Assessing humanistic burden among patients with moderate to severe psoriasis in the United States

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Introduction

- Psoriasis is a chronic, immune-mediated, inflammatory disease that affects an estimated 3.0% of the US population[1,2]
- Despite a range of available topical, systemic, and biologic treatments, patients with psoriasis report high disease burden and impairment to their quality of life (QoL)[3]
- This cross-sectional, observational study aimed to assess and compare the extent of the humanistic burden of moderate to severe psoriasis in patients currently receiving apremilast, tumor necrosis factor inhibitor (TNFi), ustekinumab, topical/phototherapy, or nonprescription/no treatment
  - In this study, humanistic burden is defined by the impact of psoriasis on respondents' mental health, QoL, productivity, and activities of daily living

Methods

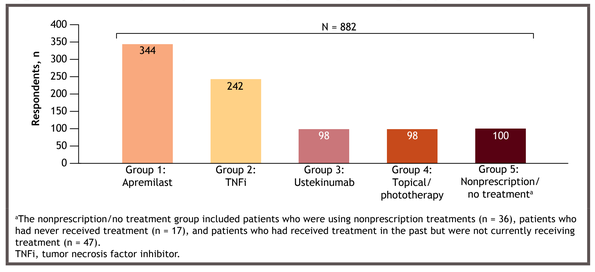
- A web-based survey of adults residing in the United States who had moderate to severe physician-diagnosed plaque psoriasis assigned respondents to 1 of 5 groups, based on their current treatment
  - Group 1: Apremilast
  - Group 2: TNFi
  - Group 3: Ustekinumab
  - Group 4: Topical/phototherapy
  - Group 5: Nonprescription/no treatment, including patients who were using nonprescription treatments, patients who had never received treatment, and patients who had received treatment in the past but were not currently using treatment
- The survey collected demographic information, clinical characteristic details, and patient-reported outcomes (PROs) associated with humanistic burden via:
  - De novo questions about disease-related anxiety and depression over the past 30 days, rated on 5-point scales
  - The Dermatology Life Quality Index (DLQI)
    - Dermatology specific, this measure assesses patients' health-related QoL (HRQoL) over the past week across 6 domains[4]: symptoms and feelings, daily activities, leisure, work and school, personal relationships, and treatment
      - Total scores range from 0 to 30, with higher scores indicating greater impairment
  - Work Productivity and Activity Impairment Questionnaire: Psoriasis (WPAI:PSO)
    - Disease specific, this questionnaire captures the impact of psoriasis on work and nonwork activities over the past week[4]
      - Yields 4 scores: percent absenteeism (work time missed), percent presenteeism (impairment at work/reduced efficiency), percent work productivity loss (overall work impairment associated with absenteeism and presenteeism), and percent nonwork activities impairment
      - Higher scores indicate greater impairment
- Data were analyzed descriptively, and differences were evaluated with bivariate comparisons across treatment groups

Results

Respondent population

- The study included 882 respondents (**Figure 1**)
- Respondents' demographics and disease characteristics, overall and by treatment group, are shown in **Table 1**
- Treatment duration was longest in the topical/phototherapy and nonprescription/no treatment groups (**Figure 2**)
- Greater proportions of respondents in the topical/phototherapy and nonprescription/no treatment groups reported moderate, severe, or very severe psoriasis over the past week compared with those in the apremilast, TNFi, or ustekinumab treatment group (**Figure 3**)
- **Figure 4** displays respondents' insurance type by treatment group
- The most common comorbidities by treatment group are displayed in **Figure 5**

Figure 1. Survey respondents, by treatment group



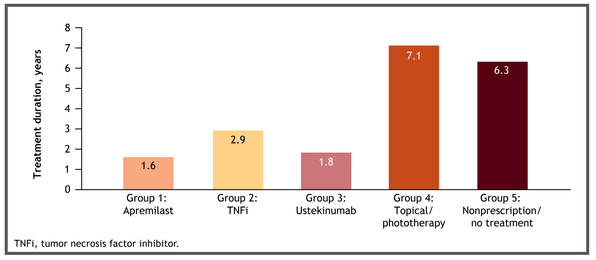
[a]The nonprescription/no treatment group included patients who were using nonprescription treatments (n = 36), patients who had never received treatment (n = 17), and patients who had received treatment in the past but were not currently receiving treatment (n = 47).
TNFi, tumor necrosis factor inhibitor.

