


# Is Arabic Information on YouTube About Erectile Dysfunction Based on Scientific Evidence?

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**Background:** Online medical education is critical for public health literacy and physician efficacy, but it must be trustworthy. Although it has the potential to be a useful resource for medical education, users must be able to identify reliable content.

**Objective:** To assess the scientific quality of Arabic-language video content related to erectile dysfunction that is available on YouTube to learn what information our patients can handle online.

**Materials and Methods:** A comprehensive search of the YouTube database was carried out to identify videos related to erectile dysfunction published in Arabic. The search was conducted using the following keywords: “Erectile dysfunction”, “Sexual dysfunction” and “Impotence”. Without a time limit, the search was carried out until January 1, 2023. The quality assessment of the videos was done using the Kappa score.

**Results:** The videos in our sample had up to one million views (average 2,627,485.6), and the kappa index was 0.86 ( $p < 0.001$ ). Of these videos, 16% were considered scientific evidence-based (SEB), and 84% were considered not scientific evidence-based (NSEB) ( $p < 0.001$ ). The NSEB group addressed details concerning natural remedies, the Psychosocial sphere, and lifestyle, whereas the SEB group tended to be more concerned with physiopathology, etiology, endothelial dysfunction, diagnosis, psychosocial treatment, oral treatment, injections, or prosthesis.

**Conclusion:** On social media, misleading or incorrect information about erectile dysfunction is widely disseminated. This research may support urological and technical oversight and emphasizes guiding patients to the best men’s health options.

**Keywords:** Arabic language, YouTube, erectile dysfunction, videos, internet, social media

## Plain Language Summary

- There were a lot of popular YouTube videos in Arabic concerning erectile dysfunction that included inaccurate or inadequate information.
- More YouTube views and thumbs up do not necessarily mean the information is reliable.
- Most of the Arabic content related to erectile dysfunction information on YouTube is unreliable.
- Videos produced by physicians and healthcare groups are trustworthy, whereas advertising is not.
- Physician groups working with YouTube to generate verified videos sharing healthcare information favored in the search algorithm could help patients.

## Introduction

Erectile dysfunction (ED) is a common problem for men over 40, which can have various causes and be treatable. However, if left untreated, it can cause emotional stress for both the patient and their partner.<sup>1</sup> Most ED patients

experience an organic problem, but younger men may have a psychological causes. ED can have psychological effects such as marriage and interpersonal matters, societal norms, loss of self-esteem, shame, anxiety, and depression, even if the cause is physical.<sup>1</sup>

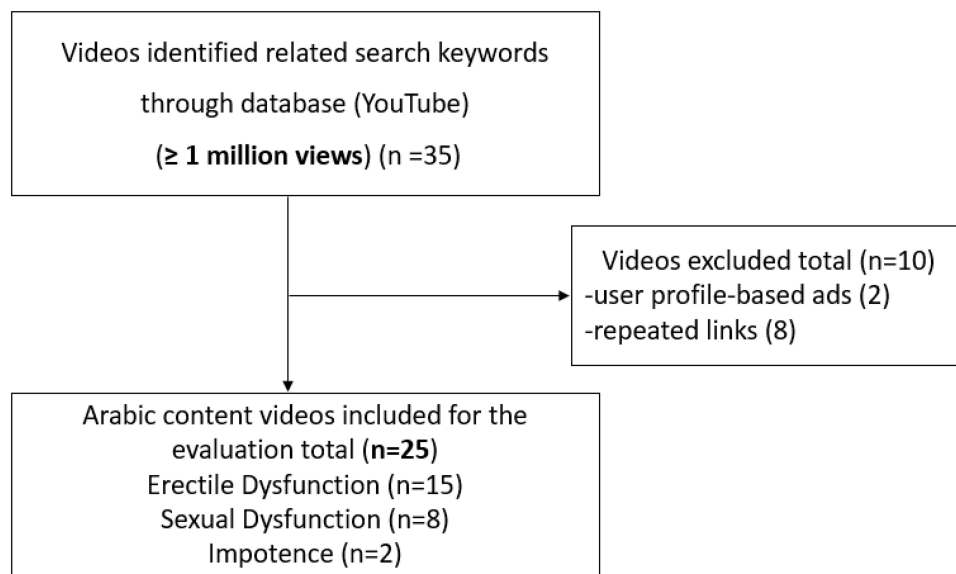
Treatment for erectile dysfunction involves altering lifestyle, psychosexual counseling, oral medications including phosphodiesterase type 5 inhibitors (PDE5i), intracorporeal injectable vasodilator medications, and vacuum erection devices. Patients with contraindications, adverse side effects, or penile fibrosis or vascular insufficiency may benefit from surgical treatments such as penile prosthesis implants.<sup>2</sup> Experimental therapies for ED include platelet-rich plasma therapy, intracavernosal stem cell implantation, low-intensity shockwave therapy, and angioplasty of the pudendal or penile arteries. The most promising is stem cell therapy, which is now under investigation but is still regarded as experimental.<sup>1</sup>

