Title page

Title: Moderate to severe psoriasis patients' subjective future expectations regarding health-related quality of life and longevity

Running head: Rencz F *et al.* Psoriasis patients' expectations

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Abstract

Background: Unrealistic expectations regarding treatments and clinical outcomes may lead to disappointment about therapy and sub-optimal compliance; nonetheless, these expectations have not been studied in psoriasis patients yet.

Objective: To evaluate psoriasis patients' subjective future expectations regarding health-related quality of life (HRQOL) and life-expectancy, and to explore clinical features associated with under- or overestimating behaviour.

Methods: A cross-sectional questionnaire survey of consecutive adult patients with moderate to severe psoriasis was conducted. HRQOL expectations were recorded by applying the EQ-5D descriptive system for 6 months ahead and for future ages of 60, 70, 80 and 90, respectively.

Results: In total, 167 patients (71% males) were included in the analysis with mean age of 50.4 ± 12.4 years and mean EQ-5D score of 0.71 ± 0.30. Overall 65% had chronic plaque psoriasis, 35%-35% nail or scalp involvement, 29% psoriatic arthritis, 9% inverse psoriasis, and 5% palmoplantar psoriasis, respectively (combinations occurred). Participants expected 0.1 ± 0.23 mean improvement in EQ-5D within 6 months ($p<0.001$) that achieves the minimum clinically important difference. Overall 37% expected improvement and 13% decline; however, 49% expected no changes in any of the five dimensions of EQ-5D within 6 months. Female gender, inverse or palmoplantar involvement, and more severe psoriasis were likely associated with higher expectations. Patients at the initiation of their first biological at the time of the survey expected 0.18 ± 0.24 increase that seems to be realistic compared to the EQ-5D utility gain achieved in randomised controlled trials. Males expected by 2.7 ± 11.1 more, while females expected by 5.2 ± 9.3 less life-years compared to the average statistical gender- and age-matched life-expectancy ($p<0.05$). Patients who expected to be alive at ages of 60, 70, 80, and 90 scored their future EQ-5D at ages of 60 to 90: 0.59 ± 0.46, 0.48 ± 0.41, 0.42 ± 0.41, and 0.22 ± 0.47, respectively.

Conclusion: Our findings highlight the importance of exploring expectations that might help to increase patients' compliance.

Keywords: psoriasis, health-related quality of life, EQ-5D, health expectations, biologicals, Hungary

Introduction

Psoriasis is a common inflammatory, immune-mediated condition that requires life-long treatment and disease management. Multiple co-morbidities, including psoriatic arthritis, inflammatory bowel diseases, diabetes, metabolic syndrome, obesity, dyslipidaemia, cardiovascular disease, and psychological or psychiatric disorders are often related to psoriasis.[1,2] Severe psoriasis is associated with increased mortality due to various causes, of which the most common is cardiovascular disease.[3]

Several cross-sectional studies described substantial health-related quality of life (HRQOL) impairment in psoriasis incorporating physical, psychological, social, and economic dimensions.[4] According to a recently advocated new concept, namely the Cumulative Life Course Impairment (CLCI) approach, the negative impact of psoriasis on HRQOL cumulates throughout patients' lifetime and can modify life-course in sociological terms.[5-7] Consequently, it would be more appropriate to consider psoriasis from a long-term or preferably lifelong perspective.[8]

We believe that dimension of future is embedded to the CLCI concept, although have not been studied yet. Future disease course of psoriasis is unpredictable and varies by individual. In general, patients are exposed to excessive uncertainty regarding their future in terms of longevity and HRQOL, that hampers planning, achieving life goals and influence major life changing decisions.[9] Openly discussing patients' subjective expectations for the future is considered a key role in the management of a lifelong condition and might help to prevent unrealistic expectations that lead to dissatisfaction, dispraising treatment benefits and eventually compliance decrease.[10]

This explorative questionnaire survey aims to evaluate adult moderate to severe psoriasis patients' subjective life-expectancy (LE) and expected HRQOL for 6 months ahead and for future ages of 60, 70, 80, and 90, respectively. We analyse the relationship between actual HRQOL - measured with both disease specific and general instruments - and expectations, and investigate the predictors of subjective LE and expected HRQOL at future ages. Moreover, we compare subjective expectations of psoriasis patients with earlier findings of the Hungarian general public and a sample of rheumatoid arthritis patients.

