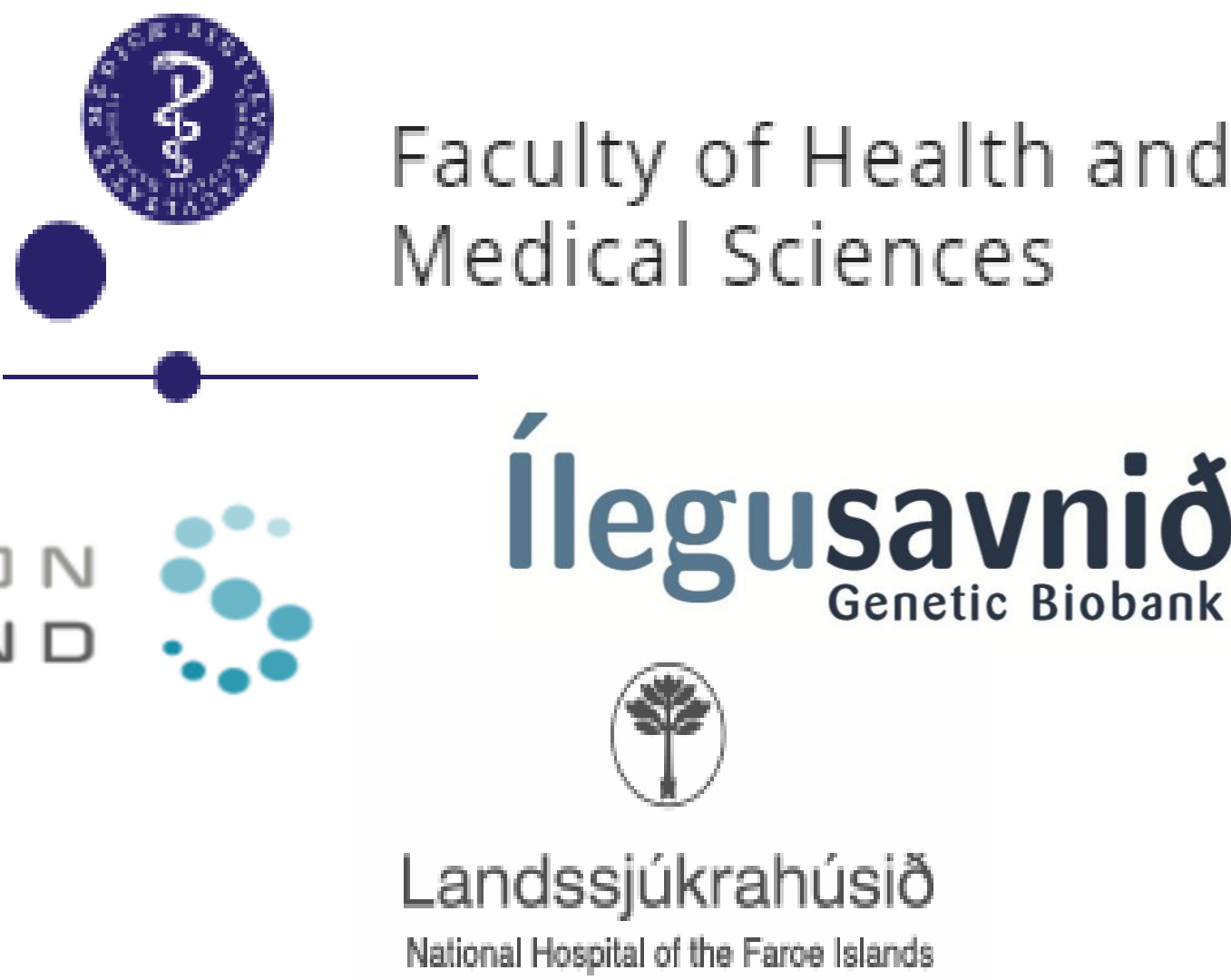


Measuring the impact of psoriasis

EW Jacobsen^{1,2,3,4}, GBE Jemec^{2,4,5}, OB Pedersen^{2,3}

¹Genetic Biobank, Tórshavn, Faroe Islands. ² Faculty of Health and Medical Sciences, University of Copenhagen, Denmark. ³Dept. of Clinical Immunology, Næstved Hospital, Denmark. ⁴ National Hospital of Faroe Islands, Tórshavn, Faroe Islands. ⁵ Dept. of Dermatology, University hospital Zealand, Roskilde, Denmark.