The Internet and social media have made accessing information easier and faster, making it easier to respond to health inquiries and concerns.<sup>3</sup> Furthermore, YouTube™ (<http://www.youtube.com>, San Bruno, CA, USA) is one of the most popular social media websites. It was launched on February 14, 2005.<sup>4</sup> There are not many studies that have checked how good the health information on YouTube is.<sup>5</sup> The problem is that anyone can make and share videos, and patients may watch them, but some of the videos may have wrong or bad information from some health professionals.<sup>5</sup> Loeb and colleagues found a negative relationship between scientific quality and YouTube video views for urological content, with 77% of videos having erroneous or biased information.<sup>6</sup> YouTube's algorithm prioritizes and ranks videos based on popularity and viewer interaction, leading to users accessing the most popular videos.<sup>7</sup> Creators, influencers, and marketers are interested in uncovering the secret behind the YouTube algorithm, as being recommended to suitable viewers at the right time are key to becoming a YouTube superstar.<sup>7</sup> On YouTube, uploaded videos are not reviewed and rated by a person. Instead, a computer analyzes the information to determine the topic of the video, related videos or categories, and potential viewers. This algorithm considers various factors, including user engagement and relevance when recommending videos to users. To optimize search results, users should use clear and concise language that matches standard search terms when describing their video for the algorithm.<sup>7</sup> Embarrassment may lead male patients to seek Information about men's issues on the Internet which will delay visiting the healthcare provider.<sup>8</sup> ED is a global issue, with 150 million patients in the mid-1980s and 320 million by 2025.<sup>9</sup> More than a third of the population in the Arab region is complaining of ED.<sup>10</sup> A study conducted in Qatar showed that more than half of the population suffers from ED.<sup>11</sup> Among diabetic patients in Saudi Arabia, ED was prevalent in 86.7% of diabetes mellitus type 2 with low testosterone levels of 8–12 nmol/L.<sup>12</sup> Up to 59% of adults use the Internet to look up health information, and Internet availability has risen considerably since then.<sup>13</sup> A study found that less than half of videos on English YouTube content are supported by the scientific community.<sup>14</sup> Unfortunately, to our knowledge, there is no study assessing the Arabic YouTube content regarding the ED. The aim of this study is to evaluate the quality of YouTube videos on ED and to investigate whether they can be used as a reliable source of information.

## Materials and Methods

### Selection of Videos

We searched on YouTube using the terms “Erectile dysfunction”, “Sexual dysfunction” and “Impotence” in Arabic. Moreover, we viewed the videos with 1 million views or above from each term up to January 15, 2023, as the fact that YouTube's algorithm uses popularity and viewer interaction to rank and order videos.<sup>7</sup> We included all Arabic language videos, whatever the content related to ED, “Sexual dysfunction (SD), and impotence, with  $\geq 1$  million views. User profile-based advertisements and repetitive links were not included. Each video was analyzed regarding the number of views, duration, number of likes, number of comments, type of content producer, and content. We classified the YouTube video (YTV) producers into healthcare institutions, healthcare providers, and non-healthcare providers.<sup>15</sup> The flow diagram represents the study video selection (Figure 1).



