

Analysis of Patient Concerns, Reported Side Effects, and Sentiments Regarding the Use of JAK Inhibitors

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Background

- The Janus-Kinase Signal Transducer and Activator of Transcription (JAK-STAT) pathway is essential to numerous cellular processes with dermatologic significance ¹
- Dermatologic Diseases implicated
 - Psoriasis
 - Atopic Dermatitis
 - Vitiligo
 - Alopecia Areata
- 7 JAK inhibitors FDA approved²
- Limited data regarding patient preferences and concerns regarding these medications

Methods

- Cross-sectional analysis of Social Media (Reddit.com)
- Most popular communities (“subreddits”) for each dermatologic condition in which JAK inhibitor has been approved were searched from September 15, 2023 – October 9, 2023
- All posts mentioning any JAK inhibitor approved for each subreddit’s respective condition were analyzed
- Each post’s title, central theme, and engagement score (determined via total number of comments and upvotes) was recorded.

Posts Stratified by Central Theme

Central Theme	Number (%), n=923	Engagement Score (per post)
Efficacy	433 (47%)	21.1
Side Effects	150 (16%)	12.5
Other	98 (11%)	18.8
Payment/Insurance	84 (9%)	17.8
Study Results/News	69 (7%)	23.9
Interaction with Medications/Treatments	31 (3%)	8.1
Administration	27 (3%)	10.2
Switching from Different Medication	23 (2%)	10.2
Dosage	6 (0.7%)	7.5
Lab Testing	2 (0.2%)	12.0

Table 1: Total Number and Engagement of Posts Stratified by Central Theme

Side Effects	Medication Interactions
Acne/Folliculitis (24, 22%)	Sunscreen/Facial Moisturizer (5, 16%)
Nausea/Gastrointestinal Disturbance (11, 10%)	Topical Calcineurin Inhibitors (4, 13%)
Fatigue/Muscle Aches (10, 9%)	Marijuana/THC (3, 9.7%)
Unspecified Illness (7, 6.4%)	UVB Therapy (3, 9.7%)
Conjunctivitis (5, 4.5%)	Alcohol (3, 9.7%)

Table 2: Most Common Patient Reported Side Effects and Questioned Treatment Interactions

Results

- 923 posts resulted from the author’s search and were subsequently analyzed
- Majority of posts were focused on the themes of efficacy and side effects (63%) (**Table 1**)
- Themes with the most engagement per post were Study Results/News and Efficacy
- 110 posts reported patient experiences with JAK inhibitor-associated side effects (**Table 2**)
- Acne/Folliculitis, Nausea/Gastrointestinal Disturbance, and Fatigue/Muscle Aches were the most frequently reported side effects
- 31 Posts questioned the potential use of JAK inhibitors with additional medications or therapies (**Table 2**)
- Patients were most concerned of interactions between JAK inhibitors and sunscreens/ facial moisturizers and topical calcineurin inhibitors

Take Home Points

- Patients are largely seeking anecdotal advice regarding the efficacy of JAK inhibitors
- Acne, gastrointestinal disturbance, fatigue, and muscle aches were the most frequently reported side effects to JAK inhibitors by patients online
- Potential interactions between JAK inhibitors and sunscreens, facial creams, and topical calcineurin inhibitors were most concerning to patients
- The results from this study may help providers better guide their discussions with patients with initiating and continuing treatment with JAK inhibitors

References

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2. Ludmann P. JAK INHIBITORS: WHAT YOUR DERMATOLOGIST WANTS YOU TO KNOW. *American Academy of Dermatology Association.* 2023 May 19. Accessed October 6, 2023. Available at: <https://www.aad.org/public/diseases/a-z/jak-inhibitors>