Background

Psoriasis is a common skin disease with a prevalence approximately 2 %. It is considered an immune- mediated and genetic disease. An estimated 7-48 % develop psoriatic arthritis. Psoriasis is associated to various diseases such as, metabolic syndrome and cardiovascular disease. Persons with psoriasis are more likely to have other inflammatory diseases like inflammatory bowel disease. In addition to being a physical strain on the body psoriasis is also associated with reduced quality of life, depression and even suicide risk. Disease impact is often measured by Patient reported outcomes (PROM's) such as health related quality-of-life, but may alternatively be assessed through self-reported health status. Our objective was to estimate the impact of psoriasis on Health related quality of life scores (dermatology life quality index (DLQI)) and self-reported health status score

Method

Data were collected on the Faroe Islands from February 2012 through summer 2013. All patients diagnosed with psoriasis by a dermatologist from 1973 to 2011 were identified. All persons alive, over 18 and still living in the Faroes were invited. There was a 70% response rate. A total of 711 patients underwent clinical examination and filled in questionnaires. Outcomes were DLQI score and self-rated health related quality of life. The self-rated health was dichotomized, where poor and fair health scored as one and better health scored as zero. Data was analyzed using univariate and multivariate linear or logistic regression. We included age, sex, PASI-score, PEST-score, current treatment, socio-economic status, education level, obesity, smoking, and alcohol, in the multivariable model. Results are given as coefficients or odds-ratios (OR) with p-values or 95% confidence intervals (CI).

Results

In the multivariable analysis, higher PASI-score, arthritis (scored using the PEST questionnaire), Inflammatory diseases and smoking were all associated with a higher DLQI score (worse health related quality of life). Increasing age was associated with lower DLQI (improved health related quality of life). In contrast, no direct psoriasis aspects influenced the results, but known psoriasis comorbidities, both metabolic diseases and inflammatory diseases were associated with low general self-rated health.

Conclusion

The results suggest that disease impact on patient health of the co-morbidities are better assessed though self-reported health status scores, while psoriasis-specific characteristics are better assessed by a specific health related quality of life score such as the DLQI. It is hypothesized that the results are generalizable to other PROMs.