**Figure 1** Flow diagram representing the study selection.

## Assessment of the Videos

Regarding the content, we assessed it using these parameters: etiology, physiopathology, Symptomatology, endothelial dysfunction, diagnosis, psychosocial sphere and lifestyle, treatment (Oral treatment, Injection, Surgical treatment, Protheses, Natural remedies), and personal experience.<sup>14</sup> Also, each video was assessed by two senior board-certified urologists/anthologists (M.A.A and B.O.H) independently to classify whether it is Scientific Evidence-Based (SEB) or Not Scientific Evidence-Based (NSEB).<sup>14,16</sup>

- SEB: showed information endorsed by the scientific community, such as clinical practice guidelines and recommendations on issues related to etiology, physiopathology, diagnosis, symptomatology, the importance of endothelial dysfunction, and possible treatments.
- NSEB: showed information not currently supported by the scientific community and recommendations that lack support in the scientific literature, such as natural remedies, special foods, exercises, dances, potions, or prayers; irrespective of whether they included some scientific data.

Cohen's kappa measures the agreement between two raters with a definite outcome for several individuals.<sup>17</sup> The kappa index has been used for more inter-rater reliability of the video content evaluation to account for a chance agreement related to men's health topics.<sup>3</sup>

## Statistical Analysis

The Statistical Package for Social Sciences, version 23.0 software (SPSS, Chicago, IL, USA) was used. The Kappa index was used to assess the normality of the data. Descriptive statistics of scale samples were expressed as the median and interquartile range (IQR). The results were presented in tables or graphically using a vertical bar graph and pie chart graph.

## Ethics Considerations

This research did not involve human subjects, so neither institutional review board approval nor informed consent was required.

## Result

The study included 25 YTVs based on our study video selection criteria (Figure 1). The median (IQR) year of joining YouTube, the social media platform, was 2014 (2010–2017), while when it comes to uploading videos, the median

(IQR) year was 2019 (2016–2020). The video duration uploaded by the vloggers was 370 (median) minutes with 191–529 (IQR), whereas the median total number of channel subscribers was 1,290,000 with a 770,500–2,230,000 Inter Quartile Range. The median number of viewers likes, and comments were 2,021,104, 20,000, and 750, respectively. The rest of the information is in (Table 1).

Two independent assessors analyzed a total of 25 videos, and the Kappa index was found to be 0.86, which is a strong level of agreement with a significant difference ( $p < 0.001$ ) among the assessors (Table 2).

Among the professional jobs of vloggers were sexual health educators and andrologists, 4 (16%) while 3 (12%) worked as sex therapists, herbal experts, pharmacists, and general physicians, and 2 physiotherapists (4%). There is only one (4%) Internist and one Nutritionist (4%). Those were producers of the biography, and 17 (68%) were healthcare providers. Of the countries from where the videos were uploaded, the highest one was Egypt, which uploaded 10 (40%) of the videos, followed by Morocco 4 (16%) and Saudi Arabia 3 (12%), and only one (4%) video was uploaded by India, Jordan, and Switzerland each. Among the 25 channels, 18 (72%) owned verified channels. When inquired about the author/source, 16 (64%) were using personal blogs while 6 (24%) were utilizing TV or Radio programs, and only 3 (12%) were operating through a sexual blog. None of them used healthcare websites (Figure 2).

