

Introduction

Psoriasis is a clinically heterogenous skin disease and familial predisposition is found to influence the presentations and clinical course of psoriasis.¹ We aim to describe the different clinical features of psoriasis patients with family history of psoriasis in Malaysia.

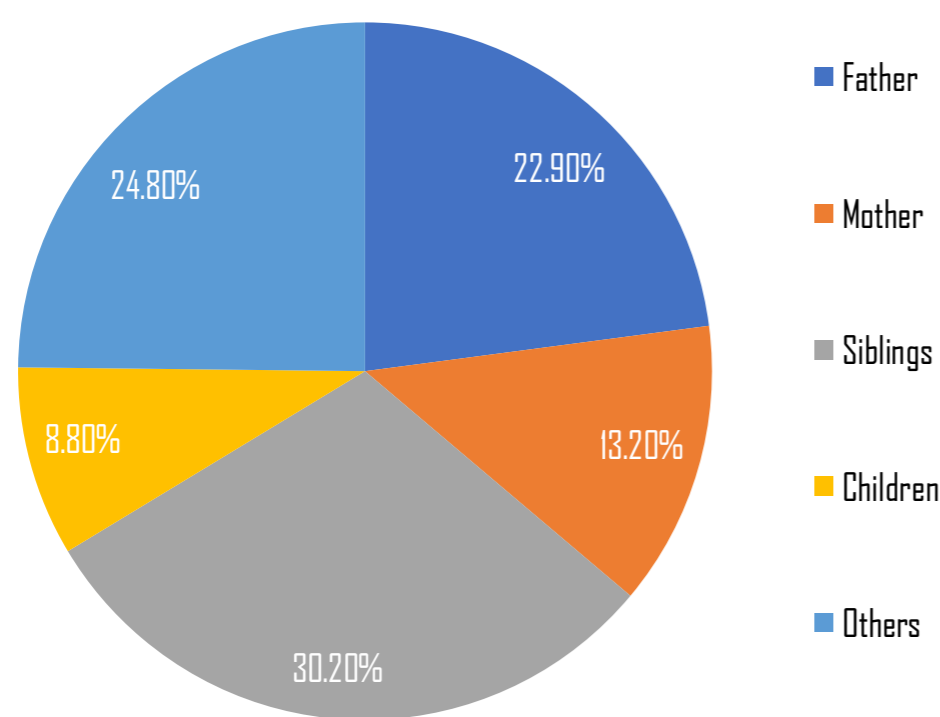
Materials and methodology

This is a multi-centre retrospective cross-sectional study of psoriasis patients who were notified to the Malaysian Psoriasis Registry (MPR) from January 2007 to December 2020. All patients with psoriasis were included in the study.

Results

- Of 25,019 patients, 5952 (23.8%) had a family history of psoriasis (PsoFH+).
- One third had siblings with psoriasis (33.8%), followed by paternal history (25.6%), maternal (14.8%), children (9.8%) and grandparents (7.5%).
- Seventeen percent had more than one family member with psoriasis.
- The male to female ratio was 1.1:1 for those with family history of psoriasis.
- Patients with PsoFH+ had a significantly earlier onset of psoriasis, longer disease duration, higher rate of nail and joint involvement, and more severe disease.
- Interestingly, psoriasis patients with PsoFH+ had less frequent scalp involvement and a lower rate of hypertension and ischaemic heart disease compared to those without.
- Although the body surface area (BSA) involvement was similar in both groups, patients with PsoFH+ had a higher mean Dermatology Life Quality Index (DLQI) score and 22.0% of patients with PsoFH+ had DLQI >10.
- Forty-five percent of PsoFH+ patients had severe disease defined as BSA>10 and/or DLQI >10.
- There were significantly more PsoFH+ patients on systemic therapy and phototherapy compared to those without family history.

Figure 1. Relationship type among family members with psoriasis



Discussion

- Psoriasis is a skin disease that displays significant HLA association, in particularly HLA-Cw6 in those with positive family history.²
- Two thirds of patients from a study in the Netherlands had a positive family history of psoriasis including third degree relatives.³
- Odds ratio for psoriasis was found to be higher in patients with history of psoriasis in at least one parent or sibling.¹
- Psoriasis affects about 2% of the population and 30% of patients have an onset during childhood.³ Those with early onset psoriasis are associated with HLA-Cw6 positivity.²
- Lopez et al found that those with family history tend to have earlier age of onset⁴ similar to our cohort. Interestingly, Lopes et al did not find more severe disease among PsoFH+ although their quality of life were affected.⁴
- Ferrandiz et al found a significant association between earlier age of onset and disease severity among PsoFH+ similar to our findings.⁵
- A study from Canada showed that patients with PsoFH+ were frequently women, and had more nail disease, enthesitis and joint deformity compared to those without. Excessive paternal transmission of psoriasis and psoriatic arthropathy were also demonstrated in the reports from Canada^{6,7}, similar to our findings.

