability and quality of health information available on YouTube are often inconsistent, which can mislead patients seeking guidance. Previous studies have highlighted that while online health information can be beneficial, it often varies widely in terms of quality and reliability, posing potential risks to public health (3).

The objective of this study is to assess the public interest in scabies-related educational content on YouTube and to evaluate the quality and reliability of this information. By systematically analyzing the content of YouTube videos on scabies, this research aims to provide insights into the extent to which these videos can be trusted as sources of health information.

Material and Methods:

Videos on the Youtube platform were searched without logging in from a personal account. Video search history was cleared before entering keywords. A systematic search was conducted on YouTube using the keywords "scabies," "scabies disease," and "scabies treatment." For each search, the first 60 videos from the top three pages of results were reviewed, as these are typically the most viewed and

relevant. The following were determined as exclusion criteria.

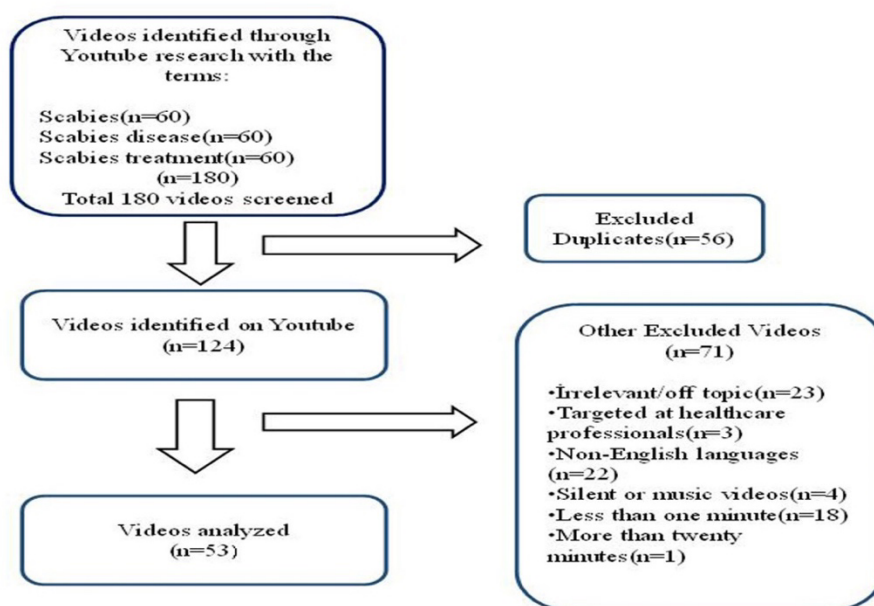
- The duration of the videos should be less than 1 minute or longer than 20 minutes
- Non-English languages
- Silent or music videos
- Irrelevant/off- topic videos
- Duplicated videos
- The videos which targeted at healthcare professionals

From the 180 videos after excluding these, 53 videos met the inclusion criteria and were analyzed between March 15-17, 2024 (Figure 1).

Videos were classified based on their source into healthcare professionals (doctors and other healthcare personnel) and non-professionals (patients, independent users, and unknown sources). They were further categorized by content into five groups. The videos were divided into five groups according to whether they contained information on general description, transmission, symptoms, diagnosis and/or treatment agents. The names of therapeutic agents were recorded if mentioned.

Data collected included the time since the video was uploaded, view count, daily view count, likes, number of likes per day, video duration, content, and source. The quality and reliability of the videos were assessed using the modified DISCERN tool, the Global Quality Scale (GQS), and the Journal of the American Medical Association (JAMA) benchmark criteria. Two clinicians independently reviewed the videos, with a third clinician resolving any disagreements and consistency between the two dermatologists was 80%.

Figure 1. Flowchart showing the selection of the 180 YouTube videos



The Global Quality Scale (GQS) rated video quality on a scale of 1-5, with scores ≤ 2 considered low quality, 3 as medium quality, and ≥ 4 as high quality (13). The modified DISCERN tool assessed reliability with a 5-item questionnaire covering clarity, source validity, balance, additional sources, and uncertainties, scoring each “yes” as 1 point, for a total of 0-5 (14). The JAMA benchmark criteria evaluated authorship, references, disclosure, and currency, scoring 0-1, for a total of 0-4 (14). Higher scores on all scales indicated greater reliability and quality (Table 1).