When it was assessed based on what sort of information was disseminated in the videos (SBE vs NSBE), 16% were SEB, and 84% were considered NSEB ( $p < 0.001$ ) (Table 2). Among SBE-related information, the highest was related to the Psychosocial sphere and lifestyle 13 (52%), followed by Symptomatology 12 (48%), natural remedies 12 (48%), and etiology 11 (44%), respectively. The lowest was regarding the topic of Injections 3(12%). Content in videos can be found in (Figure 3).

**Table 1** General Information of Included Videos

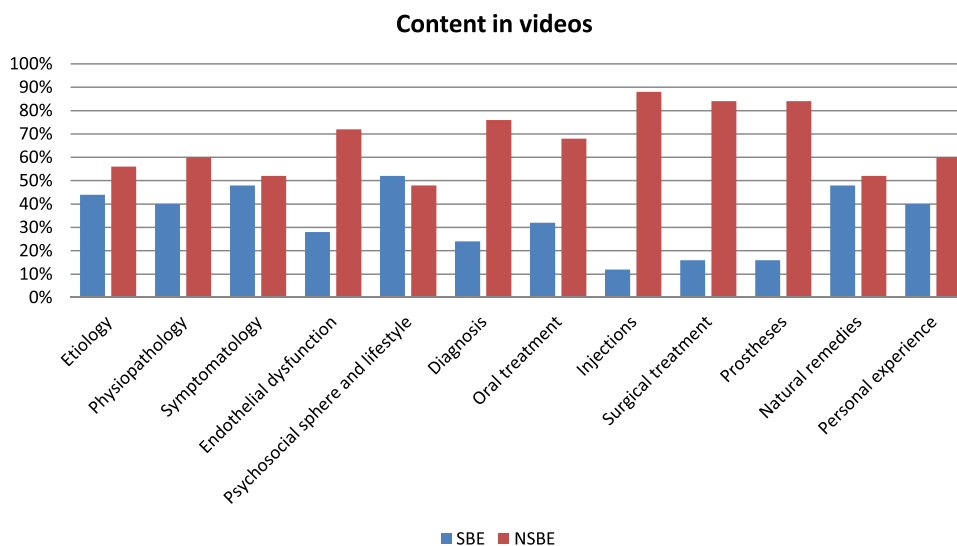
Videos Characteristics	N	Median	IQR	Minimum	Maximum
Upload date	25	2019	2016–2020	2010	2022
Video duration	25	370	191–529	65	669
Number of viewers	25	2,021,104	1,273,654–3,185,675	1,008,570	7,424,949
Number of likes	25	20,000	13,000–34,000	4900	129,000
Number of comments	24	750	385–1217	0	6886
Number of channel subscribers	21	1,290,000	770,500–2,230,000	403,000	9,250,000
Total whole channel views	25	141,075,757	37,770,489–279,978,485	1,077,136	5,427,248,462
Date joined YouTube	25	2014	2010–2017	2006	2019

**Table 2** Kappa Index Result

		Andrologist (B) Assessment			Kappa	p-value
			SBE	NSBE		
Andrologist (A) assessment	SBE	Count	4	1	0.86	<0.001
		Expected Count	0.8	4.2		
	NSBE	Count	0	20		
		Expected Count	3.2	16.8		



Figure 2 Videos producer characteristics.



**Figure 3** Information in videos. The percentage of videos that contain information about any aspect of ED.

## Discussion

YouTube is the most popular platform for accessing medical information.<sup>3</sup> Nonetheless, false, and misleading information on urological disorders is common online.<sup>6,18,19</sup> Employing a health-system approach can lead to global popularity and reach. For example, most viewers discovered the videos through organic search traffic (eg, YouTube search).<sup>20</sup> From our study, only 16% of YouTube videos in Arabic were SEB related to ED information, and 84% were considered NSEB ( $p < 0.001$ ) (Table 2) (Figure 3). This fact is corroborated by other research that reported men's health information on YouTube,<sup>8,14</sup> however, some studies reported valuable information other than men's health issues related to urinary and reproductive health. A contemporary analysis reported that YouTube may not be a reliable source of information on the digital rectal exam (DRE) for patients, leading to unsatisfactory quality of YouTube videos on DRE<sup>21</sup> Another contemporary analysis showed bladder pain syndrome (BPS) content on YouTube may be a reliable source of information.<sup>22</sup> While a study assessed the quality of YouTube videos on placenta accreta and found that their importance is modest.<sup>23</sup>