Table 1: Clinical characteristics of psoriasis patients with and without family history

	Total	PsoFH+	PsoFH-	p value
Total number of patients	25019	5952 (23.8%)	19067 (76.2%)	-
Age of onset (mean±SD)		29.45±15.62	34.69±17.36	<0.001
Disease duration (mean±SD)		12.16±11.01	9.48±9.75	<0.001
Gender male: female		1.1:1	1.3:1	<0.001
BMI (kg/m²) (mean±SD)		26.72±6.04	26.53±6.17	0.04
Co-morbidities				
- Hypertension	23775	1462 (24.4%)	4837 (27.3%)	0.01
- Hyperlipidemia	23566	1097 (18.3%)	3330 (18.9%)	0.48
- Diabetes mellitus	23744	985 (16.4%)	3220 (18.1%)	0.12
- Ischaemic heart disease	23701	277 (4.6%)	1012 (5.7%)	0.01
- Cerebrovascular disease	23679	86 (1.4%)	316 (1.8%)	0.16
Type of psoriasis				
- Plaque		5255 (87.8%)	16224 (85.1%)	-
- Guttate		168 (2.8%)	498 (2.6%)	
- Erythrodermic		62 (1.0%)	288 (1.5%)	
- Pustular		46 (0.8%)	190 (1.0%)	
- Flexural		26 (0.4%)	89 (0.5%)	
- Palmoplantar non pustular psoriasis		13 (0.2%)	61 (0.3%)	
BSA (mean±SD)		10.44±14.71	10.97±17.25	0.40
DLQI (mean±SD)		9.62±6.68	8.98±6.75	<0.001
Severe disease (BSA >10 and/or DLQI >10)	10216	2627(45.3%)	7589(42.0%)	<0.001
Scalp involvement	19205	3654(61.4%)	11486(73.9%)	0.003
Face and neck	19014	2312(38.8%)	7352(43.9%)	0.27
Nail involvement		3264(54.8%)	9703(52.1%)	<0.001
Joint involvement		884(14.9%)	2243(12.1%)	<0.001
Systemic therapy		1109(19.3%)	3211 (16.8%)	0.02
- Methotrexate		831 (13.9%)	2345 (12.3%)	0.006
- Acitretin		215 (3.6%)	722 (3.8%)	0.38
- Cyclosporin		61 (1.0%)	148 (2.5%)	0.08
- Hydroxyurea		5 (0.1%)	16 (0.1%)	0.99
- Systemic corticosteroids		41 (0.7%)	94 (0.5%)	0.67
Phototherapy		164 (2.9%)	425 (2.4%)	0.04
Biologic		39 (0.7%)	150 (0.8%)	0.27

PsoFH+ - with family history of psoriasis; PsoFH- - without family history of psoriasis; BMI - body mass index; BSA - body surface area; DLQI - Dermatology Life Quality Index

Table 2: Comparison of Dermatology Life Quality Index (DLQI) scores between patients with family history psoriasis and those without

DLQI Domain	PsoFH+	PsoFH-	p value
Symptoms and feelings	2.80±1.53	2.65±1.57	<0.001
Daily activities	2.08±1.72	1.92±1.72	<0.001
Leisure	2.03±1.83	1.89±1.82	<0.001
Work and alcohol	0.72±0.93	0.70±0.14	0.14
Personal relationship	1.16±1.41	1.08±1.41	<0.001
Treatment	0.93±0.94	0.84±0.91	<0.001

PsoFH+ - with family history of psoriasis; PsoFH- - without family history of psoriasis; DLQI - Dermatology Life Quality Index

Conclusion

Nearly a quarter of the MPR patients had a PsoFH+. They had an earlier onset of psoriasis, longer disease duration, more frequent nail and joint disease and severe psoriasis compared to those without family history.

Acknowledgement

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