Turkish YouTube videos on erectile dysfunction as an informal information source: do they contain reliable content?

Resmi olmayan bir bilgi kaynağı olarak erektil disfonksiyon konulu Türkçe YouTube videoları: güvenilir içerik içeriyorlar mı?

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Abstract

Purpose: The purpose of this study was to evaluate the informative value of Turkish videos submitted to YouTube about erectile dysfunction (ED).

Materials and methods: The first 125 videos published on Youtube.com between January 11 and 18, 2023, accessed with the keyword "erectile dysfunction," published in Turkish, and displayed in search results in a standard order of relevance were studied. Videos that were less than 1 minute long, do not contain information, contains jokes, movie trailers, or product advertisements, were less than 1 month old since their publication, or were unrelated to ED were excluded from the study. The quality of the information content of the videos was assessed using DISCERN scoring. The obtained data were analyzed using SPSS Statistics 24 software.

Results: It was determined that out of the 100 videos that met the inclusion criteria, 74% were uploaded by healthcare professionals, 3% by the Pharmaceutical Industry, 5% by the Dietary Supplement Industry, 3% by psychologists, and 15% by non-healthcare professionals. When the videos were examined based on their content, it was determined that the topics of the published videos primarily focused on diagnosis and treatment. However, it was also found that there were videos that provided content on the etiopathology and symptoms of the disease. The total duration of the videos was 10 hours, 58 minutes, and 24 seconds (1 minute to 53.05 minutes). While the total number of views was 21.893.514 (15-1.700.000), the total number of likes was determined to be 130.340. The average views were 8.002.64 (1.998.76-11.953.26), and the average monthly likes were 47.30 (11.88-73.1). The average value for DISCERN was calculated to be 3.3 (1-5). There was a negative correlation between the DISCERN scores and the average monthly number of likes. It was found that there was a positive and significant correlation between the duration of videos and DISCERN scores. Videos uploaded by physicians had a high DISCERN score, while the content quality of the other videos was moderate to poor.

Conclusions: Overall, 50% of ED-related videos on YouTube have moderate to poor content quality. Videos uploaded by physicians had high DISCERN scores and high likes and view rates. A negative correlation existed between DISCERN ratings and average monthly likes and views.

Keywords: Erectile dysfunction, DISCERN, social media, Youtube.

Öz

Amaç: Bu çalışmanın amacı, YouTube'a gönderilen Türkçe videoların erektil disfonksiyon (ED) hakkında bilgilendirici değerini değerlendirmektir.

Gereç ve yöntem: Youtube.com'da 11-18 Ocak 2023 tarihleri arasında yayınlanan, "erektil disfonksiyon" anahtar kelimesi ile erişilen, Türkçe yayınlanan ve arama sonuçlarında standart bir alaka düzeyi sırasına göre gösterilen ilk 125 video incelenmiştir. 1 dakikadan kısa, bilgi içermeyen, fıkra, film fragmanı, ürün reklamı içeren, yayınlanmasının üzerinden 1 aydan az geçmiş veya ED ile ilgisi olmayan videolar çalışma dışı bırakıldı. Videoların bilgi içeriğinin kalitesi, DISCERN puanlaması kullanılarak değerlendirildi. Elde edilen veriler SPSS Statistics 24 programı kullanılarak analiz edilmiştir.

Bulgular: Dahil edilme kriterlerine uyan 100 videonun %74'ünün sağlık meslek mensupları, %3'ünün İlaç Endüstrisi, %5'inin Takviye Gıda Sektörü, %3'ünün psikologlar ve %15'inin sağlık meslekleri dışındaki meslek mensupları tarafından yüklendiği belirlendi. Videolar içeriklerine göre incelendiğinde yayınlanan videoların konularının öncelikli olarak teşhis ve tedavi odaklı olduğu belirlendi. Bununla birlikte hastalığın etiyopatolojisi ve semptomlarına yönelik içerikler sunan videoların da bulunduğu tespit edilmiştir. Videoların toplam süresi 10 saat 58 dakika ve 24 saniye (1 dakika ila 53,05 dakika) idi. Toplam izlenme sayısı 21.893,514 (15-1.700.000) olurken, toplam beğeni sayısı 130,340 olarak belirlendi. Ortalama izlenme sayısı 8.002,64 (1.998,76-11.953,26), aylık ortalama beğeni sayısı ise 47,30 (11,88-73,1) oldu. DISCERN için ortalama değer 3,3 (1-5) olarak hesaplanmıştır. DISCERN puanları ile ortalama aylık beğeni sayısı arasında negatif bir korelasyon vardı. Videoların süresi ile