Table 1. Respondent demographics and disease characteristics

Variable	All respondents (N = 882)	Apremilast (n = 344)	TNFi (n = 242)	Ustekinumab (n = 98)	Topical/phototherapy (n = 98)	Nonprescription/no treatment (n = 100)
Age, mean (SD), years	45.7 (12.76)	44.9 (12.69)	47.1 (12.99)	47.3 (12.02)	46.0 (12.94)	43.3 (12.65)
Female sex, n (%)	597 (67.7)	225 (65.4)	153 (63.2)	61 (62.2)	76 (77.6)	82 (82.0)
White race, n (%)	661 (74.9)	249 (72.4)	183 (75.6)	65 (66.3)	86 (87.8)	78 (78.0)
Hispanic/Latino ethnicity, n (%)	99 (11.2)	46 (13.4)	25 (10.3)	13 (13.3)	7 (7.1)	8 (8.0)
Current employment status,[a] n (%)						
Employed	534 (60.5)	203 (59.0)	148 (61.2)	61 (62.2)	63 (64.3)	59 (59.0)
Student	74 (8.4)	31 (9.0)	15 (6.2)	8 (8.2)	11 (11.2)	9 (9.0)
Unemployed	106 (12.0)	38 (11.0)	31 (12.8)	8 (8.2)	10 (10.2)	19 (19.0)
Homemaker	131 (14.9)	56 (16.3)	34 (14.0)	11 (11.2)	11 (11.2)	19 (19.0)
Retired	118 (13.4)	42 (12.2)	37 (15.3)	17 (17.3)	12 (12.2)	10 (10.0)
Disabled, on disability, or on leave of absence	60 (6.8)	13 (3.8)	15 (6.2)	5 (5.1)	14 (14.3)	13 (13.0)
Disease duration, mean (SD), years	14.9 (11.80)	15.0 (10.96)	15.1 (12.70)	14.9 (11.41)	15.4 (13.45)	13.8 (11.11)
Flares in past 3 months, mean (SD)	4.5 (11.00)	2.8 (5.77)	3.7 (9.89)	4.0 (11.68)	10.3 (19.10)	7.3 (13.44)

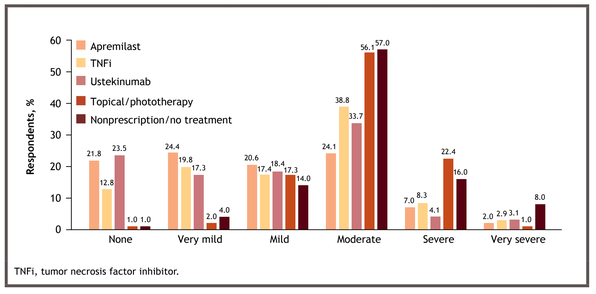
[a]Respondents could select more than 1 option.
SD, standard deviation; TNFi, tumor necrosis factor inhibitor.

Figure 2. Treatment duration, by treatment group



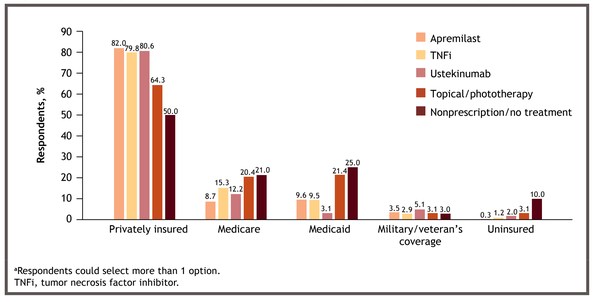
TNFi, tumor necrosis factor inhibitor.

