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■ Original Article

Achilles tendon surgery from the perspective of patients: an instagram study

Hasta perspektifinden aşil tendon cerrahisi: bir instagram çalışması

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Abstract

Aim: The use of social media, especially Instagram, has become widespread in the medical field. The aim of this study was to evaluate Achilles tendon surgery from patients' perspectives by examining public posts on Instagram.

Material and Methods: A retrospective analysis was made of the Instagram posts of patients with the hashtags #achillestendonsurgery and #achillestendonrepair between December 2018 and October 2021. In total, 234 posts (181 photographs, 53 videos) were evaluated and compared in terms of gender, sharing format (video, photo), sharing tone (negative, positive, neutral), content (activities of daily living, rehabilitation, cast/brace, hospital room, surgical site), country and popularity (the number of views for videos, and the number of likes for photographs).

Results: Posts in video format and a positive tone, posts on the rehabilitation process, and posts about male patients were found to have higher numbers of likes and views than other posts. The content of the shares were respectively; activity of daily living 36.8%(n=86), physical therapy 29.9%(n=70), cast/brace 20.1%(n=47), surgical site 7.7%(n=18), and hospital room 5.6%(n=13). The media tone of the posts was 40.2%(n=94) positive, 6.4%(n=15) negative, and 53.4%(n=125) neutral.

Conclusions: Patients avoided making negative posts on their Instagram after Achilles tendon surgery, and often shared experiences of postoperative rehabilitation processes and daily living activities.

Keywords: achilles tendon, social media, Instagram, physical therapy

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Öz

Amaç: Sosyal medya, özellikle de Instagram, tıp alanında yaygın olarak kullanılmaya başlamıştır. Bu çalışmanın amacı, Instagram'daki aşil tendon cerrahisi ile ilgili herkese açık hasta paylaşımlarını incelemek ve aşil tendon cerrahisini hastaların bakış açısıyla değerlendirmektir.

Gereç ve Yöntemler: Aralık 2018 ve Ekim 2021 tarihleri arasında, #achillestendonsurgery ve #achillestendonrepair etiketleri kullanılan, hastalara ait Instagram gönderileri, geriye dönük olarak analiz edildi. Toplam 234 gönderi (181 fotoğraf, 53 video) cinsiyet, biçim (video, fotoğraf), paylaşım tonu (olumsuz, olumlu, nötr), içerik (günlük yaşam aktivitesi, rehabilitasyon, alçı/korse, hastane odası, cerrahi alan), ülke ve popülerlik (videoların görüntülenme sayısı ve fotoğrafların beğeni sayısı) açısından değerlendirilmiştir.

Bulgular: Video formatındaki ve pozitif tondaki paylaşımların, rehabilitasyon süreci ile ilgili paylaşımların ve erkek hastalara ait paylaşımların diğer paylaşımlara göre daha fazla beğeni ve izlenme aldığı tespit edildi. Paylaşımların içeriği sırasıyla; günlük yaşam aktivitesi %36,8(n=86), rehabilitasyon %29,9(n=70), alçı/breys %20,1(n=47), ameliyat yeri %7,7(n=18), hastane odası %5,6(n=13) idi. Gönderilerin tonu %40,2(n=94) olumlu, %6,4(n=15) olumsuz ve %53,4(n=125) nötrdü.

Sonuçlar: Hastalar aşil tendonu ameliyatından sonra Instagram'da olumsuz paylaşımlar yapmaktan kaçınmışlardır. Ameliyat sonrası rehabilitasyon süreçleri ve günlük yaşam aktivitelerine ilişkin deneyimlerini sıklıkla paylaşmışlardır.

Anahtar Kelimeler: aşil tendonu, sosyal medya, Instagram, fizyoterapi

Introduction

Surgery performed in the treatment of Achilles tendon injuries may result in wound problems, poor performance especially in athletes, and prolonged rehabilitation[1]. The outcomes of these surgeries have been examined in many studies according to clinical and biomechanical outcomes and patient satisfaction[2-4]. However, these studies have often been categorical with the participation of one or more physicians, and have not reflected the patient's perspectives.

Internet and social media usage, especially Facebook, Twitter, and Instagram, has increased in recent years, and the number of users has reached billions[5]. One of the free social media applications, Instagram, with more visual sharing such as photos and videos, has reached 1 billion subscribers, and 500 million users access Instagram daily[6]. On these platforms, people can freely share their posts, share opinions with their followers, like other posts or make positive or negative statements. The posts are placed in a stream with the algorithms determined by Instagram according to the words or word groups expressed as hashtags.