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DISCERN puanları arasında pozitif ve anlamlı bir ilişki olduğu tespit edilmiştir. Doktorlar tarafından yüklenen videolar yüksek bir DISCERN puanına sahipken, diğer videoların içerik kalitesi orta ile zayıf arasındaydı.
Sonuç: Genel olarak, YouTube'daki ED ile ilgili videoların %50'si orta ila düşük içerik kalitesine sahiptir. Hekimler tarafından yüklenen videolar, yüksek DISCERN puanlarına, yüksek beğeni ve izlenme oranlarına sahipti. DISCERN derecelendirmeleri ile ortalama aylık beğeniler ve görüntülemeler arasında negatif bir korelasyon vardı.

Anahtar kelimeler: Erektil disfonksiyon, DISCERN, sosyal medya, Youtube.

Introduction

Erectile dysfunction (ED) is the persistent inability to achieve or maintain a penile erection sufficient for satisfactory sexual performance [1]. The condition is quite common in men in their 40s with vascular risk factors [2, 3] and significantly affects their quality of life [4]. Vascular, neural, hormonal, anatomical, and psychological disorders and also some drugs are known to play a role in the etiopathogenesis of the disease. In many cases, several of these disorders play a combined role in the development of the disease [5]. The incidence of the condition is gradually increasing in all age groups [6]. ED not only affects the patient but also has a negative impact on the social and psychological life of their partner, resulting in a diminished quality of life for both individuals. Therefore, it is also recognized as a familial and social disorder [7-10].

Social media and the Internet play an increasingly important role in the healthcare system, and many patients rely on these resources to gather information [11]. According to the January 2023 report by the We Are Social digital platform, the number of active social media users in Türkiye is 62.55 million (73.1%), and this number is steadily increasing [12]. According to the report, users in Türkiye primarily use the internet for information gathering and reading news, with 39.5% of them using the Internet for researching health issues and healthcare products. YouTube, a video content platform, ranks third among the social media platforms where users spend the most time, with 18.5 hours. On this platform, which offers features such as likes, dislikes, and comments on videos, users can also access the number of times videos are viewed.

Since the Youtube platform does not provide any control mechanism for the content quality of the uploaded videos, it would be a mistake to believe that the shared videos are correct and reliable. Some studies that have examined the content of videos posted on the YouTube platform about various diseases and their treatment have found that the quality of information in these videos is low. They are not considered a reliable source of information for patients [13], and the most informative videos tend to have lower views [14]. In a study evaluating the quality of the information in videos related to ED uploaded in English on YouTube, it was reported that 80.4% of the videos were of low quality [15].

In reviewing the literature, it was found that no studies evaluated the content and quality of ED videos uploaded in Turkish. In this study, the content reliability of the videos with Turkish content on ED on the video platform Youtube was investigated.

Material and methods

In this study, designed as qualitative research, the content analysis method was used. During the analysis phase, in addition to video viewing, a thematic content analysis was conducted. The first 125 videos published on youtube.com between January 11 and 18, 2023, accessed with the keyword "erectile dysfunction," published in Turkish, and displayed in search results in a standard order by relevance, were examined. Youtube can access the location of the person searching through google, with GPS, and sorts the results according to the location over the IP address. Measures taken to prevent this; making a call without logging in and connecting to the internet over a new IP. However, the device's location services are also disabled. Based on the user's ability to customize the search results on YouTube based on the history of the videos it interacts with, location, etc.; first, the registered data of all users in the browser

was cleared. As another precaution, the search was made without logging in to the any user. The data collected and analyzed for this study were obtained from the videos that individuals voluntarily took and uploaded to the social media platform youtube. Therefore, this study is not within the scope of any of the following studies that require ethics committee approval.

The videos were evaluated and scored by 2 urologists who are experts on ED and 1 clinical secretary who does not know this subject. We used a validated evaluation method called DISCERN developed by Charnock et al. [16] to determine the quality of reliability.

The evaluation process was conducted by both experts and non-experts to eliminate evaluator bias. The characteristics of the video uploaders, duration of time spent on the platform, total views, total number of likes or dislikes, content topic, and quality of content reliability were identified and recorded.