Methods

Patients

Consecutive psoriasis patients in outpatient visits at two Hungarian academic dermatology clinics were invited by their physicians to participate in a cross-sectional questionnaire survey. Inclusion criteria to the study were at least 18 years of age and to have been diagnosed with moderate to severe psoriasis for at least 12 months, or being treated with systemic or biological therapy. Diagnosis of moderate to severe psoriasis was established based on the definition of the European consensus: (Body Surface Area > 10 or Psoriasis Area and Severity Index - PASI > 10) and Dermatology Life Quality Index - DLQI > 10.[11] Patients were assessed by two independent dermatologists and no skin biopsy was performed. The study was approved by the national research ethic committee (ETT – TUKEB 35183/2012-EKU), and all participants signed an informed consent form. Detailed descriptions of the study design and methods were published elsewhere.[12, 13]

Actual health status and expectations for the near future

To assess patients' actual health status, validated versions of EQ-5D and the visual analogue scale (EQ VAS), DLQI, and PASI-72 (hereinafter PASI) were used.[14-17] Moreover, patients were asked to evaluate their expected HRQOL in 6 months also by the EQ-5D-3L descriptive system.

Expectations for life expectancy and HRQOL in future ages

Patients were asked to indicate the age they expect themselves to live (self-estimated or subjective LE) and their expected health status at older ages. To make the expectations comparable to current health status, the expected HRQOL was captured with the same instrument as general HRQOL, namely descriptive system of the EQ-5D, but statements were modified in terms of patients had to imagine that they were at the age of 60, 70, 80, and 90 years, respectively (see Appendix 1). Patients were asked not to respond to questions about future life years that they had already reached, and answers of those who responded despite of passing a certain age were excluded. This methodology was previously used in the Netherlands and as well in Hungary in large expectation surveys on the general population, and also in a recent study with Hungarian rheumatoid arthritis (RA) patients.[18-20]

Data analysis

Patients who did not provide answer on (1) subjective LE, (2) their actual EQ-5D, and (3) expected EQ-5D in 6 months were excluded from the analysis. However, answers of those who did not respond to any of the questions concerning expectations for older ages were kept. Respondents who expected to be alive at a certain older age were labelled as 'survivors' and those not expecting to live, were considered as 'non survivors'. Subjective LE responses of patients who expected themselves to live more than the age of 100 were truncated to 100. Statistics were performed with IBM SPSS version 20.0 (SPSS Inc., Chicago, IL, USA).

Difference between subjective LE and patients' actual age- and gender-matched statistical life expectancy (actual LE) was computed based on data retrieved from the Hungarian Central Statistical Office (KSH).[21] Expectations on HRQOL in older ages were compared to actual health status of the age-matched patients within the sample.

Due to the skewed distribution of data, significance level of differences was tested using non-parametric tests: Wilcoxon signed-rank test, Mann-Whitney U test and Kruskal-Wallis test, where appropriate. Relationship between the continuous variables regarding both subjective LE and HRQOL expectations was analysed by Spearman's correlations. All the applied statistics were two-sided with a significance level of p<0.05.

Results

Patient characteristics

Out of the 200 participants who completed the questionnaire, 33 patients were excluded based on the previously defined exclusion criteria, and eventually 167 patients were involved in the analysis. No significant difference was noted in main characteristics of the total sample and the subsample of 167 patients.[12,13] Mean age and disease duration were 50.38±12.35 and 22.86±12.8 years, respectively, and 71% were males. Mean EQ-5D, EQ VAS, DLQI, and PASI scores were 0.71±0.30, 65.31±21.08, 5.89±7.10, and 7.82±10.13, respectively. Overall 56% of the patients received biological, 24% systemic non-biological, 10% topical therapy, and 9% were at the initiation of their first biological at the time of the survey (Table 1). In total 107 (64%) patients had chronic plaque psoriasis, 59 (35%) nail involvement, 59 (35%) scalp involvement, 48 (29%) psoriatic arthritis (PsA), 15 (9%) inverse psoriasis, 9 (5%) palmoplantar psoriasis, 2 (1%) guttate psoriasis and 1 (1%) erythrodermic psoriasis (combinations occurred).