As the use of social media has become widespread, many studies have been conducted, especially in the field of orthopedics and traumatology. Social media usage in anterior cruciate ligament surgery, hip arthroscopy, shoulder arthroscopy, total joint arthroplasty, scoliosis surgery, and pilon fractures has been investigated[7-12]. When evaluated in

terms of the use of Instagram, it was evident that after Achilles tendon surgery, visual posts, photographs (surgical site, cast, brace), or videos (rehabilitation process) could be made quite often, and patients would share their feelings.

This observational social media study investigated and analyzed the shared content of Achilles tendon surgery posts on Instagram. The study hypothesis was that patients would primarily share media with a positive tone centered on rehabilitation and activities of daily living after surgery. It was expected that Instagram would be a valuable tool to examine patients' perspectives, their satisfaction, and the treatment steps they like or with which they have difficulties.

Material and Methods

A search and retrospective evaluation was made of hashtags with the terms #achillestendonsurgery and #achillestendonrepair on public Instagram (San Francisco, California) posts in a 3-year period (December 2018 - October 2021).

A third-party application (Picodash, San Francisco, California) was used to analyze the mobile-based Instagram database on a web-based platform to view the images on a personal computer instead of a smartphone. Searches were repeated with another third-party web application of Instagram (Iconosquare, Limoges, France) to ensure no posts were missed on the Picodash platform. All data analyses were performed using Microsoft Excel (Redmond, Washington).

From a total of 473 posts, those belonging to professional groups such as physicians (n=68), physiotherapists (n=46), personal trainers (n=23), podiatrists (n=21), commercial accounts (n=60), and those where it could not be determined from which country they were shared (42) were excluded.

In total, 234 posts(181 photographs and 53 videos) met the inclusion criteria for this study (Figure 1).The posts were evaluated and compared in terms of gender, sharing format (video, photograph), tone (negative, positive, neutral), content (activities of daily living (ADLs), rehabilitation, cast/brace, hospital room, surgical site), country and popularity (the number of views for videos, the number of likes for photographs). The results were evaluated by two reviewers (M.O and B.B), with each reviewer evaluating all the posts. If there was any disagreement, it was resolved by formal discussion of the posts with other authors.

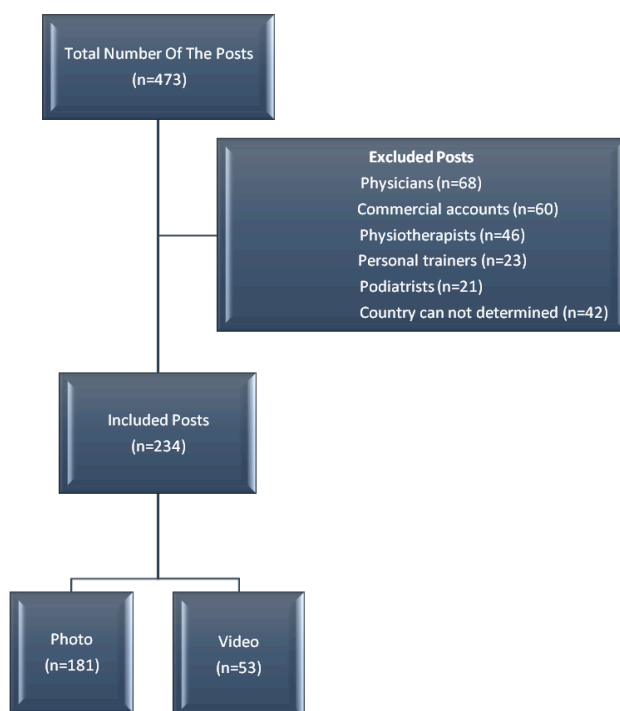


Figure 1. Post Chart

Data obtained in the study were analyzed using SPSS vn.22 for Windows software. Values were stated at a 95% confidence interval (CI). Data were recorded as a percentage, arithmetic mean, and standard deviation values. Conformity of the data to normal distribution was analyzed with the Kolmogorov–Smirnov test. Popularity and groups (Media format, tone, timing, gender content) were evaluated with the Mann–Whitney U and Kruskal Wallis tests. A value of $p < 0.05$ was considered statistically significant.

