Hip Arthroscopy

A Social Media Analysis of Patient Perception

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Background: The rate of hip arthroscopy has increased significantly in recent years, although understanding of patient perception remains limited.

Purpose: To analyze posts shared on Instagram and Twitter referencing hip arthroscopy to evaluate perspective, tone, timing, content, visibility, and location.

Study Design: Cross-sectional study; Level of evidence, 3.

Methods: A search of public posts on Instagram and Twitter was performed over a 1-year period, selected through use of the following hashtags: #hiparthroscopy, #hipscope, and #labralrepair. A total of 1850 Instagram posts and 163 Twitter posts were included in the analysis. A categorical classification system was used for media format (picture or video), perspective (patient, family or friend, physician, hospital or physical therapy group, professional organization, news media, or industry), timing (preoperative, postoperative, nonoperative), perioperative period (within 1 week before or after surgery), tone (positive, negative, or neutral), and content (surgical site, hospital or surgeon, imaging, rehabilitation, activities of daily living (ADLs), return to work, surgical instruments, or education). Post popularity (number of likes) and geographic location were also recorded.

Results: Of the 1850 Instagram posts analyzed, 91.2% were made by patients, and 52.9% were positive. The most common content included in Instagram posts was rehabilitation, ADLs, and hospital or surgeon. A total of 163 Twitter posts were analyzed, with 59.0% of posts made by physicians. A majority of posts had a positive tone, and the most frequently referenced themes included education, hospital or surgeon, and rehabilitation. Overall, posts originated from 24 different countries.

Conclusion: The majority of patients who undergo hip arthroscopy have a positive tone when discussing their procedure. Posts commonly focused on rehabilitation, ADLs, hospital or surgeon, and education. This analysis provides insight into patient perspectives toward hip arthroscopy.

Keywords: hip arthroscopy; social media; Instagram; Twitter

In recent years, the incidence of hip arthroscopy has increased significantly as indications have expanded, technology has improved, and exposure during residency has increased.3-5,29 In a study of 595 patients undergoing primary hip arthroscopy, Gupta et al10 reported statistically significant improvements in patient-reported outcome measures (PROMs) at 2-year follow-up. A study of 719 patients demonstrated significant clinical benefit in 57.1%, 68.0%, and 71.7% of patients at 6 months, 1 year, and 2 years, respectively.16 In elite athletes, arthroscopy has been used for several indications, with improvement in PROMs and a return to play (RTP) rate exceeding 80%.13,18,27 Despite these promising results, some reports using “big data” are less enthusiastic and point out that 11% of patients undergo revision arthroscopy, with 8% converting to arthroplasty.26 Currently, evidence for the procedure has been limited by retrospective data, small study cohorts, inconsistency in indications and technique, and a lack of long-term follow-up, leading to an underestimation of the complication rate.20,26

Several published studies have reported on the use of social media, including Instagram and Twitter, by orthopaedic patients, physicians, and hospitals.6,7,11,14,19-22 In a study of more than 3145 public Instagram posts related to anterior cruciate ligament (ACL) reconstruction, Ramkumar et al19 reported a positive tone in 88% of posts and a focus by patients on rehabilitation and RTP. Similarly, analysis of 1177 patient posts related to shoulder and elbow surgery demonstrated an 87% rate of positive posts, with focus on RTP, surgical site, and activities of daily living (ADLs).20 A study of 1287 posts from patients who underwent joint arthroplasty revealed that 93% of posts were
positive, with emphasis on rehabilitation and ADLs. To date, no such study exists for hip arthroscopy that characterizes how patients perceive and share their perioperative experience. As the outcomes of hip arthroscopy rely heavily on subjective pain relief of the patient, social media provides a different lens to examine the patient experience.