Healthcare societies and institutes should invest in developing higher-quality videos to serve as useful tools for physician counseling. Despite the rising focus on the reliability and accuracy of urological YouTube videos, no study has examined Arabic-language, scientifically supported information about erectile dysfunction. Recent literature reviews on YTVs and men's health were unreliable.<sup>8</sup>

On English YouTube, the ED information content with a median number of views in the SEB group was 25152 (56–2255 498), and 93602 in the NSEB group (767–17,998 691),  $P = 0.017$ .<sup>14</sup> Our study's median number of viewers likes, and comments were 2,021,104, 20,000, and 750, respectively. Our study is the first of its kind in the literature, evaluating Arabic YouTube content related to erectile ED showed 84% of YouTube videos in Arabic were NSEB related to ED information compared to SEB information ( $p < 0.001$ ) (Table 2).

According to Mikkel Fode et al, professional medical organizations such as hospitals and private clinics contributed 42% of the English-language videos, and individual medical practitioners contributed another 21%. Other YouTubers without medical backgrounds uploaded 37% of the videos.<sup>5</sup> However, only 32% of Arabic videos are from a sexual health educator and andrologist together, while most videos are provided by sex therapists, herbal experts, pharmacists, and general physicians, 12% each (Figure 2). Unfortunately, none of these videos has been posted by a medical institution on YouTube. 64% were using personal blogs, 24% were utilizing TV or Radio programs, and only 12% were operating through a sexual blog. None of them used healthcare websites (Figure 2). According to Warren et al, YTVs produced by medical institutes were more trustworthy than YTVs that promoted a particular product ( $P = 0.0002$ ;  $P = 0.0001$ ).<sup>8</sup> Such an attempt at sexual medicine may come from reputable organizations like the American Urological

Association (AUA) through the Urology Care Foundation, the International Society for Sexual Medicine (ISSM), the European Society for Sexual Medicine (ESSM), and the European Association of Urology (EAU). These organizations already provide patients with high-quality resources, but at the moment, non-Arabic content can only be found on each association's particular website [<https://www.issm.info/>, <https://www.essm.org/>, <https://patients.uroweb.org/>, <https://www.urologyhealth.org/>]. Hopefully, this will encourage the institution and urological associations in Arabic countries to participate more in health education, ie, YouTube and social media.

Interestingly, the Global Online Sexuality Survey (GOSS) was launched via Facebook<sup>®</sup> advertising. Participants from Egypt 57.8%, 17.4% from Saudi, Yemen, Libya, and Algeria, and 6% 4% 4% of the participants, respectively.<sup>24</sup> The highest number of uploaded videos in this study were from Egypt, 40%, and Morocco and Saudi Arabia, 16% and 12%, respectively. India, Jordan, and Switzerland uploaded only 4% of the video (Figure 2). However, the correlation between uploaded videos and Arab-speaking Internet users participating in a survey and their adherence to social media should encourage trusted institutions to create a channel to review the comments and the concerns of the viewers and their relation to the geographical distribution to respond to the significant problems and make a direct physician-patient communication in scientific methods.