Actual health-related quality of life

Female patients reported significantly lower mean EQ-5D scores than males (0.62 vs 0.75, p=0.003). By comparing clinical subgroups, patients with palmoplantar involvement and PsA were associated with the highest HRQOL impairment with mean EQ-5D score of 0.48±0.31 and 0.51±0.34, respectively. Patients treated with biologicals were found in significantly better actual health state compared to either those who received topical therapy (p=0.011) or systemic non-biological therapy (p=0.035).

Subjective expectations on HRQOL for 6 months ahead

Patients' 6-month ahead expectations are presented in Table 1. Participants expected on average 0.10±0.23 scores improvement in their quality of life on the short term (p<0.001). Out of the 167 patients, 83 (49%) expected to be in exactly the same health state in all five dimensions of EQ-5D, whereas 62 (37%) expected better, and 22 (13%) worse HRQOL compared to the current. Mean EQ-5D score of those who expected increase, same, or decrease were 0.52, 0.86, and 0.69, respectively (p<0.001). Moreover, those who expected improvement within 6 months, expected more than a double increase in EQ-5D score (0.32) compared to those who expected deterioration (-0.12). Patients expecting deterioration tended

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to be older compared to those who expected being in the same or better health state (mean age 56.6 years vs 49.4 years, p=0.03). Greatest improvements were expected within the dimensions of pain/discomfort and anxiety/depression (16 and 17% expected to achieve the level of no symptoms). Females expected higher mean improvement than males (0.18 vs 0.07 p=0.015); however, females' actual HRQOL was also observed lower. Palmoplantar involvement and inverse psoriasis were associated with significantly higher expectations (mean improvement in EQ-5D score 0.27, p=0.013 and 0.28, p=0.008) than other clinical subtypes. The more clinical subtypes or localisations a patient had, the higher expectations were marked. Patients on topical treatment and those at the initiation of their first biological therapy also indicated high expectations (mean improvement in EQ-5D score: 0.26, p=0.003 and 0.18, p=0.028).

Difference between actual and expected EQ-5D showed moderate inverse correlation with the actual EQ-5D and EQ VAS, and weak positive correlation with DLQI and PASI; thus, the worse the patients' actual health state was (both in terms of general and disease-specific aspects) the higher their expectations were (Table 2).

Subjective expectations for life expectancy

Subjective expectations regarding length of life were in line with patients' actual (statistical) LE (76.21 and 75.82, p=0.890). Males expected by 2.73±11.14 more, while females expected by 5.23±9.34 less life-years compared to the average statistical gender- and age-matched LE (p<0.05). The comparison of clinical subtypes and localisations revealed that palmoplantar psoriasis, inverse psoriasis, PsA, and scalp involvement were related to the most prominent underestimations (-4.01, -3.01, -2.67, -1.65 years); however, only the scalp involvement was proven statistically significant so. Besides, patients presenting 4 or more clinical subtypes or localisations, and those at the initiation of their first biological treatment were associated with very low expectations (Table 3). Age, EQ-5D, EQ VAS, DLQI, and PASI showed moderate or weak, statistically significant correlation with subjective LE (Table 2).

Expectations for HRQOL at future ages

Questions concerning subjective expectations of HRQOL for older ages were roughly relevant to the sample, 73%, 97%, 99% and 100% of the patients were under the age of 60, 70, 80 and

90 years, respectively. Response rate of these questions decreased by the age asked (Table 1) and only a proportion of this decline could be explained by the fact that some participants did not expect to live until the age in question (expected non-survivors). Expected survivors scored their future EQ-5D at ages of 60 to 90: 0.59±0.46, 0.48±0.41, 0.42±0.41, and 0.22±0.47, respectively. It is notable that survivors expected positive EQ-5D scores at each given age, whereas non-survivors expected on average negative even for the age of 60. This finding is supported by the fact that subjective expectations on LE showed significant moderate positive correlation with expected EQ-5D at each future age investigated (Table 2). The highest HRQOL impairment was expected in mobility and pain/discomfort dimensions of EQ-5D for each decade. Males expected to have better HRQOL at each future age; however, this was only significant for age of 60 (p=0.005). Moderate positive correlation was identified between expectations and present health state (EQ-5D score and EQ VAS), and only weak inverse relationship was demonstrated with DLQI and PASI scores.