Figure 3. Psoriasis severity over the past week, by treatment group



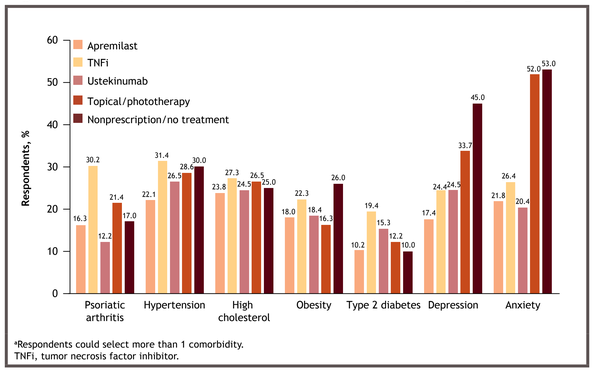
TNFi, tumor necrosis factor inhibitor.

Figure 4. Respondents' insurance type, by treatment group[a]



[a]Respondents could select more than 1 option.
TNFi, tumor necrosis factor inhibitor.

Figure 5. Respondents' comorbidities, by treatment group[a]

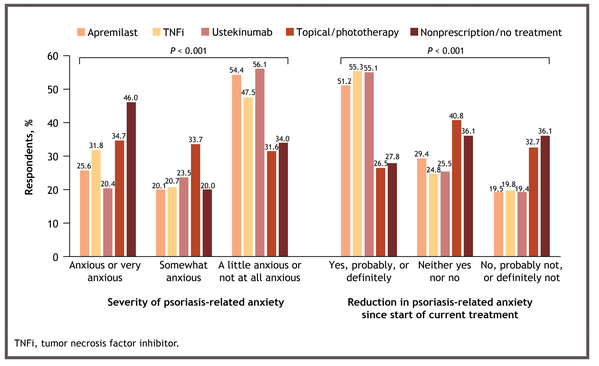


[a]Respondents could select more than 1 comorbidity.
TNFi, tumor necrosis factor inhibitor.

Anxiety and depression

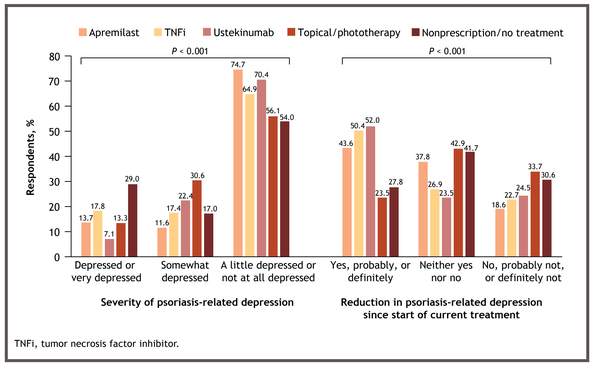
- While 29.8% of respondents reported anxiety as a comorbidity, 76.8% of all respondents reported psoriasis-related anxiety, with 30.1% reporting more severe psoriasis-related anxiety (very anxious or anxious)
- When analyzed by treatment group (**Figure 6**), greater proportions of respondents in the systemic or biologic treatment groups reported that their treatment had probably or definitely reduced their psoriasis-related anxiety
  - Greater proportions of respondents in the topical/phototherapy and nonprescription/no treatment groups reported that their current treatment had probably or definitely not reduced their psoriasis-related anxiety
- While 25.1% of respondents reported depression as a comorbidity, 57.4% of all respondents reported psoriasis-related depression, with 15.7% reporting more severe depression (very depressed or depressed)
- When analyzed by treatment group (**Figure 7**), greater proportions of respondents in the systemic or biologic treatment groups reported that their treatment had probably or definitely reduced their psoriasis-related depression

Figure 6. Psoriasis-related anxiety, by treatment group



TNFi, tumor necrosis factor inhibitor.