The DISCERN scoring system was developed to enable individuals seeking health information to assess the content quality level of the information in a publication they turn to for that purpose. The reliability of the information in the publication is evaluated based on the 16 questions in the scoring system, including the up-to-dateness of the evidence sources, verifiability, potential bias, and indication of alternative options if applicable. Each question is scored between 1-5 points. In the 16th question, a general quality score is given based on the total score obtained from evaluating the 15 questions. This overall quality score also ranges from 1 to 5 points. In this study, the rating of the overall content quality of the videos was determined based on the 16th question. Before scoring, both urologists and a clinic secretary familiarized themselves with the user manual of this scoring system, learning how to use it. They then watched the videos together and proceeded to score them, reaching a unanimous decision.

Videos that lasted less than one minute, do not contain information, contain jokes or joking, movie trailers or product advertisements, aired for less than one month, or were unrelated to ED were excluded from the study. Under these criteria, 25 videos were excluded: 2 containing magazine content, 3 lasting less than one

minute, 3 uploaded less than one month ago, 6 containing sexual talk, 6 containing jokes, 2 containing movie trailers, and 3 unrelated videos. The remaining 100 informational videos were included in the study. The videos were categorized into four content categories (diagnosis, treatment, etiophysiopathology, and symptoms) and five uploader categories (physician, psychologist, pharmaceutical industry, dietary supplement industry, and non-healthcare uploaders).

Videos were analyzed in terms of uploaders, topics, duration of posting, monthly views, monthly likes or dislikes, and DISCERN scores.

SPSS Statistics 24 software was used to analyze the data. Standard deviation was calculated for the number of views and likes and DISCERN ratings of the videos included in the study. A correlation analysis was conducted using SPSS to determine the relationship between the durations of the videos and the DISCERN scores.

Results

The total duration of the 100 videos included in the study was reported as 10 hours, 58 minutes, and 24 seconds. It was determined that 74% of these videos were uploaded by healthcare professionals, 3% by the pharmaceutical industry, 5% by the dietary supplement industry, 3% by psychologists, and 15% by non-healthcare professionals. When the videos were examined based on their content, it was determined that 26% of the published videos were about Diagnosis, 14% were about Diagnosis and Treatment, 4% were about Diagnosis and Etiopathology, 1% were about Diagnosis and Symptoms, 38% were about Treatment, 1% were about Treatment and Etiopathology, 6% were about Etiopathology, 1% were about Etiopathology and Symptoms, 3% were about Diagnosis, Treatment, and Etiopathology, 3% were about Diagnosis, Treatment, Etiopathology, and Symptoms, and finally, 3% were about Diagnosis, Treatment, and Symptoms.

It can be seen that users did not evaluate any video negatively (dislike). The characteristics and user engagement of 100 scientific videos included in the evaluation are summarized in Table 1.

When the reliability quality of video content was evaluated according to the DISCERN scoring system, it was found that there were more videos with a DISCERN score of 5 (n=31) compared to other videos. These videos also had a higher percentage of total views (36.1%) and higher view counts (7.902.641). However, looking at the average number of views, it was found that DISCERN 1 videos were viewed more frequently than DISCERN 5 videos. Table 2 summarizes the distribution and viewing statistics of the videos according to this scoring system.

In the analysis of video likes based on the DISCERN score, it was found that DISCERN 5 videos had a higher like rate (37.27%) and received a higher total number of likes (48.578) compared to other videos. However, comparing the average likes, it can be seen that videos with a DISCERN rating of 1 received higher likes than other videos (2.307.43). Table 3 documents a summary of the DISCERN ratings and like statistics of the videos.

When the monthly views and likes of the videos are compared with the DISCERN ratings, Table 4 provides information about the duration of the videos depending on their DISCERN ratings, as well as the viewing and like status of the videos.

According to the table, videos with a duration of being online, videos with a DISCERN score of 2 have the highest monthly likes, while videos with a DISCERN score of 1 have the highest monthly views. Correlation analyses were performed between DISCERN and the video characteristics of the videos, the results are shown in Table 5.

