CLINICAL CHARACTERISTICS & RISK FACTORS OF PATIENTS WITH PUSTULAR PSORIASIS IN MALAYSIA

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INTRODUCTION

Pustular psoriasis is an uncommon subtype of psoriasis that may present as a generalized or localized pustular skin eruptions. The localised variant is usually self-limiting and easier to control. However, the generalised variant can be quite disabling. The goals of treatment are to improve skin manifestations, alleviate associated systemic symptoms, and to minimize risk for life-threatening systemic complications.

OBJECTIVE

To determine the clinical characteristics & risk factors of adult patients (aged > 18 years) with pustular psoriasis in Malaysia.

METHODOLOGY

Data was obtained from the Malaysian Psoriasis Registry between July 2007 and December 2015. Patients completed clinical assessment, alongside self-administered Dermatology Life Quality Index (DLQI). Patients were classified into two groups – pustular psoriasis and non-pustular variants. Non-pustular psoriasis patients included plaque, erythrodermic, flexural and guttate psoriasis.

RESULTS

A total of 12,371 patients were notified to the registry between July 2007 and December 2015. 12,230 patients had the non-pustular variants and 141 patients had pustular psoriasis. In patients with pustular psoriasis, 101 (72.0%) were females, and 40 (28%) were males (Figure 1). 58.9% of the patients were Malay, 27.7% Chinese, 9.2% Indian and 4.3% from other ethnic groups (Figure 2). Mean age of patients with pustular psoriasis was 45.92+15.46 years with a range from 18 to 85 years. Systemic therapy was used in 39% of patients with pustular psoriasis (Figure 3). The commonest systemic agents used in patients with pustular psoriasis was acitretin (27.7%), followed by methotrexate (27.0%) and cyclosporin (5.7%). Systemic corticosteroid was given in 5.7% patients and biologic was given in 1.4% of patients. (Figure 3). The mean DLQI in patients with pustular psoriasis was 9.54+7.95, and 38.8% of patients had DLQI >10 (Figure 4). The domains of DLQI that were most commonly affected were daily activities, symptoms & feelings and leisure (Figure 5).

After adjusting for confounding factors by multiple logistic regression analysis (using enter method), 6 variables emerged as significant risk factors associated with pustular psoriasis. Patients with pustular psoriasis were more likely to be female (Adj. OR 3.84; 95% CI: 2.10, 7.03; p<0.001) and married (Adj. OR 4.35; 95% CI: 1.87, 10.14; p=0.001). They were also more likely to take more days off work (Adj. OR 4.97; 95% CI: 1.95, 12.68; p=0.001), require hospital admission (Adj. OR 6.15; 95% CI: 2.60, 14.56; p<0.001) and treated with systemic therapy (Adj. OR 5.37; 95% CI: 2.95, 9.77; P<0.001). Patients with pustular psoriasis also had less joint involvement (Adj. OR 0.48; 95% CI: 0.23, 1.00; P=0.0049) (Table 1).
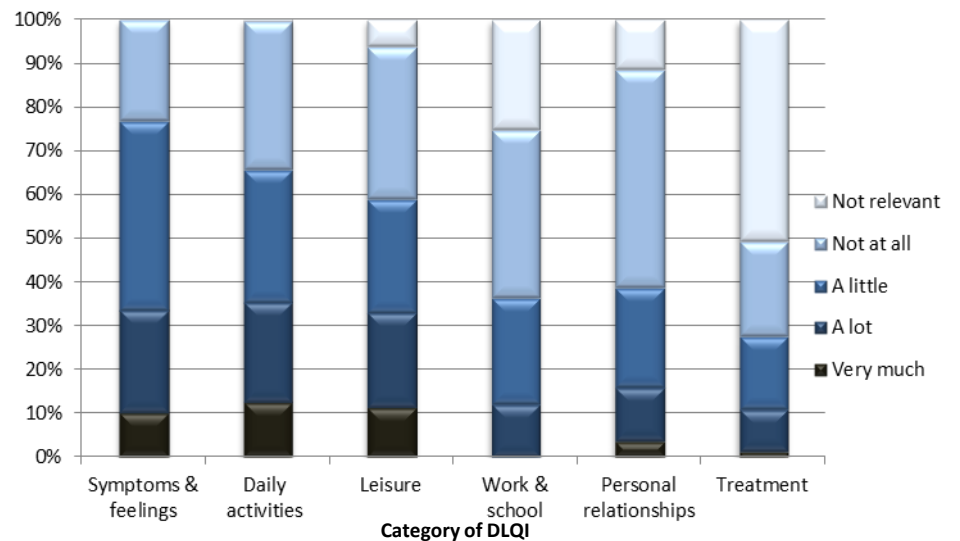