In the Middle East, there is a widespread belief that ED is linked to black magic or supernatural acts.<sup>24</sup> Moreover, 11% used herbal/natural remedies under no medical supervision to enhance erectile function.<sup>24</sup> In our study, the highest Information was related to the Psychosocial sphere and lifestyle, followed by Symptomatology, natural remedies, and etiology 52%, 48%, 48%, and 44%, respectively. The lowest was regarding the topic of treatment, 12%. However, there is insufficient evidence about the risks and benefits of herbal medication. In recent years, the market for natural supplements and medicinal herbs for the treatment of ED has risen tremendously. However, there is no evidence of robust scientific studies to support their usefulness and safety. According to a recent Cochrane research, when ginseng is compared to a placebo using validated methods, it may only have minor effects on erectile function or satisfaction with intercourse.<sup>25</sup> Additionally, findings revealed that daily oral L-arginine delivery, but only when combined with phosphodiesterase type 5 inhibitors (PDE5Is) usage, enhances sexual function.<sup>26</sup> On the other hand, out of 100 English-language YouTube videos, 92% provided medical Information, whereas only 67% included specific Information about treatments.<sup>5</sup> Additionally, in our study, the Kappa index was 0.86, indicating intense levels of agreement with a significant difference (p 0.001) between the assessors (Table 2). According to Quirós J. and colleagues, the kappa index was 0.91 (95% CI: 0.88–0.94), 38% of these videos were classified as SEB, and 62% as NSEB.<sup>14</sup> In our study, 16% were considered SEB, and 84% were considered NSEB. This is concerning, however, because persons without a healthcare education may struggle to discriminate between accurate and insufficient Information. Incredibly, 32% of Arabic videos from a sexual health educator and andrologist (Figure 2), and most of the Information related to Etiology and Physiopathology, 44% and 40%, respectively (Figure 3).

Efforts can be noted throughout urological associations from Middle East countries in Arabic content for patient information and education with regards to men's health-related topics was remarkably established by the Saudi Society of Men's Health (SSMH) [<https://saudimenshealth.org.sa/researches/?lang=ar>], One of the main objectives of this growing, vibrant society is to advocate for the improvement of men's health in the public sphere and to act as a source of data on men's health issues. However, more efforts are warranted from different urological associations in Arabic-speaking countries to expand and reach a more extensive range of Arabic-speaking populations to provide more accurate, trusted information on men's health awareness and education, primarily through social media platforms. Furthermore, the Saudi Urological Association (SUA) launched patient education materials related to urological conditions, including men's health topics, that were translated into Arabic in cooperation with AUA [<https://www.saudiurology.org/educational-materials>]. Additionally, the Middle East Society for Sexual Medicine (MESSM) launched its public information website in the Arabic language via [<http://www.yoursexualhealth.messm.org/>], which focuses on sexual medicine and sexual health, offers extremely reputable, general, and evidence-based information on Sexual Health. It may be necessary to make the resources available on more well-known platforms, the most prominent of which is now YouTube, to reach a wider audience and combat the current erroneous information. It is necessary to make a similar effort to ensure that SEB videos are listed higher on search engines since information on NSEB videos will not vanish from these platforms.<sup>5</sup> This is crucial to improve public awareness on YouTube by trusted medical institutions. The issue appears in all NSEB

videos on YouTube, including those related to deep brain stimulation, hydrocephalus, gastroesophageal reflux illness, benign prostatic hyperplasia, and HIV pre-exposure prevention.<sup>27-31</sup> This should be done to build popular YouTube channels that can reach a large audience with accurate and helpful information regarding ED.<sup>5</sup> A summary of the common finding of Arabic reports related-ED to YouTube is found in (Table 3).

Our study emphasized identifying the video features that might be measured and compared to demonstrate a good correlation with video correctness regarding ED information in Arabic language speakers' video contents. The variables that were statistically examined the most frequently were SBE vs NSBE video content using the Kappa score. One study found that due to their improved ability to search the Web and identify reliable content and sources, younger patients, and those with a higher level of education are more likely to use the internet as a source of health information.<sup>39</sup> People with low health literacy may feel more comfortable navigating this readily accessible medical knowledge if video parameters and references can be linked to accuracy predictability.<sup>3</sup> A recent study found that YouTube is not a trustworthy source for information about medicine and health.<sup>40</sup> Only 55% of the 200 ED videos examined in a systemic review were