Table 1: Assessment Tools and Criteria

Criteria	Details
Modified DISCERN Tool	1. Is the video clear, concise, and understandable? 2. Are valid sources cited? 3. Is the information balanced and unbiased? 4. Are additional sources listed? 5. Does the video address uncertainties?
Global Quality Score (GQS)	1. Poor quality, poor flow, most information missing, not helpful for patients. 2. Generally poor, some information given but of limited use to patients. 3. Moderate quality, some important information adequately discussed. 4. Good quality, good flow, most relevant information covered, useful for patients. 5. Excellent quality, excellent flow, very useful for patients.
JAMA Criteria	1. Authorship: Are authors and contributors, affiliations, and credentials provided? 2. Attributions: Are all content references and sources listed? 3. Disclosure: Any conflicts of interest, funding, sponsorship, advertising, support, and video ownership fully disclosed? 4. Currency: Are the dates of content publication and updates provided?

The statistical analyses were carried out utilizing SPSS software version 23.0 (SPSS, Chicago, IL, USA). Continuous variables were presented as median (interquartile range) values and categorical variables as numbers or percentages. The chi-square test compared categorical variables. The Kruskal-Wallis test compared continuous data related to video quality, with pairwise comparisons evaluated using the Mann-Whitney U test and Bonferroni correction. Comparisons between healthcare professional and non-professional videos were made using the Mann-Whitney U test. The inter-reviewer agreement was determined with Cohen's kappa coefficient. A statistically significant difference was defined as $p < 0.05$.

The Ethics Committee's approval was not required because no participants (human or animals) were included in this study, or other similar data, such as patient history,

and only videos on a public social media platform were evaluated. A similar path was followed in previous studies.

Results:

Among the 180 videos initially identified, our analysis focused on the 53 scabies-related YouTube videos that met the inclusion criteria (Figure 1), detailing key aspects such as video metrics, reliability, and quality as specified in Table 2.

Table 2. Basic features of analyzed videos

Variables	Videos (n=53)
Video metrics	
Number of days on YouTube	1204 (567-1936)
Number of views	18505 (6401-167626.50)
Number of views per day	21.03 (6.96-157.95)
Number of likes	199 (38-912)
Duration of videos (seconds)	223 (139.5-333)
Reliability and Quality	
DISCERN	2(1-3)
JAMA	1(1-2)
Quality	
GQS	2(2-3.5)
Source, n(%)	
Healthcare Professionals	25 (47.2)
Non-healthcare Professionals	28(52.8)
Content, n(%)	
General description	45 (84.9)
Transmission	37 (69.8)
Symptoms	44 (83)
Diagnosis	22 (41.5)
Treatment agents	41(77.4)

Data presented as median (Q1-Q3) or n(%)

JAMA: Journal of the American Medical Association; GQS: Global quality scale

Cohen's kappa score representing interobserver agreement was 0.950 for the GQS score, 0.938 for the JAMA score and 0.927 for the modified DISCERN score. These values show that there is a very high consistency between the two dermatologists who evaluated the videos. When examining video content, (84.9%) was related to general descriptions, (69.8%) to transmission, (83%) to symptoms, (41.5%) to diagnosis, and (77.4%) to treatment (Table 2). Antiparasitic agents mentioned in the videos explaining

compared to low-quality videos ($p < 0.001$). High-quality

Table 3. Comparison of the analyzed videos according to quality

Variables	High Quality (n=13)	Intermediate Quality (n=13)	Low Quality (n=27)	P Value
Video metrics				
Number of days on YouTube	941 (364-1365.5) ^a	1574 (1006.5-2769) ^b	908 (485-1936) ^{a,b}	0.046
Number of views	23587 (6642-179376)	146066 (22528.5-547925.5)	12344 (4187-27585)	0.059
Number of views per day	48.63 (11.67-222.05)	96.78 (13.55-205.15)	16.09 (6.76-72.02)	0.158
Number of likes	350 (86.5-975.5) ^{a,b}	651 (144-3000) ^a	74 (31-204) ^b	0.036
Number of likes per day	0.28 (0.18-2.53)	0.69 (0.09-1.12)	0.12 (0.03-0.36)	0.088
Duration of videos (second)	300 (237-618) ^a	301 (151.5-371.5) ^{a,b}	180 (92-230) ^b	0.005
Reliability				
DISCERN	4 (2.5-4) ^a	2 (1.5-3) ^{a,b}	1 (1-2) ^b	<0.001
JAMA	3 (2-3) ^a	1 (1-2) ^b	1 (1-2) ^b	<0.001
Source, n(%)				<0.001
Healthcare Professionals	12 (92.3) ^a	7 (53.8) ^{a,b}	6 (22.2) ^b	
Non-healthcare Professionals	1 (7.7) ^b	6 (46.2) ^{a,b}	21 (77.8) ^a	

Data presented as median (Q1-Q3) or n(%). JAMA: Journal of the American Medical Association

a,b: Different superscript letters in the same row indicate statistically significant differences between groups ($p < 0.05$). Groups sharing the same letter are not significantly different from each other.

