

Psoriasis Treatment on Youtube: A Cross-Sectional Study

YouTube’da Sedef Hastalığı Tedavisi: Kesitsel Bir Araştırma

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ABSTRACT Objective: As with every chronic disease, YouTube is increasingly heavily accessed to get information for psoriasis. It contains quality videos containing medical information; however, some content is of low quality, unscientific, misleading, and potentially harmful. We aimed to conduct this study to reveal this situation, understand the rate of non-physician practice, and develop solutions. **Material and Methods:** Between May 1-31, 2022, we searched the YouTube search engine by typing “psoriasis treatment” in Turkish. The number of views of the video, the number of subscribers, time of publication, duration of the video, gender and occupation of the presenter, type of YouTube channel on which the video was posted, were recorded. In the analysis of analytical statistics, the Quade test was used to eliminate the severity of the difference in the number of views and the extreme difference of skewness. Levene’s test was used for homogeneity analysis. **Results:** The majority of the videos consisted of education-information about psoriasis treatment methods (41.6%) and specific treatment recommendations (35%). 46.2% of the video narrators were physicians (21.7% dermatologist, 24.5% non-dermatologist) 25.8% were non-physicians, and herbalists (15.4%) were the leading ones. The rate of evidence-based treatment recommendations was 24.5%, while the rate of non-evidence-based treatments was 65.7%. **Conclusion:** We have identified videos created by herbalists who recommend supplements containing plant extracts, which are not based on substantial evidence. There should be more videos on YouTube about psoriasis and its treatment by dermatologists who are experts in the subject.

ÖZET Amaç: Her kronik hastalıkta olduğu gibi sedef hastalığı hakkında bilgi almak için YouTube’da giderek daha fazla bilgiye erişilmektedir. Bu platform, tıbbi bilgiler içeren kaliteli videolar içerir; ancak bazı içerikler düşük kaliteli, bilimsel olmayan, yanıltıcı ve potansiyel olarak zararlıdır. Bu durumu ortaya çıkarmak, doktor dışı uygulama oranını anlamak ve çözümler geliştirmek için bu çalışmayı yapmayı amaçladık. **Gereç ve Yöntemler:** 1-31 Mayıs 2022 tarihleri arasında YouTube’deki arama motoruna Türkçe dilinde “sedef hastalığı tedavisi” yazarak arama yaptık. Video görüntüleme sayısı, abone sayısı, yayınlandığı zaman, videonun süresi, sunum yapan kişinin cinsiyeti ve mesleği, videonun yayınlandığı YouTube kanalı türü kaydedildi. Çözümsel istatistiklerin analizinde görüntüleme sayılarının farkının şiddeti ve çarpıklığın aşırı farkını elimine etme amacıyla Quade testinden yararlanıldı. Homojenite incelemesinde Levene testi kullanıldı ve enter metotlu doğrusal regresyon kullanılarak %95 güven düzeyinde bulgular değerlendirildi. **Bulgular:** İncelenen videoların büyük çoğunluğu psöriyazis tedavi yöntemleri ile ilgili eğitim-bilgilendirme (%41,6) ve spesifik tedavi önerilerinden (%35) oluşmaktaydı. Konuşmacıların %46,2’si hekimdi (%21,7 dermatolog, %24,5 dermatolog harici hekim) %25,8’i ise hekim dışı kişilerden oluşmaktaydı ve bunların başında herbalistler gelmekteydi (%15,4). Kanıta dayalı tedavi önerilerinin oranı %24,5 iken, kanıta dayalı olmayan tedaviler %65,7 oranındaydı. **Sonuç:** Azımsanmayacak derecede kanıta dayalı olmayan ve internet üzerinden satın alınabilecek bitki ekstresi içeren gıda takviyelerini, tedavi olarak öneren bitkilerle tedavi uzmanı kişilerce oluşturulmuş videolar tespit ettik. Sedef hastalığı ve tedavisi ile ilgili konunun uzmanı olan dermatologlar tarafından YouTube’da daha fazla video olmalıdır.