Figure 7. Psoriasis-related depression, by treatment group

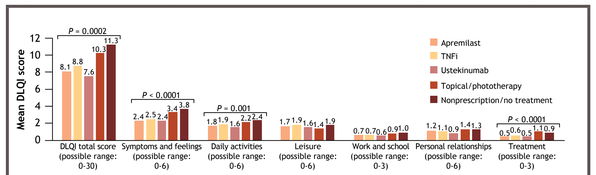


TNFi, tumor necrosis factor inhibitor.

DLQI

- The mean (SD) DLQI total score among all treatment groups was 8.9 (7.20)
- **Figure 8** displays mean DLQI total and domain scores, according to treatment group

Figure 8. Mean DLQI total and domain scores, by treatment group

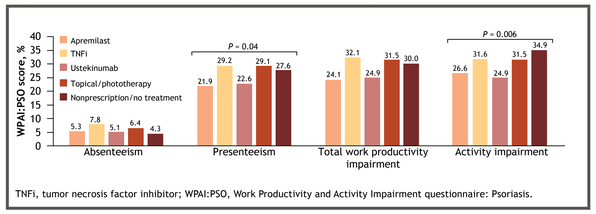


DLQI, Dermatology Life Quality Index; TNFi, tumor necrosis factor inhibitor.

WPAI:PSO

- Among all respondents, 528 (59.9%) reported that they were currently working
- The mean (SD) WPAI:PSO absenteeism score for employed respondents was 6.0 (14.26), mean presenteeism score was 25.4 (24.28), and total work productivity impairment was 27.9 (26.79)
- Mean (SD) activity impairment score measured by the WPAI:PSO among all respondents was 29.3 (25.38)
- **Figure 9** displays mean WPAI:PSO scores by treatment group

Figure 9. WPAI:PSO scores, by treatment group



TNFi, tumor necrosis factor inhibitor; WPAI:PSO, Work Productivity and Activity Impairment questionnaire: Psoriasis.

Discussion

- This large, real-world study offers insight into how the humanistic burden of psoriasis is distributed across different treatment groups
- Clinical data were self-reported by patients and not validated by clinicians
- Duration of treatment was not adjusted for in the analysis

Conclusions

- Patients' current treatment, or lack thereof, influenced the impact of psoriasis on respondents' levels of anxiety and depression, their QoL, and their productivity
- Patients in the topical/phototherapy and nonprescription/no treatment groups experienced the lowest reduction in their psoriasis-related anxiety and depression
- We recommend that physicians consider QoL in addition to symptom management when making treatment decisions with and for their patients

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Acknowledgments

- This study was sponsored by Bristol Myers Squibb
- Medical writing and editorial assistance was provided by Eleanor Bush, MA, of Peloton Advantage, LLC, an OPEN Health company, and funded by Bristol Myers Squibb

Disclosures

- **AWA:** Research investigator, scientific advisor, and/or speaker: AbbVie, Almirall, Arcutis, Aslan Pharmaceuticals, Beiersdorf, Boehringer Ingelheim, Bristol Myers Squibb, Dermavant, Dermira, EPI Health, Incyte, Janssen, Leo Pharma, Eli Lilly, Mindera Health, Nimbus, Novartis, Ortho Dermatologics, Pfizer, Regeneron, Sanofi, Sun Pharma, and UCB
- **LS, VP, DD, and SK:** Employees and shareholders: Bristol Myers Squibb
- **SJ, SR, and HP:** Employees: OPEN Health Evidence & Access, which received funding from Bristol Myers Squibb
- **DW and KB:** Employees: RTI Health Solutions, which received funding from Bristol Myers Squibb
- **TB:** Principal investigator: AbbVie, Castle, CorEvitas, Dermavant, Galderma, Mindera Health, and Pfizer; Research funding: Novartis and Regeneron; Advisor: AbbVie, Arcutis, Boehringer Ingelheim, Bristol Myers Squibb, Eli Lilly, Janssen, Leo Pharma, Novartis, Pfizer, Sun Pharma, and UCB

Presented at Maui Derm NP + PA Summer 2023; June 21-24, 2023; Colorado Springs, CO
This is an encore of the Maui Derm for Dermatologists 2023 poster

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