Results of univariate and multivariate linear regression with DLQI as Outcome				
Independent Variables	Univariate analysis β (95% CI)	P Value	Multivariate analysis β (95% CI)	P Value
Highest education level				
Primary school (ref.)				
Secondary education	0.44 (-2.11- 3.01)	0.729	0.57(-2.39-3.52)	0.706
Occupational training	0.37 (-0.30- 1.03)	0.283	0.45(-0.40-1.29)	0.302
Bachelor's degree	-0.29 (-0.99- 0.41)	0.421	0.31(-0.57-1.20)	0.487
Master's degree	-0.99 (-2.23- 0.25)	0.118	-0.16(-1.63-1.32)	0.835
Work Status				
Unemployed (ref.)				
Working	-1.20(-2.34- -0.07)	0.038	-0.79(-2.37-0.80)	0.329
Retired	-1.43(-2.68-(-)0.18)	0.025	0.09(-1.76-1.93)	0.928
Student	-0.61(-2.32- 1.08)	0.477	-1.79(-4.21-0.63)	0.148
Annual household income				
Under 100.000 dkk (ref.)				
100.000-200.000 dkk	-0.99(-3.42-1.43)	0.422	0.31(-2.15-2.76)	0.806
200.000- 300.000 dkk	-1.76(-4.16- 0.63)	0.149	-0.74(-3.19-1.72)	0.556
300.000-400.000 dkk	-0.65(-2.96-1.65)	0.578	0.76(-1.62-3.14)	0.531
400.000-500.000 dkk	-0.31(-2.62-2.00)	0.792	0.52(-1.87-2.91)	0.670
500.000-700.000 dkk	-0.78(-3.05-1.49)	0.501	0.44(-1.97-2.84)	0.722
700.000-999.000	-1.51(-3.83-0.82)	0.204	0.13(-2.14-2.58)	0.92
above 1.000.000 dkk	-0.59 (-3.21-2.04)	0.661	0.62(-2.14-3.38)	0.660
Waistline	0.004(-0.016-0.024)	0.39	0.005(-0.03-0.03)	0.767
PEST (3 points)	1.56(0.85-2.27)	1.93e-05	0.98(0.00-1.95)	0.050
Gender (female)	0.34(-0.21-0.89)	0.226	0.71(-0.06-1.47)	0.072
Age	-0.03(-0.05-(-)0.02)	0.0002	-0.04(-0.07-(-)0.01)	0.013
Pasi score	0.37(0.32-0.43)	<2e-16	0.33(0.26-0.40)	<2e-16
Current systemic or light treatment	0.97 (0.01-1.93)	0.047	-0.21(-1.47-1.05)	0.748
BMI	0.02(-0.01-0.05)	0.183	0.01(-0.04-0.84)	0.748
Alcohol consumption ≥weekly	0.02(-0.80-0.83)	0.969	-0.20(-1.24-0.84)	0.705
Smoking now	1.25(0.71-1.80)	8.65e-06	0.98(0.29-1.67)	0.006
PsO complicated with metabolic disease	-0.26(-0.85-0.33)	0.383	0.15(-0.68-0.97)	0.727
PSO complicated with inflammatory disease	1.16(0.51-1.81)	0.0005	1.27(0.36-2.19)	0.007

Significant results marked in bold.

Results of univariate and multivariate logistisk regression for poor self-rated health as Outcome				
Independent Variables	Univariate analysis OR	95%CI	Multivariate analysis OR	95%CI
Highest education level				
Primary school (ref.)				
Secondary education	0.49	0.03-2.83	1.53	0.06-15.80
Occupational training	0.50	0.30-0.82	0.66	0.29-1.48
Bachelor's degree	0.71	0.43-1.16	1.09	0.48-2.47
Master's degree	0.29	0.07-0.83	0.28	0.01-1.84
Work Status				
Unemployed (ref.)				
Working	0.40	0.19-0.89	0.49	0.15-1.78
Retired	2.52	1.81-5.76	2.10	0.53-8.96
Student	0.52	0.13-1.76	1.13	0.14-8.34
Annual household income				
Under 100.000 dkk (ref.)				
100.000-200.000 dkk	0.51	0.14-2.00	0.10	0.01-0.67
200.000- 300.000 dkk	0.53	0.14-2.04	0.39	0.06-2.44
300.000-400.000 dkk	0.26	0.07-1.01	0.17	0.03-1.06
400.000-500.000 dkk	0.21	0.06-0.80	0.17	0.03-1.10
500.000-700.000 dkk	0.16	0.04-0.60	0.14	0.02-0.95
700.000-999.000	0.20	0.05-0.76	0.21	0.03-1.42
above 1.000.000 dkk	0.06	0.002-0.42	0.10	0.00-1.42
Waistline	1.03	1.02-1.05	1.01	0.99-1.04
PEST (3 points)	2.75	1.75-4.29	0.88	0.37-1.98
Gender (female)	0.99	0.67-1.48	1.09	0.52-2.34
Age	1.03	1.02-1.05	1.00	0.97-1.03
Pasi score	1.01	0.96-1.05	0.98	0.91-1.05
Current systemic or light treatment	2.61	1.44-4.59	1.22	0.45-3.19
BMI	1.03	1.02-1.04	1.00	0.95-1.04
Alcohol consumption ≥weekly	0.90	0.47-1.60	0.99	0.34-2.61
Smoking now	0.91	0.61-1.37	1.60	0.82-3.14
PsO complicated with metabolic disease	3.74	2.50-5.62	3.53	1.77-7.13
PSO complicated with inflammatory disease	4.25	2.80-6.47	5.27	2.49-11.34

Significant results marked in bold.

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