Keywords: Psoriasis treatment; YouTube; social media; non-physician practice

Anahtar Kelimeler: Sedef hastalığı tedavisi; YouTube; sosyal medya; hekim dışı pratik

Nearly 80% of internet users access health-related information online, and those with chronic illnesses rely on internet-based resources. Research has shown that YouTube (Google, USA) is increasingly

heavily accessed to get information for psoriasis, a chronic disease.¹⁻³ The symptoms of psoriasis, which is a significant public health problem, affecting more than 6 million people in America and have high

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health costs, are severe in some people. Living with a chronic, quality-decreasing disease for these patients means constantly gathering information and searching for new treatments from digital platforms that are increasingly becoming a part of our lives.^{1,4} In a recent study conducted in our country, it was seen that 80% of patients with psoriasis use social media to get information about their disease.⁵ According to current data, YouTube, which is a popular social media area with more than 2.5 billion active users, is used by 72.3% of the people over the age of 18 in our country.⁶ It contains quality videos that contain a growing amount of medical information and are one of the most powerful tools for disseminating it, however, some content is of low quality, unscientific, misleading and even potentially harmful.^{1,2,7} More than 5 million users have learned useful information about psoriasis from this platform.² However, in studies conducted abroad on this subject, it has been reported that beneficial ingredients and evidence-based treatment recommendations are only around 20%, the vast majority of them contain vague, misleading and harmful contents and consist of patient experiences.^{1,2,8,9} There is growing evidence that YouTube users are more likely to encounter health-related anecdotal information created by non-healthcare professionals rather than evidence-based educational materials.¹⁰ YouTube videos on topical treatment options, especially for psoriasis, largely recommend “natural treatment methods” compared to medical treatments.¹¹ In our country, we anticipate that there will be much non-evidence-based treatment recommendations, even misleading and harmful contents, and that these contents are created by non-health care providers. We aimed to conduct this study to reveal this situation, to understand the rate of non-doctor practice and to develop solutions.

MATERIAL AND METHODS

Between May 1-31, 2022, we searched the search engine on YouTube using the term “psoriasis treatment” in Turkish. We selected filtering from current to old video as the ranking criterion. We came across 492 videos in total. Two hundred and sixty two videos unrelated to psoriasis and its treatment, and 87

duplicate videos were eliminated and finally 143 videos were included in the study. The videos were evaluated by 2 dermatologists, each of whom was viewed for the entire duration of the video. The number of video views, the number of subscribers, the time it was published, the duration of the video, the gender and profession of the presenter, the type of YouTube channel that posted the video, were recorded. We researched the professions of people whose occupations were not mentioned in the video or description using the “about” section on the existing YouTube channel. If there is no information here, we did a short internet search. We have recorded the data we collect. This study was performed in accordance with the ethical principles of the Declaration of Helsinki. The Clinical Research Ethics Committee of Maltepe University approved this study and informed consent was obtained from all patients (date: July 6, 2022, number: 2022/900/41).

STATISTICAL ANALYSIS

R 4.2.1 for Windows (79 megabytes, 64-bit), Microsoft Excel 2016 for Windows (V 1.0 3.8) and SPSS 22.0 (IBM Corporation, Armonk, New York, United States) were used to analyze the data. Quantitative variables were expressed as mean (\pm standard deviation), minimum/maximum and median in the tables, while categorical variables were shown as n (%). For analytical statistics, the Quade test was used to eliminate the severity of the difference in view counts and the excessive difference of distortion. As a control variable, May 18, 2022 was considered as the analysis day and the days from the upload date of the videos to the said date were determined as the covariance variable. Unstandardized residual averages were used to determine the difference between observed value and predicted value. Least significant difference and Sidak were used in post-hoc analysis. The sequencing method was used before the test. The normality assumption was evaluated with the skewness value (-1.50 - +1.50). In the calculation of the effect, the value of the square of the ETA was used. Levene test was used for homogeneity examination. Finally, using linear regression with enter method, findings at 95% confidence level were evaluated.