Results

In terms of sharing formats, 77.4%(n=181) of the posts were photographs, 22.6%(n=53) were videos. 73.1%(n=171) were female and 26.9%(n=63) were male(Table 1). The media tone of the posts was 40.2%(n=94) positive, 6.4%(n=15) negative, and 53.4%(n=125) neutral. Most of the shares were from the postoperative period 96.6%(n=226), and the rest were from the preoperative period 3.4%(n=8). The content of the shares were respectively; activity of daily living 36.8%(n=86), physical therapy 29.9%(n=70), cast/brace 20.1%(n=47), surgical site 7.7%(n=18), and hospital room 5.6%(n=13) (Figure 2). Posts in video format, a positive tone, posts on the rehabilitation process, and posts about male patients were found to have a greater number of likes and views than other posts (Table 2). Most of the posts were from the USA 81.6%(n=191), Australia 3%(n=7), and China 2.6%(n=6).

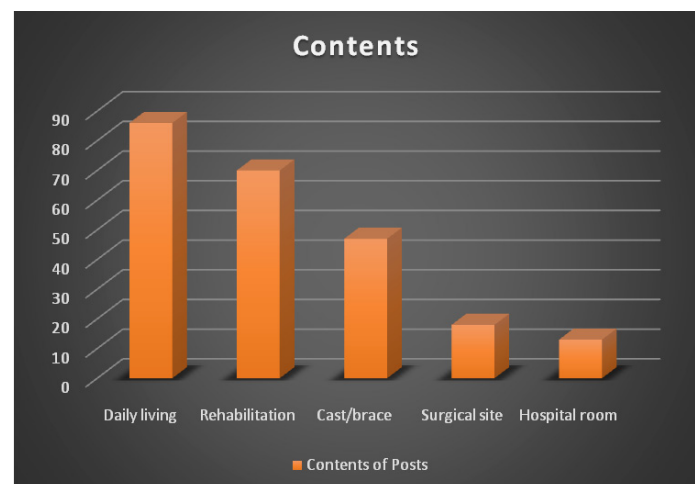


Figure 2: Content Of Posts

Table 1. Study Results		
Media format	Photo	181 (%77.4)
	Video	53 (%22.6)
Media tone	Positive	94 (%40.2)
	Negative	15 (%6.4)
	Neutral	125 (%53.4)
Timing	Preoperative	8 (%3.4)
	Postoperative	226 (%96.6)
Content	Physical therapy	70 (%29.9)
	Daily living	86 (%36.8)
	Cast/brace	47 (%20.1)
	Hospital room	13 (%5.6)
	Surgical site	18 (%7.7)
Gender	Male	63 (%26.9)
	Female	171 (%73.1)
Popularity	121±312.4	(1-3257)

Table 2. Popularity Of Posts

	Groups	Mean ± SD	Min-max	P value
Media format	Photo	58.1 ± 192	1-2131	0.000*
	Video	335.8± 498	9-3257	
Media tone	Positive	183.7± 445.5	6-3257	
	Negative	45.8 ± 95.3	2-354	0.001*
	Neutral	82.9 ± 168.4	1-1113	
Timing	Preoperative	60.1 ± 54.9	6-175	0.682*
	Postoperative	123.2 ± 317	1-3257	
Content	Physical therapy	216± 444.2	3-3257	
	Daily living	75 ± 172.2	1-1105	
	Cast/brace	118.3± 346	4-2131	0.000*
	Hospital room	45. ± 47	3-175	
	Surgical site	33.1 ± 36.9	4-164	
Gender	Male	215.7± 520.4	4-3257	0.008*
	Female	86.1 ± 174.4	1-1113	

Discussion

The use of social media, especially Instagram, has been increasing in the last decade and has become widespread in the field of healthcare services and among patients[6]. Patients generally use social media to obtain medical advice or information about diseases, share their personal experiences in the treatment process, and communicate with their physicians. Instagram shares of patients about their diseases are free shares that have been made without limitations or classifications, as in satisfaction scales used in clinical studies. Therefore, social media applications, especially Instagram, could be used as a new and different tool for measuring and evaluating patients' perspectives on their diseases and treatment processes. It was observed in this study that most of the Instagram posts about Achilles tendon surgery had a neutral or positive tone. The patients generally shared in the postoperative period and mostly shared their experiences of daily living activities and physiotherapy processes.