Table 1. Video characteristics and user indicators

	Median (range)
Total time	658 min 24 sec (1 min-53 min 05 sec)
Total views	21.893.514 (15-1.700.000)
Monthly views	40.013.23 (1.998.76-11.953.26)
Total likes	130.340 (0-15.000)
Monthly likes	47.306 (11.88-73.1)

Table 2. Distribution of videos by DISCERN ratings and viewing statistics

DISCERN score	n (%)	Total views	Average views	Views percentage
DISCERN 1	16	6036400	377275	27.57
DISCERN 2	19	4107547	216186	18.76
DISCERN 3	15	725550	48370	3.31
DISCERN 4	19	3121376	164282	14.26
DISCERN 5	31	7902641	254923	36.10

Table 3. Likes of the videos according to DISCERN scores

DISCERN Score	n (%)	Total likes	Average likes	Likes percentage
DISCERN 1	16	36919	2307.43	28.33
DISCERN 2	19	21842	1149.57	16.76
DISCERN 3	15	4313	287.53	3.31
DISCERN 4	19	18688	983.57	14.34
DISCERN 5	31	48578	1567.03	37.27

Table 4. Duration of videos depending on their DISCERN / view ratings and likes of the videos

DISCERN Score	On Air Time	Total LIKES	Total VIEWS	Monthly Likes by Broadcast Time	Monthly Views by Airing Time
DISCERN 1	505	36919	6036400	163.50	11953.27
DISCERN 2	458	21842	4107547	188.06	8968.44
DISCERN 3	363	4313	725550	168.22	1998.76
DISCERN 4	420	18688	3121376	167.03	7431.85
DISCERN 5	818	48578	7902641	162.68	9660.93
Grand total	**2564**	**130340**	**21893514**		

Table 5. Correlation results

| Correlation		Average likes per view per month	Monthly likes	Monthly views	DISCERN	On-air time
Average likes per view per month	Pearson	1	-.188	-.052	-.344	-.354
	Sig. (2-tailed)		.763	.934	.570	.559
	N	5	5	5	5	5
Monthly likes	Pearson	-.188	1	.991**	-.213	.556
	Sig. (2-tailed)	.763				.331
	N	5	5	5	5	5
Monthly views	Pearson	-.052	.991**	1	-.259	.517
	Sig. (2-tailed)	.934	.001		.673	.373
	N	5	5	5	5	5
DISCERN	Pearson	-.344	-.213	-.259	1	.521
	Sig. (2-tailed)	.570	.731	.673		.368
	N	5	5	5	5	5
On-air time	Pearson	-.354	.556	.517	.521	1
	Sig. (2-tailed)	.559	.331	.373	.368	
	N	5	5	5	5	5

** Correlation is significant at the 0.01 level (2-tailed)

The analysis conducted for correlation revealed a significant positive relationship between videos with a high DISCERN score and the proffesional uploaders. Accordingly, the videos of physicians with expertise in the field have a high DISCERN rating and many views and likes. The other correlation calculation found an inverse relationship between the average monthly number of likes per month view and monthly likes, monthly views, DISCERN rating, and posting duration. The variables that showed a significant positive relationship were monthly likes with monthly views and posting duration, monthly views with posting duration, and DISCERN rating with posting duration.

The distribution of DISCERN scores and video duration of the videos obtained after the analysis to determine the relationship between video duration and DISCERN scores is shown in Figure 1.
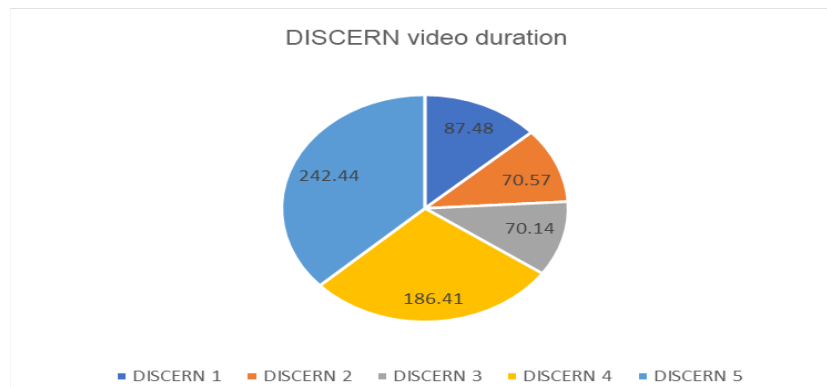
Figure 1. DISCERN-distribution of video duration

Upon examining the correlation of the data, a positive correlation was observed between the DISCERN scores of the videos and their durations. Accordingly, videos with a high DISCERN score were found to have a longer duration than other videos.

Discussion

Men with ED use platforms such as YouTube as a source of information because they cannot easily express their problems [17]. On the other hand, the analysis of content reliability in health-related videos on this platform has revealed a considerable proportion of low-quality videos [13, 14], indicating a potential danger to public health. In our literature review, we did not come across a study specifically reporting on the content quality of Turkish YouTube videos related to ED. In this study, we aimed to investigate the quality of content reliability of videos in Turkish uploaded to the YouTube platform regarding ED.

