

## INTRODUCTION

Symptoms and clinical features of psoriasis leads to various psychosocial difficulties to the patients, thus influencing their quality of life (QoL)<sup>1,2</sup>. Despite numerous studies done to evaluate quality of life in psoriasis patients<sup>3,4</sup>, very little is known on the improvement status in patients' QoL after they began their treatment in comparison to their first visit to the treatment centre.

## OBJECTIVES

We aimed to examine the differences in QOL of adult psoriasis patients before and after treatment for psoriasis, and its possible associated factors.

## METHODOLOGY

Data on adult patients with psoriasis notified from 2007 until 2014 were obtained from the Malaysian Psoriasis Registry. Patients completed clinical assessment, alongside self-administered Dermatology Life Quality Index (DLQI). Differences in DLQI scores during first and subsequent visits (1-2 years later) were compared and factors affecting the score improvements were analysed. Patient was categorized as having an improvement in DLQI if their subsequent DLQI improved by 5-points or less than 5.

## RESULTS

➤ From 1303 identified patients, 285 (22%) showed improvements in DLQI following treatment, with majority reported moderate to no effect of psoriasis to their life quality (Figure 1). Mean DLQI score for patients with improvement was  $7.1 \pm 4.99$  compared to  $15.2 \pm 5.58$  during baseline visit.

➤ Patients with >10% body surface area (BSA) affected showed significant improvement in DLQI scores after treatment (Adj. OR: 1.82; 95% CI: 1.20, 2.77;  $p < 0.05$ ) (Table 1). Face & neck and scalp were areas that showed noticeable improvements in level of severity among other body part involved (Figure 2).

➤ Patients with erythrodermic psoriasis and patients on combination of topical & systemic therapy were more likely to show improvements in DLQI, although it was not statistically significant. (Table 1).

➤ Every domains in the DLQI showed improved after treatment began in comparison to the responses given during baseline visit (Figure 3).

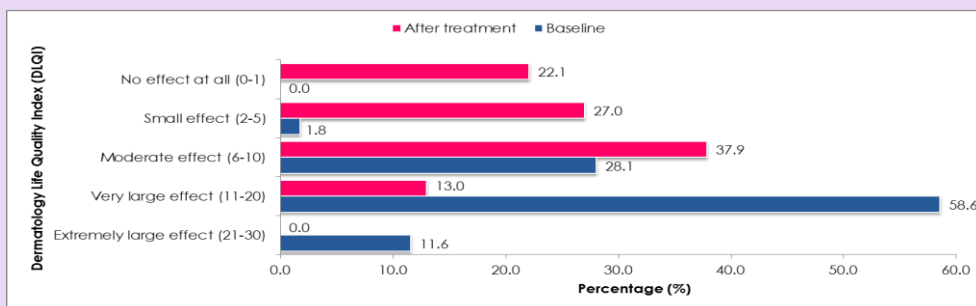


Figure 1 Changes in DLQI score among adult psoriasis patients with improvements

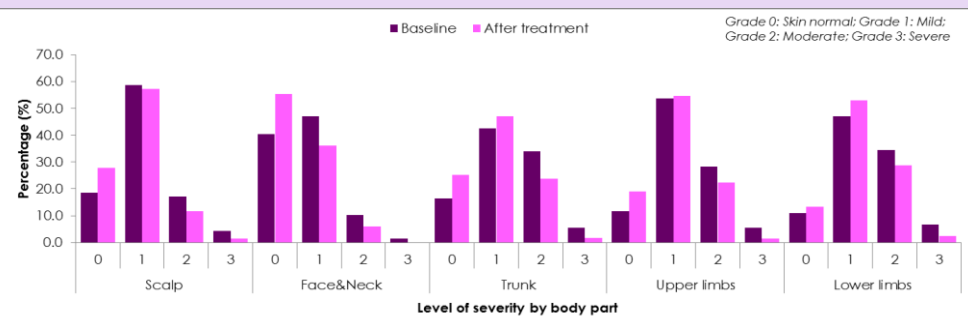


Figure 2 Changes in severity level of body parts among adult psoriasis patients with improvements in DLQI

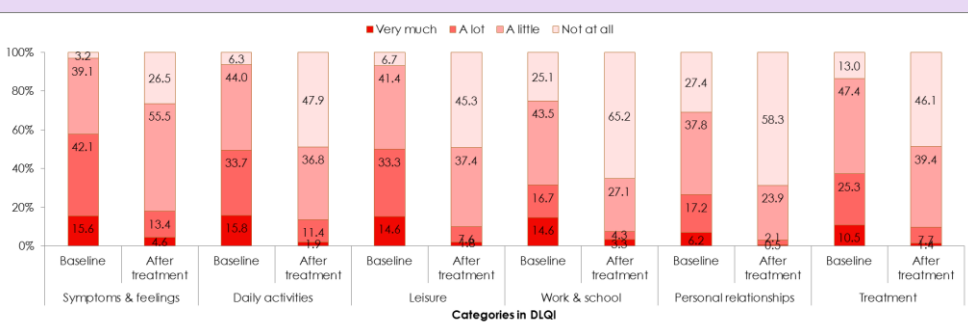


Figure 3 Changes in QoL impairment according to DLQI domains among adult psoriasis patients with improvements in DLQI