TABLE 1: Descriptive statistics of the duration of the videos, the number of views, and the time from the date of upload to the day of analysis.

| | Minimum | Maximum | Mean | SD |
|--|---------|------------|------------|--------------|
| Duration (min) | 0.26 | 59.50 | 8.0607 | 10.87827 |
| Views | 6.00 | 6100000.00 | 65507.1119 | 524546.21182 |
| Time from upload date to analysis day (days) | 17.00 | 3424.00 | 853.2168 | 809.01928 |

SD: Standard deviation.

RESULTS

The average duration of the videos was 8.06 (± 10.88) min, the average number of views was 65,507 (± 524.546), and the average time from upload to analysis day was 853 days (± 809.01) (Table 1).

Most of the videos examined consisted of education-information (41.6%) and specific treatment recommendations (35%) about psoriasis treatment methods, while the rest consisted of product/person advertisement, patient experience and drug promotion. Video publishers were mostly personal (39.2%) and social media channels (34.3%). The majority of the video narrators were men (62.9). Women were less common (25.2%). The gender of the narrator could not be determined (11.9%) in the text-only videos that did not contain speech. 46.2% of the speakers were physicians (21.7% dermatologist, 24.5% non-dermatologist) 25.8% were non-physician and the majority were herbalists (15.4%). Occupational information could not be reached for 28% of them (Table 2).

The suggested treatments for psoriasis consisted of explaining the medical treatment according to the guideline, different herbal, topical and systemic treatment recommendations and physical methods that are not evidence-based. The rate of evidence-based treatment recommendations was 24.5%, while the rate of non-evidence-based treatments was 65.7%. 9.8% of the videos did not suggest any treatment, but instead contained information about psoriasis (Table 3).

Among the non-evidence-based herbal treatment recommendations were hamamelis virginiana plant, centaury oil, pine tar and mixed herbal teas (Table 4).

In the study, it was found that occupation and gender were influential in the number of video views

TABLE 2: General information about videos.

| Video intent | n | % |
|-----------------------------|-----|-------|
| Education/information | 58 | 41.6 |
| Product/person introduction | 32 | 22.4 |
| Drug advertising | 1 | 0.7 |
| Treatment recommendation | 50 | 35.0 |
| Patient experience | 2 | 1.4 |
| Channel type | | |
| Personal | 56 | 39.2 |
| TV-media group | 26 | 18.2 |
| Health group | 11 | 7.7 |
| Pharmaceutical company | 1 | 0.7 |
| Social media channel | 49 | 34.3 |
| Gender | | |
| Not detected | 17 | 11.9 |
| Male | 90 | 62.9 |
| Female | 36 | 25.2 |
| Profession | | |
| Dermatologist | 31 | 21.7 |
| Non-dermatologist doctor | 35 | 24.5 |
| Pharmacist | 3 | 2.1 |
| Herbalist | 22 | 15.4 |
| The patient himself | 6 | 4.2 |
| Unspecified | 40 | 28.0 |
| Life coach | 2 | 1.4 |
| Journalist | 1 | 0.7 |
| Clergyman | 2 | 1.4 |
| Beautician | 1 | 0.7 |
| Total | 143 | 100.0 |

under the day control variable. In terms of profession, the non-dermatologist doctor, pharmacist, and the patient himself have created a higher viewing effect than herbalists. The impact of the profession in this context is 11.9% was detected. Videos with female or male narrators generated a higher viewing impact than videos that did not specify gender. The effect of gender was found to be 5%. Since there was no significant model regarding video purpose, channel type,

TABLE 3: Treatment recommendations.