Social media is a powerful tool for understanding the patient experience for hip arthroscopy, particularly because of the increasing use of these platforms by the relatively young patients undergoing arthroscopy. The purpose of this observational study was to analyze publicly shared content on the social media platforms Instagram and Twitter in order to gain an understanding of patient, physician, hospital, and payer perspectives regarding hip arthroscopy. Specifically, we evaluated posts for (1) media format (picture or video); (2) tone (positive, negative, or neutral); (3) perspective (patient, family or friend, physician, hospital or physical therapy [PT] group, professional organization, news media, or industry); (4) timing (preoperative, postoperative, or nonoperative); (5) content (surgical site, hospital or surgeon, imaging, rehabilitation, ADLs, return to work, surgical instruments, or education); (6) post popularity (number of likes); and (7) location. We hypothesized that patients would have a relatively positive tone, focusing on recovery and return to activities and athletics.

METHODS

Search

A search of public posts on Instagram and Twitter was performed on May 1, 2018, for posts from a 1-year period: May 1, 2017, to April 30, 2018. Posts were identified by use of 3 hashtags: #hiparthroscopy, #hipscope, and #labralrepair.

Inclusion Criteria

Only posts relating to human participants were included, while veterinary and other nonhuman content was excluded. All posts referencing hip arthroscopy were included, and those discussing other procedures were excluded. Only posts in English were included in order to avoid misinterpretation.

Analysis

Data were collected and analyzed by 2 independent reviewers (H.S.H., N.I.B.). Interrater variability was resolved by review of original media and discussion to achieve agreement. Data analysis was performed in Microsoft Excel. A binary categorical scoring system was used for media format, perspective, timing, perioperative period, tone, content, post popularity, and geographic location. Tone was determined by overall explicit positive, negative, or neutral expression in the text accompanying any media. No posts were excluded for interrater variability.

RESULTS

Instagram

Table 1 summarizes the results of the Instagram content. A total of 1850 posts were included in the analysis. Overall, 91.2% of posts were shared by patients, with physicians making 5.9% of the posts. A majority of posts had a positive tone (52.9%). In terms of timing, 89.4% of posts were postoperative, 6.2% preoperative, and 4.4% nonoperative. In total, 14.3% of posts were made in the perioperative period, within 1 week before or after surgery.

The most common content depicted on Instagram included rehabilitation (63.7%), ADLs (17.9%), and hospital or surgeon (11.0%). In terms of popularity, each post had an average of 95.8 likes. A total of 594 Instagram posts included a location tag, with 391 posts from the United States and 203 posts from another country. International posts were made from 22 different countries, with 86 posts from the United Kingdom, 36 from Australia, and 21 from Canada. Figure 1 demonstrates a representative post by two patients.

Twitter

A summary of the content analyzed from Twitter is available in Table 2. A total of 163 tweets were included in the study. A majority (50.9%) of these posts were generated by physicians, with patients sharing 22.7% of posts and professional organizations sharing 12.3% of posts. A majority of the posts had a positive tone (50.9%), with only 4.3% posts having a negative tone. Postoperative posts composed 62.6% of the cohort, while 19.6% of posts were preoperative and 17.8% were nonoperative. Perioperative posts made within 1 week before or after surgery represented 13.5% of all posts. In terms of content, 64.4% of posts were educational, 29.4% referenced a hospital or surgeon, and 23.9% discussed rehabilitation. Each post had an average of 4.9 likes. Location was available for 5 posts, with 1 from the...
United States and 4 international posts, representing 3 different countries.

**DISCUSSION**

Although the rate of hip arthroscopy has increased in recent years, evidence regarding outcomes of the procedure is limited because of a lack of prospective data, relatively small patient cohorts, and limited follow-up. Social media provides a unique platform for gathering patient perspectives throughout the treatment course, as patients frequently post their candid thoughts regarding their procedure. Thus, this study sought to evaluate topics that patients emphasize in their planning and recovery in order to more fully appreciate the patient experience during hip arthroscopy.