Discussion

This study intended to assess moderate to severe psoriasis patients' expectations on subjective LE and HRQOL for 6 months ahead and for future ages. Subjective future expectations could be considered as an extension of the CLCI approach for psoriasis. We investigated socio-demographic and clinical features influencing the under- and overestimating behaviour to provide new details about psoriasis patients' lifetime burden. A recent study suggested that expectations in regard to positive life events and optimism are predictors of HRQOL in psoriasis.[22]

Patients' actual health state was found significantly below the age-matched general population's (0.71 vs 0.81, p<0.001).[23] However, on average they expected improvement in their health state to gain on the age-matched general population within 6 months (mean EQ-5D score increase 0.10±0.23, p<0.001). The expected improvement achieves the minimum clinically important difference (0.10 and 0.20 for those patients who fulfilled criteria of PASI25-49 and PASI50-74, respectively).[24] Nevertheless, certain subgroups, such as patients with PsA, or with 4 or more clinical subtypes or localisations, expected significantly worse (p<0.05), and those who reported to be asymptomatic at the time of the survey expected better HRQOL than the age-matched general population (p<0.001). Patients with the following characteristics have more often expected improvement: women and younger patients, having palmoplantar or inverse psoriasis or PsA, those in worse health state (measured with either EQ-5D, DLQI, or PASI), patients at the initiation of their first biological, or those on topical therapy. In contrast, older patients in better health state (EQ-5D), and those with nail or scalp involvement were prone to expect decline within 6 months. Almost half of the 167 patients expected to be in the same, on average fairly good health state in 6 months (mean EQ-5D-score 0.86).

Possible reasons for optimism are that these patients are treated at two university clinics which considered to offer higher quality of care; and also high proportion of patients received biologicals or were about to start their first biological drug (56% and 8%). Six-month ahead expectations can be compared to the achievable EQ-5D utility gain recorded in randomised controlled trials (RCT) of biologicals that ranges between 0.12 and 0.21 within 12-54 weeks follow-up periods.[25-28] Therefore, the expectation of gaining 0.18±0.27 improvement in EQ-5D within 6 months from the initiation of the first biological seems realistic and obtainable. This is also supported by recent registry-based real-life data of 267 Swedish patients initiating their first biological who improved 0.12±0.24 in EQ-5D score within various follow-up

durations (12-54 weeks).[29] Furthermore, in our study, 6-month expectation results are in line with the actual EQ-5D of patients on biologicals at the time of the survey (0.77 vs 0.76). Seventeen patients treated with topicals also indicated very high expectations (mean EQ-5D improvement 0.26) to reach an EQ-5D score of 0.91 within 6 months. Presumably, the worse actual health state of these patients (mean PASI 20.8 and DLQI 12.9) was the most influential determinant of their higher expectations (Table 2).

Subjective LE of our sample was consistent with the gender- and age-matched statistical LE. This result suggests that psoriasis patients, in average, do not count with a negative impact of the disease on their length of life. However, it is not necessarily the case. On the one hand, the difference between genders is striking as women expected mean 5 years shorter life than the gender- and age-matched statistical life expectancy, whilst men a 2 years longer one. On the other hand, the reference point for patients' estimate is unknown. In our survey we did not ask directly whether patients expect shorter or longer life than their counterparts from the general population, nor we explored patients' knowledge about statistical life-expectancy. Péntek and colleagues observed an overestimation of subjective LE compared to statistical LE in a large, although non-representative sample of the general public in Hungary.[19] Compared to those results, psoriasis patients' estimates lag behind in both genders that might reflect some disease related concerns. Moreover, patients' cognition on disease related risks was not surveyed, either. Literature data suggest that life expectancy in psoriasis is decreased due to the presence of multiple co-morbidities, particularly higher risk of cardiovascular disorders.[30] However, systemic treatment with either biologicals or methotrexate has been recently proven preventive against cardiovascular disease events.[31] Therefore, firm conclusions regarding the influence of psoriasis on patients' subjective life expectancy are hard to drawn.