| | n | % |
|--|-----|-------|
| No spesific treatment recommendation | 14 | 9.8 |
| Explain medical treatment according to the guidelines | 35 | 24.5 |
| Non-evidence-based treatments | 94 | 65.7 |
| Topical cream treatment by name | 4 | 2.8 |
| Topical OTC by name | 7 | 4.9 |
| Topical herbal blend with name | 4 | 2.8 |
| A mixture of systemic plants with name | 12 | 8.4 |
| Lifestyle-dietary adjustments | 11 | 7.7 |
| A mixture of topical and systemic herbs by specifying the name | 5 | 3.5 |
| Ozone therapy | 5 | 3.5 |
| Systemic OTC by naming | 12 | 8.4 |
| Topical and systemic OTC | 4 | 2.8 |
| Spa therapy | 5 | 3.5 |
| Oral OTC without specifying names | 5 | 3.5 |
| Uncertain intravenous treatment | 1 | 0.7 |
| Religious ritual | 3 | 2.1 |
| Call us | 9 | 6.3 |
| Leech and wet-cupping therapy | 2 | 1.4 |
| Herbal tea without name | 1 | 0.7 |
| Immunotherapy | 1 | 0.7 |
| Homeopathy | 1 | 0.7 |
| Mixed cream without name | 2 | 1.4 |
| Total | 143 | 100.0 |

OTC: Over-the-counter.

TABLE 4: Non-evidence-based herbal treatment recommendations

| | |
|---|--|
| Gum acacia | Apple cider vinegar |
| Aloe vera | Hamamelis plant |
| Juniper tar | Bitter gourd-horse chestnut cream |
| Grape seed oil | Himalayan salt |
| Salvia oil | St. John's wort oil-cocoa butter-shea butter-coconut oil- sesame oil blend cream |
| Borçay mixed herbal tea (Güneyçay, TR) | Tea tree oil |
| French lavender tea | Red beet tea |
| Saw palmetto-stinging nettle extract | Oatmeal |
| Pine tar | Lavender plant |
| Black seed oil | Mahonia aquifolium plant |
| Sea salt | Melissa-common yarrow tea |
| Dermoskin intensive cream (Matilek, TR) | Arum Marculatum tea |
| Dietary recommendation | Olive oil |
| Oregano herb tea | Turmeric |
| Cinnamon soap | Reishi mushroom |
| Fish oil-quercetin-vitamin B mixture | Coconut oil-turmeric cream |
| Probiotics | Propolis |

and treatment recommendation, it has been accepted that there was no statistical effect (Table 5).

In the study, it was determined that the duration of the video did not have a statistically significant effect on the number of views (Table 6).

DISCUSSION

Psoriasis patients are interested in receiving information from social media, including YouTube.⁸ There are few studies on how chronic and relatively common skin diseases such as psoriasis are featured on social media platforms. In recent years, social media sources have started to share that psoriasis treatment is now much better.¹² It is especially emphasized by healthcare providers that there is a growing need to use YouTube as a tool to disseminate evidence-based and patient-centric information.¹³ We planned this study in order to analyze the content of the posts published by YouTube channels in Türkiye about psoriasis treatment, to examine what the recommended treatments are and the rate of non-doctor practice.

When we searched for psoriasis treatment, the majority of the videos we came across consisted of education-information and specific treatment recommendations about psoriasis treatment methods. The rest were videos of general information about the disease. The increase in the demand for people to use the internet to get health-related information and seek treatment in recent years may be due to, as in our study to meet the demand the increase in the number of health-related channels created on YouTube.¹⁴ In addition, it may be because viewers and media organizations prefer popular social media channels such as YouTube due to the decrease in viewing rates in TV channels in our country.¹⁵

Parallel to studies examining health-related video content, videos uploaded by non-physicians were higher.^{16,17} This may be since this group of people uses social media more actively despite the lack of medical information. The fact that dermatologists are fewer than non-dermatologists doctors may be due to the low use of YouTube by dermatologists. We believe it would be much more beneficial for psoriasis patients to have more videos about psoriasis treat-

