The US healthcare system is undergoing a $1 trillion shift from volume- to value-based reimbursement. Although the initial focus is on hospital and providers, therapeutics are also going to be forced to demonstrate impact beyond the currently collected clinical trial data. Therapeutics are sure to be challenged to demonstrate a meaningful change in patient burden of disease. In psoriasis, this means understanding the psychological/social burden of the disease from the perspective of the patient. It will be critical as new therapeutics position themselves for reimbursement in a crowded and increasingly undifferentiated field.

Currently, to assess disease severity and inform treatment reimbursement decisions, clinicians and clinical researchers rely on clinical measures. Unfortunately, and especially in psoriasis, clinical measures do not always correlate with impact on the patient. However, it is this impact on the patient that constitutes at least part of the definition of “value.” To this end, researchers have sought metrics that can support the meaningfulness of therapeutics. But there is a lack of evidence supporting their reliable and valid application.

Psoriasis, a multifactorial, chronic, immune-mediated condition, affects seven million people in the US, causing substantial cost, social stigma, and disability. Extending beyond the physical symptoms experienced by sufferers, this hyperproliferative skin disease has a profoundly negative effect on health-related quality of life (HRQoL), influencing a patient’s self-image, self-esteem, and well-being. Multiple studies have documented psychological, social, sexual, and occupational elements of the disease. Individuals with psoriasis are significantly affected in their health state utility, perception of general health, and social functioning when compared to healthy controls and individuals with chronic disease and certain primary medical conditions including cancer, arthritis, hypertension, heart disease, diabetes, and depression.

METHODS

Relevant studies were identified through a solicitation of the medical information departments among pharmaceutical companies with therapeutics currently marketed for the treatment of moderate to severe psoriasis. The data discussed herein reflects data from those companies that had collected relevant data and responded to the request.

Several standardized patient reported outcomes (PROs) are prevalent in the discussion of quality of life among those suffering from chronic disease, including skin disease. Most common among them include the Social Function–36 (SF-36), EuroQol 5-D (EQ-5D), Health Assessment Questionnaire (HAQ-8) and the Dermatology Life Quality Index (DLQI). The inclusion of these PROs, as well as novel metrics, in multiple studies allows for an opportunity to review trends.

RESULTS

HRQoL, as measured by changes in the DLQI, EQ-5D, and SF-36, was evaluated in the LIBERATE study, an assessment of the efficacy and safety of Apremilast or Etanercept vs placebo in biologic-naïve patients with moderate to severe plaque psoriasis. Among the 250 patients studied, both therapies, in comparison to placebo, had a significant impact on DLQI. Similarly, improvement was seen among those treated with Apremilast or Etanercept compared to placebo in the EQ-5D and both the mental and physical component of the SF-36. In the physical component of the SF-36, those not on active treatment saw a decrease in functioning over the 16-week study period. Of note, across all populations, PASI-75 responders experienced greater improvements in the utilized PROs compared with the general population studied.

Depression is frequently found to afflict those suffering from psoriasis. To facilitate an evaluation of the impact of treatment among patients with moderate to severe psoriasis on...
depression it is necessary to establish a practical and easy-to-use depression risk score. This risk score can help dermatologists more efficiently judge the non-clinical response to therapy and identify patients at risk of depression in clinical practice.

Age, prior phototherapy use, prior systemic biologic treatment, and five items from the DLQI (items 1, 3, 7–9) have been identified as significant factors in predicting the likelihood of Clinically Significant Depressive Symptoms (CSDS). Younger age, prior phototherapy, and worse scores on the identified DLQI items were significantly associated with greater likelihood of having CSDS; prior biologic treatment was associated with reduced likelihood of having CSDS.

The effect of psoriasis across the sexual domains of HRQoL, although documented, remains under-examined. In a study conducted by the National Psoriasis Foundation, 29 percent of approximately 400 patients reported that their disease affected their sexual activities.

To further explore the sexual, reproductive, and relationship effects of psoriasis, two rounds of semi-structured concept elicitation (CE) interviews were conducted with a combined total of 60 psoriasis participants (Round 1, n=40; Round 2, n=20). These participants were of diverse socioeconomic, educational, and ethnic backgrounds (age range=20–70 years, mean age=40.9±12.2 years). Most participants (n=57, 95 percent) had moderate to severe disease, with 70 percent of participants currently on systemic or biologic therapy.

Participants described 24 distinct intimate disease impacts, spanning four domains: Sexual Desire (43/47, 91 percent), Sexual Ability (37/47, 79 percent), Reproduction (25/47, 53 percent), and Relationships (20/20, 100 percent). The most frequently reported impacts were: feeling less attractive, interference with intimate relationships, feeling self-conscious, and avoidance of dating/new relationships. Due to the sensitive nature of the sexual and reproductive impacts of this disease, these impacts may not be routinely addressed in a clinical setting thus not fully capturing the value of a therapeutic intervention.

The Multinational Assessment of Psoriasis and Psoriatic Arthritis (MAPP), a large-scale survey related to psoriasis and psoriatic arthritis screened 139,948 individuals, yielding participation among 3,426 patients. About one-fifth (712 respondents) reported a diagnosis of psoriatic arthritis (PsA)—88.9 percent of PsA patients reported current joint pain/stiffness and 59.5 percent reported involvement in >four joints.

