Burden of illness in paediatric psoriasis patients in Malaysia

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INTRODUCTION

Psoriasis (PsO) is a chronic, inflammatory, autoimmune skin disease. Almost one-third of cases begin in childhood, affecting children in the crucial stages of development[1]. Visible skin lesions may lead to a profound negative impact on the quality of life[2]. The objective of this study is to evaluate the burden of illness among paediatric PsO patients in Malaysia.

METHODS

This is a multicenter, cross-sectional, observational study based on the Malaysian Psoriasis Registry (MPR). This nationwide registry prospectively collects data from 34 public and 2 private hospitals treating PsO patients. The study included patients <18 years of age and registered between January 2007 till December 2020.

RESULTS

- A total of 2,187 paediatric patients (8.74% of the total patient population in the MPR) were included in this study. Females comprised of 56.93%. The mean age at presentation and disease onset (mean ± SD, years) was 13.86 ± 3.72 and 10.51 ± 4.39, respectively. The mean weight of patients was 51.26 ± 20.71 kg. About 23.41% had a family history of PsO (**Table 1**).

Table 1. Baseline characteristics

Demographic Properties	Value
Ratio of paediatric PsO to Adult PsO	1:11.4
Ratio of males to females	1:1.32
Mean age (years) (Mean ± SD)	13.86 ± 3.72 (min 2 months, max 17 years 11 months)
Mean weight (kg) (Mean ± SD)	51.26 ± 20.71 (min 5, max 155)
Age of onset (years) (Mean ± SD)	10.51 ± 4.39
Years to diagnose (Mean ± SD)	1.21 ± 2.33 (min 0, max 16)
Family History of Psoriasis, n/N (%)	504/2153 (23.41%)

PsO: Psoriasis; SD: Standard deviation

- A total of 16.04% of patients had severe disease (Body Surface Area [BSA] >10%). A higher percentage of patients with nail psoriasis had more severe disease compared to those without nail psoriasis (22.95% vs 12.15%, p<0.001). Moreover, nail psoriasis was reported in 84% of patients with psoriatic arthritis (PsA) (**Table 3**).
- Quality of life was evaluated using the Children's Dermatology Life Quality Index (CDLQI) for 720 patients and Dermatology Life Quality Index (DLQI) for 307 patients. The mean CDLQI and DLQI scores (mean ± SD) were 8.02 ± 5.81 and 9.27 ± 6.05, respectively. More than a quarter (27.26%) of the patients reported a 'very large' to 'extremely large effect' on their quality of life (**Table 2**). Compared to other countries, Malaysia reported higher CDLQI scores (**Table 4**). Patients with moderate to severe PsO had poorer quality of life (QoL) (mean CDLQI score 10.32), compared to those with mild PsO (mean CDLQI score 7.46), p value <0.001 (**Table 2**). Obese patients had poorer QoL compared with non-obese patients (mean CDLQI score 9.25 vs 7.43, p=0.17).

Table 2. Distribution of Malaysian paediatric patients with psoriasis based on CDLQI and DLQI scores and disease severity (BSA)

CDLQI* and DLQI^	All psoriasis patients, N=1027	Mild psoriasis BSA ≤10%, N=666	Moderate to severe psoriasis BSA >10%, N=129
No effect at all, n (%)	107 (10.42%)	80 (12.01%)	9 (6.98%)
Small effect, n (%)	329 (32.04%)	226 (33.93%)	33 (25.58%)
Moderate effect, n (%)	311 (30.28%)	197 (29.58%)	34 (26.36%)
Very large effect, n (%)	224 (21.81%)	135 (20.27%)	41 (31.78%)
Extremely large effect, n (%)	56 (5.45%)	28 (4.20%)	12 (9.30%)
Overall mean score, Mean ± SD	8.40 ± 5.88	7.92 ± 5.74	10.34 ± 6.29 (p <0.001)#
Mean CDLQI, Mean ± SD	8.02 ± 5.81	7.46 ± 5.56	10.32 ± 6.43 (p <0.001)#
Mean DLQI, Mean ± SD	9.27 ± 6.05	9.01 ± 6.09	10.22 ± 5.90 (p=0.29)#