**Table 3** Summary of Common Finding Arabic Information Related-ED to YouTube

Known Facts About ED-Related YouTube Information	Additional Information Added by this Study
The Psychosocial sphere has a main impact on a patient with ED	The ED is associated with reduced sexual intimacy, lower quality of life in terms of health, and psychological distress in both affected men and their wives. <sup>32,33</sup>
Some herbal/natural remedies can improve erectile function	A cohort study discovered a negative correlation between the likelihood of developing ED in men with healthy dietary patterns like the Mediterranean and Alternative Healthy Eating Index 2010 (AHEI-2010) diets. These eating regimens place a strong emphasis on consuming a variety of fruits, vegetables, nuts, legumes, fish, and other long-chain (n-3) fats while avoiding red and processed meats. These findings show that men who are worried about their risk of having ED should seek counsel on the potential involvement of their eating habits. <sup>34</sup>
Physiotherapy can improve erectile function	Pelvic floor muscle training (PFMT) and biofeedback are effective treatments for men with ED, according to data from randomized controlled research. The study's small sample size and the IIEF's failure to give any detailed information regarding the partner relationship or the non-erectile components of sexual response were also limitations. <sup>35</sup> Recent systematic reviews evaluated the evidence for PFMT to treat ED following radical prostatectomy using a systematic approach. Few high-quality publications were found, and the evidence at hand only supported a small number of conclusions. <sup>36</sup>
Low-intensity extracorporeal shock wave therapy (ESWT) or Low-intensity extracorporeal shock wave treatment (LI-ESWT) is a first-line treatment for ED.	Erectile Dysfunction: AUA Guideline (2018) implies that for men with ED, the use of ESWT should be considered investigational. (Conditional Recommendation; Evidence Level: Grade C). <sup>37</sup> While EAU guidelines for ED treatment (2022) considered the use of LI-SWT in patients with mild type vasculogenic ED or as an alternative for oral vasoactive therapy in informed patients who do not want to use it, are ineligible for it, or desire a curable treatment option. Patients with vasculogenic ED who do not respond favorably to PDE5Is should use LI-SWT (Recommendations strength rating-Weak). <sup>38</sup>
Platelet-Rich Plasma (PRP) as a treatment for ED.	Erectile Dysfunction: AUA Guideline (2018) implies that for men with ED, PRP therapy should be regarded as experimental. (Expert Opinion). <sup>32</sup> While EAU guidelines for ED treatment (2022) recommend avoiding treating ED patients with PRP outside of a clinical trial. (Recommendations strength rating-Weak). <sup>38</sup>



medically valid, and another 45% contained false or inaccurate material.<sup>40</sup> This systemic review reported information about medicine and health should not be found on YouTube, and the number of views and likes on YouTube, which is a popularity-driven metric, should not be regarded as a quality indicator.<sup>40</sup> The study also found that YouTube's popularity-driven metrics such as the number of views and likes should not be considered quality indicators. The videos with higher views and likes were not necessarily more accurate or informative than those with lower views and likes.<sup>40</sup> YouTube users frequently access the most popular videos regardless of the quality of their content since YouTube's algorithm prioritizes and ranks videos according to their popularity and viewer interaction.<sup>7</sup> Because anyone, including non-healthcare professionals, can upload videos to YouTube, the information, point of view, and accuracy of the videos available varies greatly. To encourage higher-quality material, YouTube should enhance its ranking and recommender systems. One approach is to use expert evaluations of medical and health-related videos and incorporate their evaluation information into the ranking algorithm.<sup>40</sup>

We suggested that YouTube should improve its ranking and recommender system to promote higher-quality content. The current system may favor sensationalized or biased videos over evidence-based or educational ones. Our data show that YouTube is not a trustworthy source of information on ED and that misinformation on the platform can have serious consequences for public health. Therefore, it is essential to educate people about the risks of YouTube misinformation and to encourage them to seek reliable sources of information and help.