In a social media study on hip arthroscopy, public Instagram and Twitter posts over one year were examined[8]. It was found that most of the posts were in a positive tone (52.9%) and were shared in the postoperative period (89.4%). The rehabilitation process was shared by 63.7%, activities of daily living by 17.9%, and most posts originated from the USA (65%). However, in the current study, patients mostly shared about activities of daily living, and most importantly, most of their posts were in neutral tones. The reason for this difference was that the sources of the shares examined by the two studies were different. All posts related to hip arthroscopy, including commercial, professional, and physician posts, were examined but only patient posts were examined in this study. It was expected that positive tones would be shared from the accounts of physicians and healthcare providers, primarily used for promotional or informational purposes.

In a retrospective comparative study by Rizkalla et al., the Instagram posts of patients about pilon fractures were examined, and the majority of posts were found to be in a positive tone (88.8%)[11]. Those posts were only divided into positive and negative tones, whereas the current study classified the shares into positive, negative, and neutral tones. As neutral tones were not included in the previous study, a detailed result comparison could not be made, but the rate of posts with a negative tone was similar. Compared with the current study, it was observed that 66.8% vs 29.9% of the posts were shared during the rehabilitation process, and 26.6% vs 36.8% included activities of daily living. This was attributed to the rehabilitation period of pilon fractures being much more complicated and painful than Achilles tendon surgery, so patients want to demonstrate their success in this challenging process more. Most of the posts were made by females (59.3%), as in this study(73.1%).

In an observational social media study, Ramkumar et al. investigated the nature of the shared contents of total joint arthroplasty(TJA) patients[10]. The timing, tone, and content of posts were compared between hip and knee arthroplasties, and it was observed that most TJA posts on Instagram had a positive tone during the postoperative period. The contents mainly reflected the rehabilitation process, daily living activities, and surgical site images. The total knee arthroplasty(TKA) posts focused more on rehabilitation and wound healing, and total hip arthroplasty (THA) posts included more ADLs. In that study, only positive and negative tones were included, and although the rate of positive tones was higher than in the current study, the results were determined to be similar when the shares containing neutral tones were added. THA patients shared fewer posts containing the surgical site than TKA patients because of the difficulty in imaging. This was also determined to be the reason why patients who underwent Achilles tendon surgery shared the surgical area less frequently. Patients mostly shared their rehabilitation processes and daily living activities instead of surgical site posts.

The results of this study showed that the rate of postoperative sharing was as high as 96.6%. This high rate was considered due to the examination of patient shares only. Achilles tendon rupture is an acute and painful condition, so patients do not have the opportunity to share social media posts before surgical care[13]. Furthermore, preoperative or intra-operative and educational or commercial posts not related to the operation process were mainly made in professional accounts of physicians and healthcare providers[14]. When the contents of the patient posts were evaluated, it was seen that mostly daily living activities (36.8%) and rehabilitation processes (29.9%) were shared, and the surgical site shares were less than expected (7.7%). This result showed that patients who underwent Achilles tendon surgery focused more on clinical and

functional outcomes than aesthetic appearance. The region of origin of the posts was evaluated, and 81.6% of the posts were seen to originate from the USA. As the study was carried out by searching for an English hashtag, it was considered normal to have more posts from an English-speaking country.

When the popularity of the shares was evaluated, the shares in video format had a high rate of likes, but the number of views rather than the likes was examined. Therefore, the objectivity of this statistical difference was questionable, as it was not possible to evaluate the number of people who watched the video and liked it. Posts in the rehabilitation process containing cast/brace had more likes than other contents. As expected, it was observed that the posts with a positive tone received more likes than the negative posts, and it was found that the posts made by males were more popular than those by females.

This study have several limitations. First, the shares examined in the study were found through hashtags, but the rate of hashtag usage on Instagram was 53%[15]. This showed that there were undoubtedly many shares in the same period that were not included in the study. Second, people tend to portray their lives more positively on social media, so objectively, it will not be possible to evaluate patients' satisfaction through social media alone. Third, the number of posts was limited because only public posts were examined, private posts could not be reached, and only posts with English hashtags were examined.

Conclusion

The patients avoided making negative posts on Instagram after Achilles tendon surgery. They often shared about postoperative rehabilitation processes and daily living activities. By examining social media posts, it may be possible to evaluate patients' perspectives on their diseases and what the disease truly means to them.

Conflict of Interest

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report.

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