BSA: Body surface area; CDLQI: Children's Dermatology Life Quality Index; DLQI Dermatology Life Quality Index; SD: Standard deviation; #p value vs mild psoriasis; *CDLQI scoring 0-1, no effect, 2-6 small effect, 7-12 moderate effect, 13-18 very large effect, 19-30 extremely large effect; ^DLQI scoring 0-1 no effect at all, 2-5 small effect, 6-10 moderate effect, 11-20 very large effect, 21-30, extremely large effect

Table 3. Distribution of patients based on disease severity, nail and joint involvement

Disease severity	Distribution of total population, n (%) N=1527	Without nail PsO, n (%) N=971	With nail PsO, n (%) N=549	Percentage with PsA		
				Total, n (%) N=25	With Nail PsO, n (%) N=21 (84%)	Without Nail PsO, n (%) N=4 (16%)
BSA < 5%,	833 (54.55%)	582 (59.94%)	247 (44.99%)	6 (24%)	5 (23.81%)	1 (25%)
BSA 5 – 10%	449 (29.40%)	271 (27.91%)	176 (32.06%)	6 (24%)	4 (19.05%)	2 (50%)
BSA >10	245 (16.04%)	118 (12.15%)	126 (22.95%)	13 (52%)	12 (57.14%)	1 (25%)

BSA: Body surface area; PsO: Psoriasis; PsA: Psoriatic arthritis

Table 4. Mean CDLQI scores in different countries

Country*	Mean Score	SD
Malaysia	8.0	5.8
Brazil[3]	7.9	3.2
Turkey[4]	7.7	4.1
Turkey[5]	7.6	6.1
Netherlands[6]	7.5	5.0
Netherlands[7]	6.6	5.7
United Kingdom[8]	5.4	5.0
Sweden[9]	5.1	5.0
Turkey[10]	2.9	2.9

*Data recorded from studies on paediatric psoriasis patients with a similar population; CDLQI: Children's Dermatology Life Quality Index; SD: Standard deviation

- Most patients (90.84%) were prescribed topical treatments, while 7.72% received systemic treatment, 1.01% received phototherapy and only 0.17% patients received biologics. More than half of the patients (52.75%) did not show any change in disease severity six months post-treatment (**Table 5**). Post-treatment, only 18.42% of obese patients achieved a reduction in BSA involvement, which was lower than patients in the normal weight category (31.29%) (**Table 5**).

Table 5. Response to treatment among different categories of body mass index (BMI)

BMI*	Post - treatment^ improvement based on BSA (N=273)		
	Worsened, n (%)	No change, n (%)	Improvement, n (%)
Underweight (n=31)	4 (12.90%)	16 (51.61%)	11 (35.48%)
Normal (n=131)	22 (16.79%)	68 (51.91%)	41 (31.29%)
Overweight (n=35)	7 (20%)	18 (51.43%)	10 (28.57%)
Obese (n=76)	20 (26.31%)	42 (55.26%)	14 (18.42%)
Total (n=273)	53 (19.41%)	144 (52.75%)	76 (27.84%)

*BMI classification for the paediatric population as defined by Centers for Disease Control and Prevention (CDC) guidelines for ages 2-18; ^Six months; BMI: Body mass index; BSA: Body surface area

CONCLUSIONS

- More than a quarter of the paediatric PsO patients reported very large to extremely large effect on their QoL.
- Severe disease and obesity were associated with poorer QoL.
- The presence of nail psoriasis appeared to be associated with severe disease and PsA.
- In more than half of the patients, the treatment received had no effect on disease severity, indicating an unmet need in treatment. Obesity in paediatric PsO was associated with inadequate treatment responses.

REFERENCES

1. Augustin M, et al. *Br J Dermatol.* 2010;162(3):633–636.
2. de Jager ME, et al. *Br J Dermatol.* 2010;163(5):1099–1101.
3. Randa, Hilde, et al. *Acta dermato-venereological.* 2017;97:555–563.
4. Balci DD, et al. *J Turk Acad Dermatol.* 2007;1:17402a.
5. Tekin, Burak, et al. *Pediatric Dermatology.* 2018;35:651–659.
6. Oostveen, A. M., et al. *British Journal of Dermatology.* 2012;167:145–149.
7. van Geel MJ., et al. *Br J Dermatol.* 2016;174:152–157.
8. Lewis-Jones MS., et al. *Br J Dermatol.* 1995;132:942–949.
9. Gånemo A., et al. *Pediatr Dermatol.* 2011;28:375–379.
10. de Jager MEA., et al. *Pediatr Dermatol* 2011;28:736–737.

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