In contrast to the rather optimistic HRQOL expectations for the near future, patients expected increasing deterioration in their health for the ages of 60 to 90, respectively. We compared psoriasis patients' expectations for the future to findings from the age-matched participants of a similar study among the Hungarian general population (Fig. 1).[19] It should be noted, however, that expectations regarding future ages could be strongly biased by societal age-norms.[32] We presume therefore, that patients' poor expectations in terms of HRQOL are not self-fulfilling prophecies; nonetheless, more research in the field would be needed for establishing empirical support for this evidence.

Recently a similar study was carried out involving rheumatoid arthritis (RA) patients at the initiation of their first biological drug (N=92, mean age: 51.1±11.9).[20] Thus, we compared

findings of RA patients with the 14 psoriasis patients initiating biological treatment at the time of this survey. RA patients expected significantly higher, on average 0.39 point improvement in EQ-5D within 3 months compared to psoriasis patients' 0.18 expectation within 6 months (p<0.05). As for future ages, very similar expectations can be observed with statistically significant difference only for the age of 90, where psoriasis patients expected lower EQ-5D scores (p<0.05).

Potential limitations of this study should be taken into consideration. The Hungarian statistical LE data used for the comparisons were merely gender- and age-matched, although other socioeconomic determinants, such as level of education, marital status, and monthly income, might also have an impact on LE. Only one instrument, the EQ-5D-3L descriptive system was applied to assess future expectations that allows to draw conclusions only about general HRQOL. Using other tools to capture more disease-related and psychological aspects of HRQOL would be very beneficial, as well as to evaluate dermatologists' expectations and to compare them with those of patients.

To sum up, out of the 167 moderate to severe psoriasis patients, 37% expected improvement, 13% decline, and 49% expected exactly the same HRQOL in all five dimensions of EQ-5D 6 months ahead. On average 0.1 point increase expected in EQ-5D achieves the minimum clinically important difference. Female gender, inverse or palmoplantar involvement, worse actual health state assessed by EQ-5D or DLQI, and more severe psoriasis expressed in PASI scores were likely associated with higher expectations. By contrast, for each future decade large-scale deterioration was expected that was not conform to the actual health state of the age-matched patients within the sample. Fourteen patients at the initiation of their first biologicals expected on average 0.18 improvement in EQ-5D score within 6 months that seems realistic compared to the achievable health gain noted in RCTs of biological drugs. Exploration of overmuch optimistic or pessimistic expectations and under- or overestimating behaviour may provide a better understanding of the lifelong burden of psoriasis, promotes decision making, and might improve patients' compliance in everyday clinical practice.