## Recommendation and Future Direction

The current status of YouTube users in Arabic countries is rapidly growing. YouTube views on parenting content in the Middle East and North Africa (MENA) region are growing 4.3-fold faster than the rest of the planet.<sup>41</sup> According to Google, Saudi Arabia is the country with the most per-capita YouTube usage. Millennials make up more than 60% of YouTube users in MENA.<sup>42</sup> YouTube is ranked the sixth highest-ranked brand in United Arab Emirates (UAE), whereas, in Saudi Arabia and Egypt, it is ranked third.<sup>43</sup> In Saudi Arabia and the UAE, 68% watch more videos online than on TV, while 77% watch YouTube every day in Egypt. That is more than any other platform, including TV.<sup>42</sup> Some individuals may rely solely on online information rather than seeking professional medical advice, which can lead to a delay in diagnosis and treatment. A study reported that anticipatory fear, embarrassment, or guilt deterred individuals from seeking medical attention.<sup>44</sup> A qualitative study found elements contributing to avoidance as poor trust in doctors, low perceived severity of symptoms, emotional issues (eg, denial, avoiding worry, humiliation), practical impediments, and prior negative experiences.<sup>45</sup> Researching on the internet for health-related information has become popular. Consumers who sought online health information did so on a variety of themes. The most frequently searched subjects included information on sexual/productive health, certain disorders, certain treatments, exercise and fitness, diet and nutrition, and many others.<sup>46,47</sup>

Data from a recent systematic review identifies general behavioral patterns and influencing factors for individuals seeking online health information such as age, gender, income, employment status, literacy (or education) level, country of origin and places of residence, and caregiving role.<sup>48</sup> Information on health Customers said their ideal social media site should be aesthetically pleasing, simple to use, and resemble a combination of already existing platforms (such as YouTube and Twitter) with better inclusivity and accessibility for a range of identities and experiences.<sup>49</sup> Online health information dissemination also heavily relies on website editors. Before publishing health-related information online, they must speak with health professionals to ensure that it is correct, readable, and understandable.<sup>50</sup> It is expected of governments and health institutions to increase public knowledge of health issues. For instance, internet portals, platforms, and mobile healthcare applications should be encouraged to use in order to enhance health outcomes because when the public is aware of the importance of health, they are more likely to actively participate in their management. To encourage its adoption, governments, and health groups may consider providing subsidies and other incentives.<sup>51,52</sup> To boost views and user interaction, healthcare institutions and physicians should keep posting educational YouTube videos.

We recommended that men seek professional help from certified Sex therapists or Andrologists who can provide them with accurate information and effective coping methods. Based on our data, it seems against relying on YouTube or other online sources that may offer false or harmful solutions.

## Limitation

Our research has some limitations. First, YouTube's search algorithms prioritize relevant videos. However, in order to guarantee the most objective results, the study was carried out after logging out of any personal accounts and changing the location setting on a Virtual Private Network (VPN) proxy to make sure that the YouTube videos seen were not directed at medical experts or to any earlier research. Second, we only take a sample of 25 videos into account. But this sample is based on how the general population searches for videos with more than one million views that we found. Third, it is crucial to understand that the study is constrained by the Internet's dynamic content, which cannot be studied using a cross-sectional approach. The strength of this study is that considered the first of its kind in the literature, evaluating Arabic YouTube content linked to ED.

## Conclusion

The majority of the Arabic material about erectile dysfunction on YouTube is unreliable. Videos produced by physicians and healthcare groups are trustworthy, whereas advertising is not. Healthcare institutions and physicians should keep posting educational YouTube videos to boost views and user interaction. Patients might benefit if medical associations collaborate with YouTube to produce verified videos that share healthcare information valued by the search algorithm.

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## Disclosure

The authors report no conflicts of interest in this work.

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