Figure 1 Gender

Figure 2 Ethnicity

Figure 3 Systemic therapy in patients with pustular psoriasis

No effect at all (0-1) **12.9 %**
Small effect (2-5) **25.9 %**
Moderate effect (6-10) **20.0 %**
Very large effect (11-20) **24.7 %**
Extremely large effect (21-30) **14.1 %**

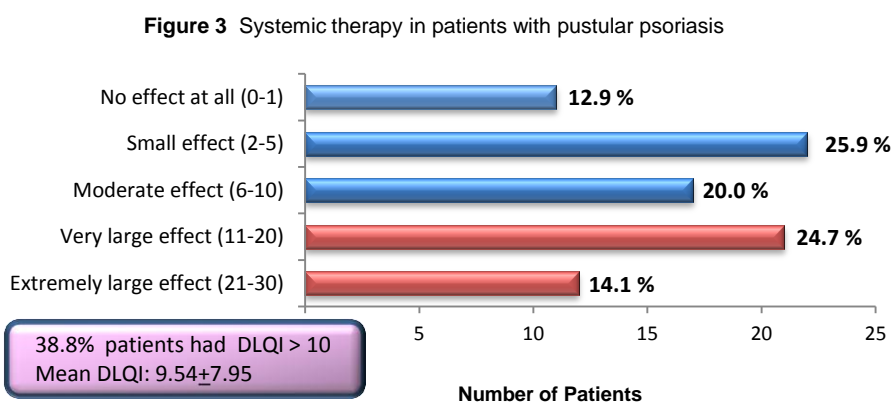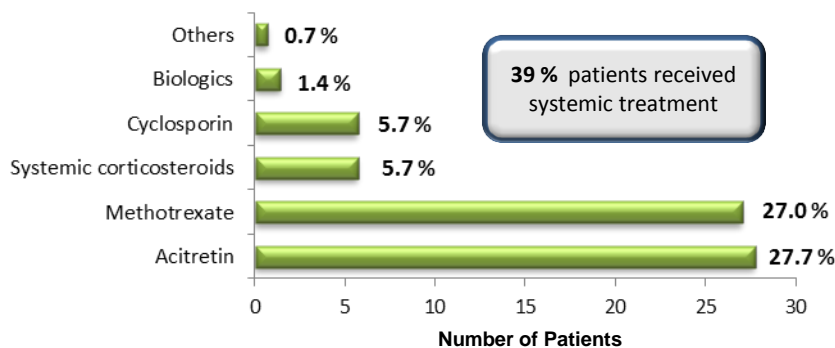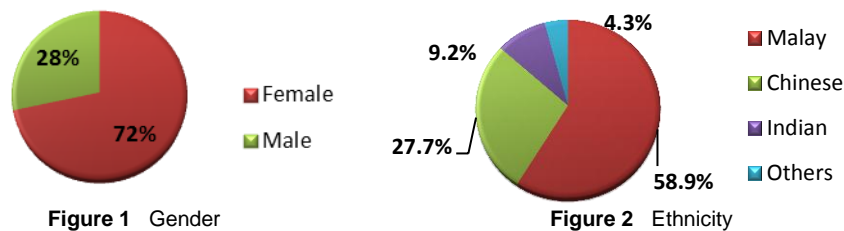38.8% patients had DLQI > 10
Mean DLQI: 9.54+7.95

