Health care resource use, productivity, and costs among patients with moderate to severe plaque psoriasis in the United States

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Background: Comprehensive studies on costs of moderate to severe plaque psoriasis (MSPP) have not been conducted in the United States.

Objective: We sought to evaluate current health care resource use, productivity, and costs among patients with MSPP in routine practice.

Methods: A total of 200 adults seeking MSPP treatment enrolled in 9 US sites. Consented patients reported symptoms, treatment, lost productivity, and costs; 6-month retrospective chart review captured health care resource use and clinical characteristics. Costs were assigned to health care resource use and lost productivity using standard algorithms. Differences by Psoriasis Area and Severity Index (PASI) group, based on PASI score (≤10, >10-≤20, >20) at enrollment, were evaluated. Analyses included descriptive statistics and analysis of variance or Kruskal-Wallis tests.

Results: Most patients (79.5%) were prescribed 1 or more MSPP medications (mean: 1.5); 36.0% and 9.0% received self-administered biologics and systemic therapies, respectively. Mean number of nonprescription treatments was 12.3. Differences by PASI group were observed for overall work and activity impairment ($P < .02$). Six-month total MSPP direct costs per patient were $11,291; indirect costs were $2101 and differed across PASI groups ($P = .0008$).

Limitations: This study enrolled patients with MSPP actively seeking care.

Conclusion: Despite treatment, a number of patients with MSPP continue to experience moderate to severe PASI scores, impaired functioning, and high costs suggesting a need for new treatment options. (J Am Acad Dermatol 2015;73:585-93.)

Key words: burden of illness; chart review; costs; economic burden; health care resource use; moderate to severe plaque psoriasis; observational research; productivity.

Approximately 20% of patients with plaque psoriasis are thought to have moderate to severe plaque psoriasis (MSPP).[1-3] Plaque psoriasis has been associated with depression, immune-mediated inflammatory conditions, lymphoma, metabolic syndrome and obesity, and myocardial infarction[2,4]; severe psoriasis has even been associated with shortened survival.[1,2] MSPP has

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been shown to negatively impact health-related quality of life[5]; patients with psoriasis report similar or worse health-related quality of life compared with chronic diseases such as diabetes.[6]

Guidelines discuss patients with MSPP receiving conventional systemic therapies, biologic agents, phototherapy, and topical agents alone or in combination.[2,7,8] Previous studies, such as the National Psoriasis Foundation survey (2003-2005), have found a substantial proportion of patients do not seek treatment or are undertreated.[9]

MSPP costs include direct costs to payers, (eg, dermatologist office visits, prescription or physician-administered treatments, hospitalization), out-of-pocket costs to patients, and indirect costs (eg, lost productivity as a result of absenteeism).[9-15] Most economic studies to date have included all patients with psoriasis.[15] An analysis of 2003 data reported significantly greater annual costs for MSPP compared with mild psoriasis ($10,593 vs $5011) and identified the primary cost driver of MSPP to be outpatient visits.[10] More recent observational studies have identified pharmacotherapy and other treatments as primary cost drivers.[14,16,17] One study reported the average annual cost of MSPP to be $11,029 and $26,708 for patients treated with conventional systemics and biologics, respectively.[17] Use of alternative, nonmedical therapies and corresponding high out-of-pocket costs among patients with MSPP have also been observed.[12,18]

Psoriasis has been associated with negative impacts on productivity and finances.[6,11-16,19-23] In 1 United Kingdom study, patients missed an average of 26 work days annually as a result of MSPP.[19] An Italian study reported that absenteeism (or loss of leisure time for nonemployed patients) accounted for 32% of total MSPP-related costs.[11] A recent US survey found that compared with patients with mild psoriasis, patients with severe disease were less likely to work full-time and significantly more likely to report that psoriasis was the reason for not working.[20]

Although studies have been conducted in Europe[11-13,16,24-27] and Canada[14,28-30] to assess health care resource use (HCRU), productivity, and costs associated with psoriasis, at the time of this study no comprehensive studies of the economic burden of MSPP, including direct and indirect costs, had been conducted in the United States to our knowledge. Because extrapolating non-US findings to the United States is not straightforward as a result of differences in health care delivery systems and costs across countries, a gap remains in the understanding of MSPP costs in the United States. Recently the United States Centers for Disease Control and Prevention (CDC) published recommendations for additional public health research into the HCRU, impact on ability to work, and costs associated with psoriasis.[31,32] This study aimed to evaluate the economic burden of MSPP in the United States by capturing its impact on HCRU, productivity, and direct and indirect costs among patients actively seeking treatment via patient survey and medical chart review.

CAPSULE SUMMARY

- The economic burden of moderate to severe plaque psoriasis has been studied in Europe and Canada.
- This study captures medication use, health care resource use, lost productivity, direct and indirect costs associated with moderate to severe plaque psoriasis in the United States by Psoriasis Area and Severity Index score.
- Results can help US clinicians understand impacts of real-world treatment patterns and remaining unmet need.

METHODS

Study design and data sources

This US observational study included a cross-sectional survey and 6-month retrospective chart review. Patients with plaque psoriasis and body surface area (BSA) of 10 or higher at enrollment or in the prior 6 months, or on systemic therapy or phototherapy (or both) for MSPP at screening were eligible.* Eligible patients were 18 years or older, willing and able to provide written informed consent, able to read and understand English, treated at the physician's practice for at least 6 months, and given a diagnosis of MSPP more than 6 months before enrollment. Patients were ineligible if they had participated in an investigational drug study in the 6 months before enrollment; had a serious or unstable medical or psychological condition that, in the opinion of the physician, would compromise participation in the study; or had psoriasis other than plaque psoriasis.

Patients with MSPP were recruited (January through May 2012) during a routine physician office visit at 1 of 9 participating sites: 8 community-based dermatologists and 1 primary care physician. The 9 sites were located in 8 US states: Nebraska, Illinois, North Carolina, Indiana, Arkansas, California, Kentucky, and Florida. There was competitive enrollment among sites until the overall target

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*PASI and BSA were calculated at the site. Sites received study-specific training on calculating the scores for PASI and BSA.