In the study, it was observed that the number of videos uploaded by physicians was higher, and their DISCERN scores were also higher (provide specific figures). We found that these videos were mostly designed to provide information to patients about the etiopathology and treatment of ED. We found that videos offering dietary supplement recommendations, mostly uploaded by the industry, were relatively few in number and had low DISCERN scores. In a study evaluating 71 English videos on ED on YouTube, it was found that 37% of the videos were uploaded by non-medical sources. In this study, the average DISCERN scores of the videos were found to be low (42.8/80), while videos uploaded by urologists for educational purposes had higher DISCERN scores [18]. In a recent study examining the scientific level of videos related to ED uploaded on the YouTube platform in English, researchers reported that 80% of the videos with a high level of scientific content were published on TV programs and medical websites. In this study, it was found that the majority of videos recommending natural herbal remedies and foods, personal experiences, and certain dances and prayers to enhance erection in the treatment of the disease were lacking scientific evidence. In addition, although not to the same extent as therapeutic videos, non-scientific information was found in about 40% of videos with etiopathophysiology content [19]. Therefore, it is considered that the uploading of videos in Turkish by physicians, especially videos with therapeutic and etiophysiopathological content, with a high score on DISCERN, contributes greatly to providing users with information corresponding to the current scientific reality. It is important that experts in the field and authoritative institutions should upload more high-quality content on popular platforms.

It was observed that users showed greater interest in videos related to the treatment and etiopathophysiology of the disease. It was determined that videos focusing on treatment received more attention in terms of average views and likes, based on the content of the videos. It was found that physicians mostly uploaded these videos and had high-quality content. It was also found that videos recommending dietary supplements had weak content quality. These findings are consistent with studies that evaluated YouTube videos on ED [18, 19].

When examining the relationship between the monthly average views and likes of videos with DISCERN scores, it was found that videos with poor content quality had higher average monthly likes and views compared to videos with high content quality. Although the total monthly views and number of "likes" are higher for videos with a high score from DISCERN because they were uploaded by physicians, the high interest of followers in videos with low content quality indicates that patients with ED are exposed to incorrect and incomplete information. Similar findings have been identified in previous studies conducted in this field, and warnings and recommendations have been expressed [18, 19].

When examining the relationship between the duration of videos and DISCERN scores, it was observed that videos with high DISCERN scores had longer durations compared to other videos. This situation can be interpreted as a reflection of the fact that videos with accurate and meaningful content, which are essential for ensuring their scientific and overall quality, take longer to be presented.

The videos were evaluated by 2 urologists who are experts on ED and 1 clinical secretary who does not know this subject, using a validated evaluation method called DISCERN. The evaluation process was conducted by both experts and non-experts to eliminate evaluator bias. We believe that these approaches make the study stronger. However, it should be noted that the evaluations are still subjective and pose a limitation. Moreover, the content reliability quality of the videos was determined only by the DISCERN scoring system. It would be better if we used JAMA and Global Quality Scoring as well. The absence of videos with dislikes in the cross-sectional sample we took is another limitation that may affect the results. In this study, only the keyword erectile dysfunction was entered to search the video in the Youtube search engine. Although we thought that most users would search with this word, a search with different keywords may have made the results of the study different.

In conclusion, overall, 50% of ED-related videos in Turkish on YouTube have medium to poor content quality. Videos uploaded by healthcare professionals, particularly those focusing on treatment and etiopathology, have high DISCERN scores and high rates of likes and views. There is a negative correlation between DISCERN scores and monthly average likes and views, and a positive correlation between DISCERN scores and video duration. The increased uploading of high-quality content videos by both individuals and institutional healthcare professionals on popular platforms like YouTube is crucial for ensuring that patients with Erectile Dysfunction (ED) have access to accurate and high-quality information.

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

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Ethics committee approval: The data collected and analyzed for this study were obtained from the videos that individuals voluntarily took and uploaded to the social media platform Youtube. Therefore, this study is not within the scope of any of the following studies that require ethics committee approval.

• All kinds of research carried out with qualitative or quantitative approaches that require data collection from the participants by using survey, interview, focus group work, observation, experiment, interview techniques,

• Use of humans and animals (including material/data) for experimental or other scientific purposes,

• Clinical studies on humans,

• Animal studies,

• Retrospective studies in accordance with the personal data protection law.

Authors' contributions to the article

Both authors took part in the Idea and design, Data collection and processing, Analysis and interpretation of data, Writing important parts of this article, by division of labor in the context of their expertise.