Table 4. Comparison of the analyzed videos according to source

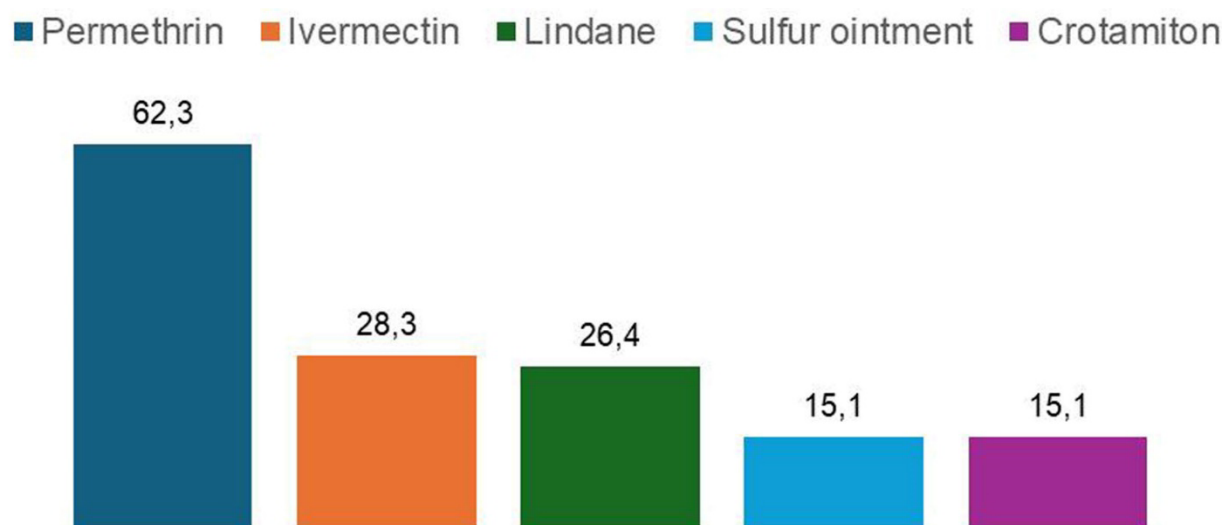
Variables	Healthcare Professionals (n=25)	Non-healthcare Professionals (n=28)	P Value
Video metrics			
Number of days on YouTube	1475 (738-1957)	796 (559.75-1741)	0.187
Number of views	14671 (4638-167626)	25131.5 (7668-354232.5)	0.454
Number of views per day	20.97 (3.10-100.42)	30.12 (9.48-216.99)	0.240
Number of likes	199 (41.5-912)	177.5 (35-1512.75)	0.762
Number of likes per day	0.24 (0.03-0.64)	0.26 (0.06-1.22)	0.318
Duration of videos (second)	239 (127.5-370.5)	207 (142.5-329.25)	0.581
Reliability			
DISCERN	3 (2.5-4)	1 (1-2)	<0.001
JAMA	2 (2-3)	1 (1-1)	<0.001
Quality			
GQS	3 (2.5-4)	2 (1-2.75)	<0.001

Data presented as median (Q1-Q3) or n(%)

JAMA: Journal of the American Medical Association; GQS: Global quality scale

treatment agents are shown in Figure 2, respectively. The comparison based on video quality showed that high-quality videos had significantly higher DISCERN and JAMA scores

videos were also more likely to be produced by healthcare professionals, with 92.3% of high-quality videos created by

Figure 2. Top 5 antiparasitic agents in videos mentioning treatment

professionals compared to only 22.2% of low-quality videos ($p < 0.001$). The median number of likes, video duration and number of days were also significantly different across the quality categories (respectively $p=0.036$, $p=0.005$, $p=0.046$). Number of views were higher for medium quality videos, although not statistically significant ($p=0.059$) (Table 3).

The comparison based on the source of the videos (healthcare professionals vs. non-professionals) indicated that videos produced by healthcare professionals had higher reliability and quality scores. The median DISCERN, JAMA, and GQS scores were significantly higher for healthcare professional videos ($p < 0.001$) (Table 4).

DISCUSSION

The increasing incidence of scabies worldwide also increases the demand for reliable information and effective treatments (1). Due to the symptoms of scabies, which significantly impact daily life, patients often turn to social media platforms like YouTube for information and support. However, the quality and reliability of this information can vary greatly, potentially leading to misinformation and patient harm (3).

Our study analyzed 53 scabies-related YouTube videos to assess the reliability and quality. The results revealed a substantial variability in the quality of these videos, emphasizing the need for better regulation and curation of online health information. Videos produced by healthcare professionals had significantly higher DISCERN, JAMA, and GQS scores compared to those produced by non-professionals, confirming that content from qualified sources is generally more reliable and useful for patient education (Table 3-4).