Acknowledgement

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Tables

Table 1 Actual HRQOL and subjective expectations for the future

	N (%)	Actual EQ-5D	Expected EQ-5D score for 6 months ahead	Difference between actual score and 6 months expectations	Expected EQ-5D scores for future ages			
					60	70	80	90
N (response rate, %)			167 (100%)		114 (93%)	143 (88%)	119 (72%)	92 (55%)
Total sample	**167**	**0.71 (0.30)**	**0.81 (0.24)**	**0.10 (0.23)[a]**	**0.56 (0.48)**	**0.38 (0.50)**	**0.15 (0.55)**	**-0.17 (0.54)**
Gender								
Female	**49 (29%)**	0.62 (0.32)	0.80 (0.25)	0.18 (0.28) [a,b]	0.31 (0.60) [b]	0.27 (0.56)	0.06 (0.57)	-0.20 (0.56)
Male	**118 (71%)**	0.75 (0.28)	0.82 (0.24)	0.07 (0.20) [a,b]	0.66 (0.38) [b]	0.43 (0.46)	0.20 (0.54)	-0.16 (0.53)
Clinical subtypes and localisations [§, *]								
Chronic plaque psoriasis	**107 (64%)**	0.65 (0.30)	0.77 (0.26)	0.13 (0.25) [a]	0.48 (0.51) [b]	0.29 (0.53) [b]	0.07 (0.56) [b]	-0.26 (0.52) [b]
Inverse psoriasis	**15 (9%)**	0.61 (0.33)	0.89 (0.18)	0.28 (0.33) [a,b]	0.63 (0.43)	0.42 (0.62)	0.20 (0.58)	-0.11 (0.61)
Nail involvement	**59 (35%)**	0.63 (0.31)	0.76 (0.26)	0.13 (0.23) [a]	0.42 (0.53) [b]	0.25 (0.56) [b]	0.03 (0.59)	-0.21 (0.55)
Scalp involvement	**59 (35%)**	0.64 (0.29)	0.75 (0.29)	0.10 (0.21) [a]	0.45 (0.54)	0.21 (0.59) [b]	-0.01 (0.58) [b]	-0.20 (0.61)
Psoriatic arthritis	**48 (29%)**	0.51 (0.34)	0.70 (0.31)	0.19 (0.29) [a,b]	0.30 (0.57) [b]	0.16 (0.55) [b]	0.04 (0.55)	-0.17 (0.57)
Palmoplantar psoriasis	**9 (5%)**	0.48 (0.31)	0.75 (0.20)	0.27 (0.22) [b]	0.57 (0.36)	0.44 (0.33)	0.42 (0.29)	-0.04 (0.78)
Number of present clinical subtypes or localisations								
0 (asymptomatic at the time of the survey)	**47 (28%)**	0.87 (0.23)	0.92 (0.14)	0.05 (0.18)	0.76 (0.31) [b]	0.58 (0.34) [b]	0.33 (0.50) [b]	-0.02 (0.54)
1	**28 (17%)**	0.71 (0.26)	0.79 (0.22)	0.08 (0.25)	0.53 (0.50) [b]	0.37 (0.47) [b]	0.05 (0.52) [b]	-0.33 (0.42)
2-3	**70 (42%)**	0.67 (0.29)	0.80 (0.23)	0.13 (0.23) [a]	0.54 (0.47) [b]	0.36 (0.51) [b]	0.18 (0.55) [b]	-0.20 (0.55)
≥4	**22 (33%)**	0.49 (0.33)	0.66 (0.36)	0.17 (0.28) [a]	0.16 (0.59) [b]	0.03 (0.59) [b]	-0.13 (0.58) [b]	-0.24 (0.60)
Present treatment[**]								
Topical	**17 (10%)**	0.64 (0.34)	0.91 (0.16)	0.26 (0.33) [a]	0.91 (0.18) [b]	0.53 (0.48)	0.31 (0.56)	0.21 (0.66)
Systemic non-biological	**40 (24%)**	0.65 (0.29)	0.72 (0.23)	0.07 (0.19) [a]	0.40 (0.50) [b]	0.23 (0.53)	-0.04 (0.51)	-0.28 (0.55)
Biological	**94 (56%)**	0.76 (0.28)	0.84 (0.22)	0.08 (0.21) [a]	0.58 (0.47) [b]	0.41 (0.49)	0.22 (0.54)	-0.13 (0.51)
Initiation of first biological at the time of the survey	**14 (8%)**	0.59 (0.34)	0.77 (0.37)	0.18 (0.27) [a]	0.47 (0.55) [b]	0.29 (0.49)	-0.02 (0.64)	-0.41 (0.45)
Expected survivors[***] (N, % of respondents)	-	-	-	-	109 (96%)	130 (90%)	62 (52%)	18 (20%)
Expected survivors	-	-	-	-	0.59 (0.46) [a]	0.48 (0.41) [a]	0.42 (0.41) [a]	0.22 (0.47) [a]
Expected non-survivors	-	-	-	-	-0.32 (0.32) [a]	-0.06 (0.61) [a]	-0.14 (0.53) [a]	-0.26 (0.51) [a]

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a: Wilcoxon signed-rank test p<0.05; b: Mann-Whitney U test or Kruskal Wallis test p<0.05. § Combinations are possible. * Two patients had guttate and one had erythrodermic psoriasis. **Two patients received no therapy at the time of the survey. *** Expected to live until the future age asked.

Table 2 Correlations between expectations and continuous variables

	Expected EQ-5D in 6 months		Expected length of life		Expected EQ-5D at age of …			
	EQ-5D in 6 months	Difference expected in 6 months – actual EQ-5D	Subjective LE	Difference subjective – actual LE	60 yrs	70 yrs	80 yrs	90 yrs
Age	-0.34*	-0.11	0.21*	-0.07	-0.20*	-0.02	0.09	0.03
Subjective LE	0.30*	-0.11	-	0.90*	0.43*	0.50*	0.55*	0.48*
Actual LE	-0.27*	0.03	0.14	-0.26*	0.33*	-0.12	-0.03	-0.04
Psoriasis duration	-0.31*	-0.09	0.06	-0.03	-0.29*	-0.11	-0.05	-0.04
EQ-5D	0.66*	-0.44*	0.35*	0.47*	0.62*	0.57*	0.52*	0.52*
EQ VAS	0.51*	-0.06	0.29*	0.36*	0.52*	0.43*	0.43*	0.38*
DLQI	-0.24*	0.18*	-0.20*	-0.20*	-0.16	-0.25*	-0.21*	-0.26*
PASI	-0.22*	0.18*	-0.12*	-0.14	-0.21*	-0.22*	-0.14	-0.20