TABLE 5: The effect of gender and occupation on the number of views.

| | Groups | Error (residual) mean | SE | F | p value | η^2 |
|------------|--------------------------|-----------------------|--------|-------|---------|----------|
| Gender | Uncertain | -24.356 | 9.624 | 3.663 | 0.023* | 0.050 |
| | Male | 2.849 | 4.230 | | | |
| | Female | 4.379 | 6.743 | | | |
| Profession | Dermatologist | -2.485 | 7.069 | 1.986 | 0.046* | 0.119 |
| | Non-dermatologist doctor | 10.561 | 6.609 | | | |
| | Pharmacist | 43.321 | 22.578 | | | |
| | Herbalist | -22.232 | 8.332 | | | |
| | The patient himself | 22.493 | 15.974 | | | |
| | Unspecified | -1.690 | 6.207 | | | |
| | Life coach | -10.290 | 27.636 | | | |
| | Journalist | -44.299 | 39.079 | | | |
| | Clergyman | 21.729 | 27.636 | | | |
| | Beautician | 20.580 | 39.096 | | | |

Covariate: day; *p<0.05; SE: Standard error.

TABLE 6: The effect of video duration on video views.

| | B | SE | Beta | t value | p value |
|--------------------|------------|----------------|--------------------------|---------------------------|---------|
| Constant | 192615.284 | 87642.479 | | 2.198 | 0.030 |
| Video duration | -1765.391 | 1056.022 | -0.139 | -1.672 | 0.097 |
| F: 13.615; p=0.000 | | | | | |
| Model _s | R | R ² | Corrected R ² | Standard prediction error | |
| | 0.139 | 0.019 | 0.012 | 521262.49304 | |

Dependent variable: Number of views; independent variable: video duration; SE: Standard error.

ment by dermatologists who are experts in this subject.

The videos reviewed included mostly non-evidence-based alternative treatments for psoriasis, especially as more than half of this group recommended systemic and topical over-the-counter products without anonymity. These non-evidence-based treatments may be due to the easy availability of herbal food supplements on websites, and the use of the YouTube platform for advertising purposes by the marketers of these products to generate income.

Videos in which non-dermatologist doctors, pharmacists, and patients themselves are video narrators have received higher views than herbalists, which may indicate that viewers in our country trust more qualified healthcare professionals. At the same

time, the videos taken by the patient may have received more views as they contain personal lived experiences.

The fact that videos in which the gender of the narrator is not known to receive fewer views than videos where the narrator's gender is known may be related to the fact that the content containing video images is more attractive to the viewers. Because the videos without gender had been only composed of moving text.

The duration of their videos did not affect the number of views. When watching a YouTube video about disease treatment, we can say that people do not pay much attention to the duration. Therefore, we think our colleagues do not need to worry about making shorter videos while preparing video content about diseases on social media.

CONCLUSION

Our results showed that the majority of the videos reviewed were physician videos. However, there were also videos created by herbalists to a considerable extent. Especially in this group, non-evidence-based treatment recommendations and food supplements containing plant extracts that can be purchased online were at the forefront. However, we find it valuable that the videos created by physicians receive more views. There should be more videos on YouTube about psoriasis and its treatment by dermatologists, who are experts in this subject. We think it is important that this is especially embraced by national dermatology associations.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a

direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Hüsna Güder; **Design:** Hüsna Güder, Semih Güder; **Control/Supervision:** Hüsna Güder; **Data Collection and/or Processing:** Semih Güder, Hüsna Güder; **Analysis and/or Interpretation:** Hüsna Güder, Semih Güder; **Literature Review:** Semih Güder; **Writing the Article:** Hüsna Güder, Semih Güder; **Critical Review:** Hüsna Güder; **References and Fundings:** Semih Güder.

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