The findings align with previous studies indicating that a significant portion of dermatologic advice on social media is provided by non-professionals and lacks reliability. For

instance, a cross-sectional study of YouTube videos about atopic dermatitis found that out of 128 videos, 17.2% were misleading, particularly from non-healthcare professionals and commercial sources, with no misleading videos from universities or professional organizations (4). In the case of psoriasis, although most videos contained educational information, only 24.5% recommended evidence-based treatments, while 65.7% suggested non-evidence-based treatments. Notably, 46.2% of the narrators were physicians, including 21.7% dermatologists (5). Regarding seborrheic dermatitis, 50% of the videos were created by non-healthcare providers, and nearly half contained misleading information. Specifically, 29% of videos by healthcare providers, 20% by non-healthcare providers, and 40% by advertising companies were misleading (6). For rosacea, 57.3% of the 100 most-viewed videos were from consumer sources, focusing on products or procedures rather than medical advice (7). In wart-related videos, 67.1% were created by medical professionals, scoring higher on quality indices like DISCERN and JAMA (8). Similarly, hair loss treatment videos had varying quality, with those on 'finasteride' scoring highest and 'PRP hair treatment' scoring lowest (9). For oral isotretinoin treatment, the mean overall quality score was 2.24 out of 5, and the accuracy score was 0.61 out of 2, with many videos failing to adequately cover important topics such as indications, blood tests, and drug interactions. Additionally, the study highlighted that while medical professionals produced higher-quality videos, these did not necessarily correlate with higher view counts, indicating that misinformation can still spread widely on platform (10). In another study, eczema treatment videos scored an average of 30.6 on the DISCERN instrument, categorizing them as 'poor' in quality, with only 31% from medical professionals, emphasizing the need for better quality content on YouTube (11). In a study by Kaya et al.

evaluating YouTube videos on urticaria, the mean DISCERN scores, GQS, and usefulness scores of videos uploaded by allergists and dermatologists were significantly higher than those of non-experts ($p < 0.001$) (12). This study showed similar results to our study.

A recent study on the quality and reliability of YouTube videos about scabies in children found results that both align with and differ from our study. The study by Özdemir Kaçer et al. evaluated the quality of YouTube videos on scabies and found that they were generally of low quality content. Similarly, the majority of the videos included in this study were of low quality. Although the GQS quality score of videos created by patients was higher in the aforementioned study, this study found that videos created by healthcare professionals had significantly higher GQS, JAMA, and DISCERN scores. In other words, videos created by healthcare professionals were found to be both of higher quality and more reliable in our study. Our study emphasizes the accuracy of treatments like permethrin, ivermectin, and lindane, while the other study is more limited in its focus on treatment. Despite these differences, both studies highlight the need for more reliable, professional sources to improve the quality of scabies-related information on YouTube (13).

In this study, topical permethrin and oral ivermectin among the treatment agents mentioned in the videos are similar to the main topical and systemic treatment options in the current treatment guide. Lindane, the third most frequently mentioned treatment agent in the videos, is not used in our country because it is not on the pharmacy and because of its neurotoxic effects. In addition, while Peru balsam is included as one of the topical agents recommended in the case of permethrin ineffectiveness in our treatment guideline, this treatment agent was not included in any of the videos. In general, most of the treatment options are mentioned in the videos. However, the fact that the video providers are mostly non-healthcare professionals causes the treatment protocols not to be conveyed correctly (14).

Our study has certain limitations that need to be addressed, given that only English-language videos were analyzed, which may not represent the global perspective. The evaluation was conducted at a single point in time, potentially missing temporal variations in content. YouTube was the only platform used, excluding other social media platforms. The geographic location (i.e. country) where viewers search for videos may impact search results. Lastly, the objectivity of the GQS, modified DISCERN, and JAMA criteria could be debated, as these tools, despite being standardized, may still carry subjective biases in their application. The popularity of videos could not be calculated due to YouTube removing the number of dislikes and comments since 2022.

CONCLUSION

In conclusion, due to the highly contagious and physically and psychologically distressing nature of scabies, patients frequently search the internet for information. This study reveals significant variability in the quality and reliability of scabies-related content on YouTube. It emphasizes the importance of guiding patients to accurate, evidence-based sources to ensure they receive reliable information for effective management and treatment of scabies. Future efforts should focus on improving the visibility and accessibility of high-quality educational videos to enhance public health outcomes.

Ethics Committee Approval: Not applicable. The Ethics Committee's approval was not required because no participants (human or animals) were included in this study, or other similar data, such as patient history, and only videos on a public social media platform were evaluated. A similar path was followed in previous studies.

Informed Consent: Not applicable.

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