* Spearman's rho $p<0.05$; for EQ-5D and EQ VAS higher score, for DLQI and PASI lower score refers to better health state.

Table 3 Subjective and actual life expectancy (mean, SD)

	N (%)	Subjective LE	Actual LE	Difference subjective-actual LE
	167	76.21 (10.92)	75.82 (4.05)	0.39 (11.21)
Gender				
Female	**49 (29%)**	74.86 (9.54)	80.09 (1.77)	-5.23 (9.34) [a,b]
Male	**118 (71%)**	76.77 (11.43)	74.04 (3.34)	2.73 (11.14) [a,b]
Education[§]				
Lower	**32 (19%)**	73.50 (13.50)	76.82 (3.69)	-3.32 (12.62)
Secondary	**98 (59%)**	75.57 (9.61)	75.50 (4.23)	0.07 (9.91)
College/university	**37 (22%)**	80.24 (11.29)	75.79 (3.82)	4.46 (11.25) [a]
Net monthly income (EUR)*[§]				
0-263	**62 (37%)**	75.29 (12.08)	76.44 (3.81)	-1.15 (12.52) [b]
264-526	**65 (39%)**	75.62 (9.66)	75.65 (4.25)	-0.03 (9.22) [b]
527-877	**21 (13%)**	79.00 (8.55)	75.64 (4.26)	3.36 (9.41) [b]
878-	**11 (7%)**	84.09 (8.79)	74.58 (3.51)	9.51 (8.46) [a,b]
Clinical subtypes and localisations*				
Chronic plaque psoriasis	**107 (64%)**	75.75 (10.82)	75.89 (4.08)	-0.14 (11.15)
Inverse psoriasis	**15 (9%)**	74.53 (10.19)	77.55 (4.38)	-3.01 (8.69)
Nail involvement	**59 (35%)**	73.93 (11.18)	75.52 (3.86)	-1.59 (11.09)
Scalp involvement	**59 (35%)**	74.71 (11.34)	76.36 (4.29)	-1.65 (11.57) [b]
Psoriatic arthritis	**48 (29%)**	74.06 (10.32)	76.73 (3.60)	-2.67 (10.32)
Palmoplantar psoriasis	**9 (5%)**	73.89 (8.85)	77.90 (3.36)	-4.01 (8.44)
Number of present clinical subtypes or localisations**				
0 (asymptomatic at the time of the survey)	**47 (28%)**	77.49 (11.61)	75.40 (4.15)	2.09 (11.99)
1	**28 (17%)**	78.43 (10.29)	76.11 (3.65)	2.32 (10.93)
2-3	**70 (42%)**	75.89 (10.32)	75.36 (4.16)	0.53 (10.42)
$\geq$4	**22 (33%)**	71.68 (11.35)	77.80 (3.55)	-6.12 (10.65)[a]
Present treatment[§§]				
Topical	**17 (10%)**	76.76 (8.02)	76.16 (4.28)	0.61 (7.41)
Systemic non-biological	**40 (24%)**	76.55 (11.25)	76.17 (4.22)	0.38 (12.14)
Biological	**94 (56%)**	76.51 (12.61)	75.36 (4.00)	1.15 (12.92)
Initiation of first biological at the time of the survey	**14 (8%)**	73.43 (7.06)	76.88 (3.65)	-3.45 (6.20)[a]

a: Wilcoxon signed-rank test p<0.05; b: Mann-Whitney U or Kruskal-Wallis test p<0.05. *Conversion: EUR 1=HUF 285 and cut-offs are uneven due to the conversion. § Patients with higher educational background and monthly income expected to live significantly longer; of note, actual LE data used in this study were merely gender- and age-matched, and, hence, educational level and monthly income were not taken into account. Thus, these patients might have not overestimated their life expectancy. **Combinations are possible. *** Two patients had guttate and one had erythrodermic psoriasis. §§ Two patients received no therapy at the time of the survey.

