

Abstract

Title

BE ON POINT – BurdEn ON PsOriasIs PatIeNT Study.

Keywords

Psoriasis, economic burden, cost, comorbidities, quality of life, Greece.

Rationale and Background

Psoriasis is a chronic inflammatory condition of the skin with flares and period of remission throughout the patient’s life. Controlling the signs and symptoms typically requires lifelong therapy, with modalities that vary on the severity and type of psoriasis.

Over the past decade, the Greek economic crisis has resulted in reduced incomes for patients, while co-payments and other out-of-pocket expenses have increased. There are currently no available data in the Greek population providing estimates of the overall economic burden of patients suffering from plaque psoriasis in Greece. The objective of this study was to estimate the annual economic burden in euros of adult patients suffering from plaque psoriasis in Greece, from a societal, payer, and patient perspective. Additionally, the study aimed to assess the correlation of cost with the different degrees of disease, to measure the impairment in quality of life (QoL), and the impact of the disease on work productivity.

Research Question and Objectives

The primary objective of the study was to determine the annual economic burden on adult patients suffering from plaque psoriasis in Greece.

Secondary objectives included:

- The assessment of the correlation of cost with the different degrees of severity of the disease (mild vs moderate-severe psoriasis),
- The determination of the prevalence of comorbidities in each disease group (mild vs moderate-severe patient group),
- The determination of the quality of life (QoL) and work productivity burden.

Study Design

This was a national, 6-month, multi-centre, prospective, epidemiological study across different geographical regions in Greece assessing adult patients who at the time of entry have stable plaque psoriasis of any severity for the past 6 months.

Patients were invited to participate in the study at the time of their dermatological examination. The participating physicians were free to determine the appropriate therapy for each patient and make treatment choices as deemed clinically necessary. No procedures other than standard care were applied to the patients.

A patient diary was used in order to document the cost of all treatments, healthcare resource usage, loss of productivity and leisure time. Patients were observed during their routine clinical visits, which usually occurred at monthly or bimonthly intervals.

Results

This study was conducted in 55 sites across Greece which screened and enrolled in total 668 adult patients. There were very few withdrawals altogether and the vast majority of the patients (99.2%) completed the 6-month study period.

The gender distribution of the enrolled patients was male 1.2: female 0.8 respectively. The mean patient age was 50.11 years old. The median time from diagnosis to study entry was 10 years and the median time from symptom onset to study entry was 12 years. Regarding lifestyle patterns, 39.2% of the study patients were smokers and 79.6% reported that they did not consume alcohol. The average body mass index (BMI) 27.23.

In addition to plaque psoriasis, scalp psoriasis (55.2% of patients) and nail psoriasis (29.3% of patients) were also encountered. Approximately equal distribution was observed in the study population regarding psoriasis severity levels, i.e. 51% of the study patients had mild psoriasis and 48.7% had moderate-severe disease. Disease levels were not specified in 0.3% of patients. Approximately half of the study patients (46.3%, 309 of the 668 patients) had concomitant diseases other than plaque psoriasis. At least one comorbidity was recorded in 39.5% of mild and 53.2% of the moderate-severe plaque psoriasis patients. The most frequently recorded comorbidities in patients with both mild and moderate-severe plaque psoriasis were hypertension, hyperlipidemia, depression, obesity, diabetes mellitus, and psoriatic arthropathy (PsA). The aforementioned comorbidities (cut-off point: 5% of study population) affected 31% of study patients with mild disease versus 41% of patients with a moderate-severe disease. There was a statistically significant association in

the incidence of hypertension in mild disease patients ($p=0.009$) and PsA in moderate-severe disease patients ($p<0.001$).

Most of the study patients were residents of urban areas and less than 10% lived in suburban or rural areas respectively. In terms of marital status, the majority of the study patients (63.3%) were married. Furthermore, the study patients had an overall advanced educational profile (secondary education 36.6% and at least high and postgraduate education level 21.4%). Slightly over 60% of the study patients were employed at the time of the study, primarily full-time. Almost 50% of the employed patients had to liaise with customers. Regarding economic status, 2/3 of the study patients reported a monthly income between 601-1000 € or of less than 600 €.