Overall, a majority of posts analyzed had a positive tone. Although 53% of Instagram posts in this study had a positive tone, prior social media analyses of ACL, total joint, scoliosis, and shoulder-elbow procedures reported 87% to 93% of posts as positive, suggesting that the recovery protocol following hip arthroscopy may affect short-term patient satisfaction. Thus, longer term follow-up studies may be needed to fully understand postoperative recovery. A majority of posts on Instagram were generated by patients, with the most commonly referenced content being rehabilitation, ADLs, and hospital or surgeon. Rehabilitation posts included a discussion of PT and RTP, suggesting that this is a major focus for patients. This emphasis on RTP from patients’ posts parallels the focus on RTP in athletes following hip arthroscopy in the literature, highlighting the importance of effective postoperative physical therapy. This focus on rehabilitation by patients was demonstrated on both Instagram (55.4%) and Twitter (54.1%), although Instagram posts by patients were more likely to have a positive tone (51.3% vs 40.5%) and less likely to have a neutral tone (34.7% vs 45.9%).

Over half of the Twitter posts were from physicians, and the most common content was education, hospital or surgeon, and rehabilitation. Additionally, physician posts were more likely to discuss education on Twitter compared with Instagram (85.5% vs 56.9%). The greater engagement by physicians on Twitter and the emphasis on education suggest that this social media platform may have a more academic focus, while Instagram posts are primarily patient-generated posts describing their treatment course. This discrepancy in platforms used by patients versus physicians suggests limited engagement between the 2 groups. Additionally, the rates of engagement differed between the 2 platforms, with an average of 95.8 likes per post on Instagram compared with 4.9 likes per post on Twitter,

| Media format | n (%) |
|--------------|-------|
| Picture      | 1556 (84.1) |
| Video        | 294 (15.9)  |
| Perspective  |       |
| Patient      | 1688 (91.2) |
| Family or friend | 5 (0.3)  |
| Physician    | 109 (5.9)  |
| Hospital or physical therapy group | 34 (1.8)  |
| Professional organization | 1 (0.1)  |
| News media   | 0 (0)     |
| Industry     | 13 (0.7)   |
| Timing       |        |
| Preoperative | 114 (6.2)  |
| Postoperative | 1654 (89.4) |
| Nonoperative | 82 (4.4)   |
| Perioperative period | 265 (14.3) |
| Tone         |       |
| Positive     | 979 (52.9) |
| Negative     | 239 (12.9) |
| Neutral      | 632 (34.2) |
| Content      |       |
| Surgical site (sutures, incision, dressings) | 108 (5.8) |
| Hospital or surgeon | 203 (11.0) |
| Imaging      | 63 (3.4)   |
| Rehabilitation | 1178 (63.7) |
| Activities of daily living | 331 (17.9) |
| Return to work | 50 (2.7)   |
| Instrument or device | 159 (8.6)  |
| Education    | 103 (5.6)  |
| Not applicable | 153 (8.3)  |
| Post popularity, average No. of likes | 95.8 |

Figure 1. (A) Positive sample post from hip arthroscopy patient, 4 weeks after hip arthroscopy. (B) Negative sample post from patient, 4 weeks after hip arthroscopy.
suggesting a discrepancy in how each platform is used, with the possibility of Instagram being used as a community for patients to interact with each other.

Limitations

This study is not without limitations. Because of the nature of the social media platforms used, only public posts with the selected hashtags were analyzed. Thus, a large number of posts were not included, as they were made private by the user or did not include a relevant hashtag. Yet, the search included a total of 2013 posts, generating a representative sample for analysis. In general, users tend to highlight positive aspects of their subject, potentially creating a bias toward positive outcomes while failing to capture the negative experiences that patients undergoing hip arthroscopy may face. Another limitation of this study is the potential age bias of social media users. In recent years, the use of social media by older users has increased, with 78% of Americans aged 30 to 49 years and 64% of those aged 50 to 64 years using social media; thus, social media may provide a representative sample of patients who undergo hip arthroscopy, whose average age is approximately 37 years. Although other social media sites such as Facebook and Snapchat are popular among social media users, Instagram and Twitter were chosen for their ability to provide a large data set of public posts with relevant hashtags that could be objectively analyzed for content.

CONCLUSION

Patients reported an overall positive experience with hip arthroscopy on social media, which provides a powerful tool for analyzing characteristics that are important to patients. Instagram posts were made more often by patients and focus on rehabilitation and ADLs, while Twitter posts were more frequently made by surgeons and tend to be educational or to reference a hospital or surgeon.

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