Figure 4 Dermatology Life Quality Index in Patients with Pustular Psoriasis

Figure 5 QoL impairment based on category of DLQI in patients with Pustular Psoriasis

Table 1 Predictive Factors in Patients with Pustular Psoriasis

Variable	NonPustular (n = 12,230)		Pustular (n = 141)		Multiple Logistic Regression[a]		
	n	%	n	%	Adj. OR	(95% CI)	P value
Age							NS
18-40 years	4,822	98.8	57	1.2	1.00	-	
41-60 years	5,021	98.8	61	1.2	0.59	0.29, 1.22	
>60 years	2,387	99.0	23	1.0	0.54	0.19, 1.59	
Age of onset							NS
≤40 years (Type 1)	7,860	98.9	91	1.1	0.86	0.40, 1.84	
>40 years (Type 2)	4,117	98.9	45	1.1	1.00	-	
Gender							<0.001
Male	7,006	99.4	40	0.6	1.00	-	
Female	5,224	98.1	101	1.9	3.84	2.10, 7.03	
Ethnicity							NS
Malay	6,074	98.7	83	1.3	3.81	0.84, 17.29	
Chinese	2,648	98.5	39	1.5	5.34	1.12, 25.50	
Indian	2,228	99.4	13	0.6	1.91	0.34, 10.84	
Others[b]	1,277	99.5	6	0.5	1.00	-	
Marital status							0.001
Single[c]	3,232	99.2	25	0.8	1.00	-	
Married	8,552	98.7	111	1.3	4.35	1.87, 10.14	
Presence of co-morbidities							NS
Yes	5,250	98.9	61	1.1	0.89	0.49, 1.63	
No	6,980	98.9	80	1.1	1.00	-	
Clinic visit							NS
1	3,254	99.1	30	0.9	1.00	-	
2-3	4,672	99.0	47	1.0	0.79	0.41, 1.51	
>3	1,209	97.5	31	2.5	1.17	0.53, 2.59	
No. of days off work							0.001
≤3	11,042	99.0	108	1.0	1.00	-	
>3	280	94.0	18	6.0	4.97	1.95, 12.68	
Hospital admission							<0.001
Yes	255	91.7	23	8.3	6.15	2.60, 14.56	
No	11,201	99.1	104	0.9	1.00	-	
BMI (WHO)							NS
BMI <30	8,632	99.0	89	1.0	1.00	-	
BMI ≥30	2,589	98.5	39	1.5	1.55	0.85, 2.80	
Nail involvement							NS
Yes	7,274	99.0	74	1.0	0.84	0.47, 1.49	
No	4,816	98.6	66	1.4	1.00	-	
Joint disease							0.049
Yes	1,709	98.9	19	1.1	0.48	0.23, 1.00	
No	10,370	98.9	118	1.1	1.00	-	
Systemic therapy							<0.001
Yes	2,304	96.5	84	3.5	5.37	2.95, 9.77	
No	9,617	99.4	54	0.6	1.00	-	
DLQI							NS
≤10	4,403	98.8	52	1.2	1.00	-	
>10	2,139	98.5	33	1.5	1.08	0.60, 1.94	

*Result was based on available information.
Adj. OR = Adjusted odds ratio; NS = Not significant
[a] Enter method was applied.
Multicollinearity was checked and not found
Hosmer-Lemeshow test (P=0.764), classification table (overall correctly classified percentage=98.7%) and area under the ROC curve (83.8%) were applied to check the model fitness
[b] Others ethnicity inclusive of Orang Asli
[c] Single marital status inclusive of Widow, Divorced and Widower group

CONCLUSION

Patients with pustular psoriasis were more likely to be female and married. They were also more likely to take more days off work, require hospital admission and treated with systemic therapy. They also had less joint involvement compared to patients with non-pustular variant of psoriasis.

CONFLICT OF INTEREST & ACKNOWLEDGEMENT