The mean (95% CI) annual economic burden of psoriasis from a societal perspective was calculated at €4,683 (€4,311 – €5,119) per patient. The annual societal burden was found to be significantly lower among patients with mild psoriasis [€2,253 (€1,939 – €2,610)] compared with those with moderate/severe psoriasis [€7,222 (€6,690 – €7,896); p -value= 0.0001]. The mean (95%) annual direct cost was €4,544 (€4,199 – €5,000), while the annual indirect cost was €139 (€99 – €194). The annual direct cost was significantly lower among patients with mild psoriasis compared to those with moderate or severe psoriasis, while no impact of disease severity on annual indirect cost was detected. The main driver of annual direct cost was the medication (drugs and healthcare products) accounting for 87.5%, followed by outpatient visits. The medication cost was significantly lower among patients with mild psoriasis [€1,558 (€1,306 – €1,909)] compared to those with moderate/severe psoriasis [€6,501 (€5,976 – €7,182); p -value=0.0001] while no difference was detected in regard to the outpatient visit cost.

From a payer's perspective, the annual mean (95% CI) economic burden of psoriasis per patient was estimated at €3,759 (€3,400 – €4,164) with medication being the main cost driver and accounting for 96% of the total annual cost [€3,608 (€3,242 – €4,020)]. A statistically significant impact of disease severity of the annual direct medical cost was detected. From the patient's perspective, the mean (95% CI) total annual burden of psoriasis was calculated at €785 (€725 – €859), with no significant difference detected between patients with mild and those with moderate/severe psoriasis.

Moreover, the effect of disease severity on the annual burden of psoriasis does not alter by residence or by education status irrespective of the perspective of analysis.

A percentage of 56.4% of patients reported that they had missed work during the past 6 months due to their psoriasis, with the median (Q1 – Q3) hours lost being 4 (2 – 9).

The vast majority of patients lost time allocated to leisure activities due to psoriasis and the reported median (Q1 – Q3) loss was 6 (4 – 12) hours.

The most common reason for hospitalization, among all patients, was drug administration, followed by psoriasis complications (22%). The median (Q1 - Q3) of times that a patient was hospitalized, was 1 (1 – 3.5), with no observed difference between the patients with mild or moderate-severe psoriasis. The median (Q1 - Q3) total length of stay of any hospitalization was 4 (3 – 7.5) days.

Discussion

- The study population was typical of patients with psoriasis in Greece. From a societal perspective, the annual economic burden reported noted a difference based on disease severity. Differences in methodology did not allow for a direct comparison of the results with other local studies.
- Direct medical cost was found to be the main cost driver of annual cost, which is in accordance with the literature.
- Out-of-pocket costs accounted only for a small part of the total cost, as opposed to other publications, and exhibited a difference between disease severity groups in non-biologic treatments and OTC/self-care products.
- The reported productivity loss was low but more prominent in higher severity presentations, in alignment with data from other countries.
- The study population was characteristic of patients with psoriasis in Greece. The overall profile resembled that of the overall population according to current reports from national agencies. The disease profile of the patients was also in agreement with that reported from national as well as international studies.
- Approximately half of the study plaque psoriasis patients (46.3%) had comorbidities. At least one comorbidity was recorded in 39.5% mild and 53.2% moderate-severe study patients.
- Overall, the six most commonly recorded comorbidities in the study population (cut-off point 5%) were psoriatic arthropathy, hypertension, hyperlipidemia, depression, obesity and diabetes mellitus. There was a statistically significant association in the incidence of hypertension in mild disease patients ($p=0.009$) and PsA in moderate-severe disease patients ($p<0.001$).

- The comorbidities recorded in this study affected mainly life expectancy as well as psychological status. They also reflected psoriasis duration and lifestyle-related factors in the study population. Thus, the incidence of comorbidities that are known to be related to psoriasis disease duration, such as PsA and metabolic syndrome, was lower compared to other studies.