Figures

Figure 1 Comparison of subjective HRQOL expectations in EQ-5D for older ages between psoriasis patients and the general population
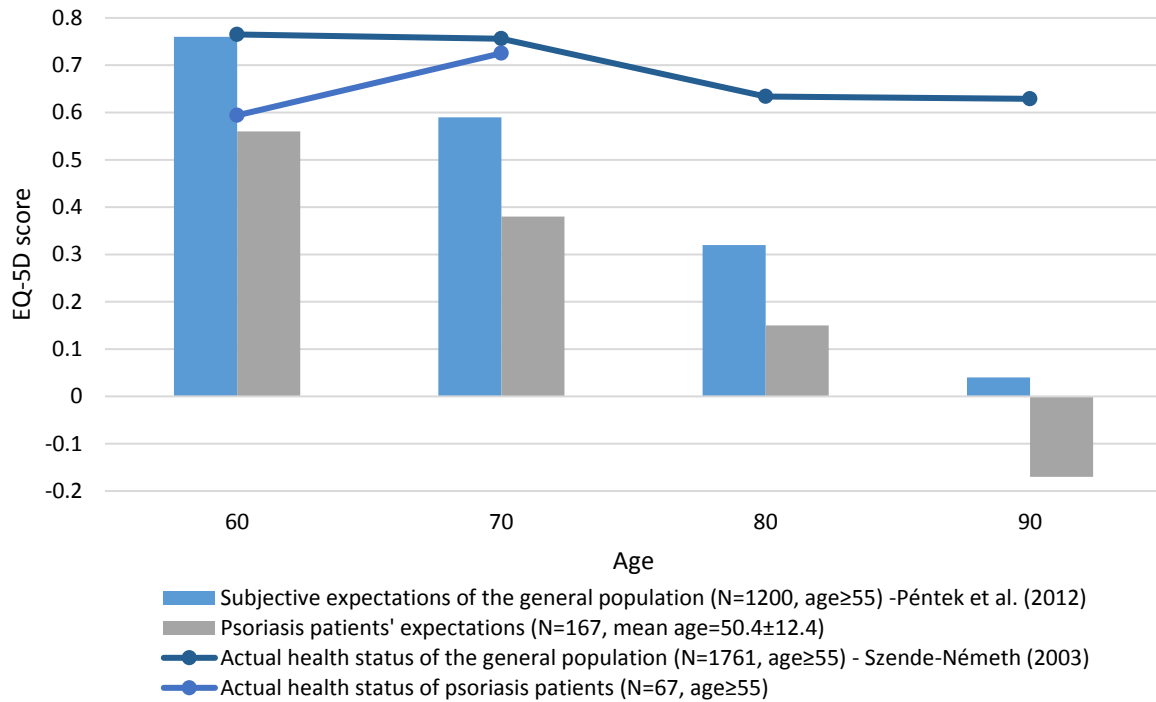
General population and psoriasis patients between the age of 55-64, 65-74, 75-84 and 85-94 represent the age of 60, 70, 80 and 90, respectively. Results of psoriasis patients aged 75 or older are not depicted here since only one patient represents the 75-84 age group and none the 85-94. Comparing future HRQOL expectations with actual health status of the age-matched patients within the sample, actual EQ-5D scores exceeded the expectations (age of 60: 0.59 vs 0.56, p>0.05; age of 70: 0.73 vs 0.38, p<0.01).
Data sources: Péntek et al. 2012,[19] Szende-Németh 2003,[23].

Appendix

Appendix 1 Questionnaire used in the survey: expected health problems at ages 60, 70, 80 and 90 were asked applying the statements of the EQ-5D.

I think at age 60 I will have… (Please mark your response)			
a.	no	some	major	problems with walking about.
b.	no	some	major	problems with washing or dressing.
c.	no	some	major	problems with performing usual activities.
d.	no	some	severe	pain or discomfort.
e.	no	some	severe	anxiety or depression.

*Ages 70, 80 and 90 were asked in a same construct