Among respondents, 53.2 percent characterized their disease as severe. This was twice as many as those with PsO only, among whom only 27 percent defined their disease as severe. Consistent with the pathology, PsA patients reported a greater impact on physical function compared with PsO sufferers. The mean HAQ-8 score among PsA respondents was 0.49 vs. 0.16 in those with PsO. Joint involvement correlated with greater HAQ scores. The most important factor affecting the self-perception of severity were pain/swelling of joints (45.2 percent), itching (17.7 percent), lesion location/size (10 percent), and lack of sleep (7.4 percent).

Importantly, more than half the surveyed patients (58.4 percent) were not receiving systemic, disease modifying therapy for their PsA despite most (82.5 percent) having been attended to by a healthcare practitioner in the past 12 months for their disease. As health plans and government payors seek to evaluate the value of the healthcare encounter, it is important to consider the yield of that encounter.

As employers continue to spend more on healthcare, the impact of health on employment is going to become of greater significance and may be an important factor in defining strategies of value-based reimbursement. During the ESTEEM trials, assessing the utility of Apremilast treatment for moderate to severe plaque psoriasis, the Work Limitations Questionaire (WLQ), a valid self-reporting instrument for assessing the degree to which employed individuals are experiencing on-the-job limitations due to their health problems and health-related productivity loss, was administered. Work limitations were categorized across four domains: Physical Demands Scale, Mental/Intrapersonal Demands Scale, Time Management Scale, and Output Demands Scale.

The results indicated that disease treatment was associated with an improvement in the WLQ and productivity compared to those on placebo. Among PASI-75 respondents, WLQ and productivity improvements were even greater suggesting a correlation between individuals improved occupational performance and disease improvement. In a sub-analysis, time-management skills, mental demands, and output demands, critical determinants of work performance all improved on treatment, with greater improvements among those who responded better to therapy (i.e. achieved PASI-75).

Nearly a third of PsA patients in the MAPP study reported that their disease had at least “some” or “a lot” of impact on both missing work in the past 12 months or their ability to work full time. At least 25 percent declared that their disease had at least “some” or “a lot” of impact on getting a job, keeping a job, choice of career, and career advancement.

As employers, confronted with the largest economic cost of new therapies, seek to evaluate their cost-benefit value, it is important for them to note the impact of PsO and PsA on work-productivity and the direct benefit of therapy.

It has been proposed that the impact of psoriasis on patients’ HRQoL may accumulate over time. But, formal assessments of cumulative impairment are lacking. The psoriasis cumulative life course impairment (CLCI) tool has been explored as a PRO measure that can assess the impact of psoriasis on stigma, social relationships, symptoms, general functioning, and work relationships.
Statistically significant (P < 0.05) correlations between CLCI lifetime scores and self-assessed PASI (SAPASI) were observed for total score, social functioning and relationships, and role function at work. Statistically significant (P < 0.05) correlations between CLCI lifetime scores and BSA affected were observed for total score and role functioning at work.

Total CLCI scores were worse for older vs. younger patients; smokers vs. nonsmokers; depressed vs. non-depressed patients; and patients with higher SAPASI scores. Duration of disease did not contribute significantly.

Despite the above findings, data have also suggested that the social stigmatization, high stress levels, physical limitations, depression, employment problems, and other psychosocial co-morbidities described above in patients with psoriasis are not always proportional to, or predicted by, other measurements of disease severity such as body surface area involvement or plaque severity.

Patient dissatisfaction with psoriasis treatments is prevalent, especially for traditional systemic agents and phototherapy. Factors associated with poor psoriasis patient satisfaction despite skin improvement have not been well-characterized. There is a clearly documented discordance between patient perception and physician evaluation.

One study of patients with moderate to severe psoriasis sought to identify patient characteristics associated with a discordance between self-assessed disease control and Physician’s Global Assessment (PGA) of “Clear” or “Minimal” skin disease.

Patients receiving FDA-approved treatments for psoriasis, including adalimumab, etanercept, methotrexate, as well as placebo, for 12 to 16 weeks were drawn from Phase 3 or later clinical trials of adalimumab or briaakinumb. A multivariable logistic regression model was then constructed to identify factors independently associated with self-assessed limited/controlled disease despite a PGA of clear/minimal.

Among 2259 visits with a PGA of “Clear” or “Minimal,” 510 visits (22.5 percent) were discordant; i.e. patients assessed their disease as poorly controlled. Discordance was significantly associated with joint inflammation, psoriasis-related pain, and psoriasis-related pruritus adjusted for skin severity (based on PGA and PASI), demographics, pre-trial treatments, psoriasis history and comorbidities. Prior uses of biologic or non-biologic systemic treatments, antecedent to the study period, were statistically significant (P <.05) correlations between CLCI lifetime scores and BSA affected.

Clinical disease control (CLCD) was defined as no new onset of psoriasis or improvement in existing psoriasis, regardless of PGA. The NPF Psoriasis Score was used to assess the impact of the disease on patient function and productivity at work. The NPF Psoriasis Score is a validated measure of patient-reported quality of life in patients with moderate-to-severe psoriasis.

CONCLUSION

As psoriasis therapies continue to improve along traditional metrics of PASI 75 and PASI 90 it is ever more important to include measures of psychosocial morbidity when assessing treatment efficacy. The substantial role that psychosocial burden plays in patient perception of disease severity, quality of life, and disease course become determinants of long-term treatment success. Moreover, the impact of the disease on employee productivity and the role of therapy in restoring that productivity changes the cost calculus in evaluating treatment decisions. These additional endpoints are therefore becoming more essential as therapeutic reimbursement evolves into value-based framework.

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