Table 1 Factors associated with DLQI improvement in adult psoriasis patient after treatment

| Variable                          | Improvement |      | Multiple Logistic Regression <sup>a</sup> |          |         |             |
|-----------------------------------|-------------|------|---|----------|---------|-------------|
|                                   | Yes         | No   | Adj. OR                                   | (95% CI) | P value |             |
| <b>Age</b>                        |             |      |   |          | NS      |             |
| 17-40 years                       | 104         | 36.5 | 323                                       | 31.7     | 0.96    | 0.47, 1.94  |
| 41-60 years                       | 133         | 46.7 | 484                                       | 47.5     | 0.95    | 0.57, 1.60  |
| >60 years                         | 48          | 16.8 | 211                                       | 20.7     | 1.00    | -           |
| <b>Age of onset</b>               |             |      |   |          | NS      |             |
| ≤40 years (Type 1)                | 190         | 66.7 | 638                                       | 62.7     | 1.39    | 0.88, 2.20  |
| >40 years (Type 2)                | 91          | 31.9 | 370                                       | 36.4     | 1.00    | -           |
| <b>Gender</b>                     |             |      |   |          | NS      |             |
| Male                              | 159         | 55.8 | 570                                       | 56.0     | 1.00    | -           |
| Female                            | 126         | 44.2 | 448                                       | 44.0     | 0.92    | 0.64, 1.32  |
| <b>Ethnicity</b>                  |             |      |   |          | NS      |             |
| Malay                             | 148         | 51.9 | 475                                       | 46.7     | 0.88    | 0.45, 1.71  |
| Chinese                           | 73          | 25.6 | 310                                       | 30.5     | 0.65    | 0.32, 1.36  |
| Indian                            | 36          | 12.6 | 142                                       | 14.0     | 0.79    | 0.37, 1.71  |
| Others (+Orang Asli)              | 28          | 9.8  | 91  | 8.9      | 1.00    | -           |
| <b>Marital status</b>             |             |      |   |          | NS      |             |
| Single                            | 68          | 23.9 | 214                                       | 21.0     | 1.78    | 0.48, 6.61  |
| Married                           | 206         | 72.3 | 765                                       | 75.2     | 1.87    | 0.54, 6.47  |
| Divorced (+Widow+Widower)         | 4           | 1.4  | 29  | 2.9      | 1.00    | -           |
| <b>Presence of co-morbidities</b> |             |      |   |          | NS      |             |
| Yes                               | 113         | 39.7 | 445                                       | 43.7     | 0.97    | 0.66, 1.45  |
| No                                | 172         | 60.4 | 573                                       | 56.3     | 1.00    | -           |
| <b>Clinic visit</b>               |             |      |   |          | NS      |             |
| 0-1                               | 86          | 30.2 | 300                                       | 29.5     | 1.00    | -           |
| 2-3                               | 156         | 54.7 | 579                                       | 56.9     | 1.02    | 0.68, 1.54  |
| >3                                | 33          | 11.6 | 116                                       | 11.4     | 0.98    | 0.53, 1.81  |
| <b>No. of days off work</b>       |             |      |   |          | NS      |             |
| ≤3                                | 268         | 94.0 | 970                                       | 95.3     | 1.00    | -           |
| >3                                | 7           | 2.5  | 23  | 2.3      | 0.94    | 0.25, 3.55  |
| <b>Hospital admission</b>         |             |      |   |          | NS      |             |
| Yes                               | 9           | 3.2  | 25  | 2.5      | 0.63    | 0.13, 2.96  |
| No                                | 268         | 94.0 | 966                                       | 94.9     | 1.00    | -           |
| <b>BMI (WHO)</b>                  |             |      |   |          | NS      |             |
| BMI <30                           | 190         | 66.7 | 734                                       | 72.1     | 1.00    | -           |
| BMI ≥30                           | 75          | 26.3 | 224                                       | 22.0     | 1.26    | 0.84, 1.90  |
| <b>Body surface area</b>          |             |      |   |          | 0.005   |             |
| ≤10%                              | 134         | 47.0 | 573                                       | 56.3     | 1.00    | -           |
| >10%                              | 79          | 27.7 | 175                                       | 17.2     | 1.82    | 1.20, 2.77  |
| <b>Nail involvement</b>           |             |      |   |          | NS      |             |
| Yes                               | 196         | 68.8 | 685                                       | 67.3     | 1.01    | 0.67, 1.53  |
| No                                | 89          | 31.2 | 325                                       | 31.9     | 1.00    | -           |
| <b>Joint disease</b>              |             |      |   |          | NS      |             |
| Yes                               | 51          | 17.9 | 190                                       | 18.7     | 0.84    | 0.52, 1.36  |
| No                                | 231         | 81.1 | 816                                       | 80.2     | 1.00    | -           |
| <b>Systemic therapy</b>           |             |      |   |          | NS      |             |
| Yes                               | 98          | 34.4 | 329                                       | 32.3     | 0.29    | 0.04, 2.37  |
| No                                | 184         | 64.6 | 671                                       | 65.9     | 1.00    | -           |
| <b>Type of psoriasis</b>          |             |      |   |          | NS      |             |
| Plaque                            | 238         | 87.8 | 862                                       | 91.0     | 1.00    | -           |
| Guttate                           | 16          | 5.9  | 42  | 4.4      | 1.52    | 0.75, 3.08  |
| Pustular                          | 6           | 2.2  | 22  | 2.3      | 1.47    | 0.53, 4.07  |
| Erythrodermic                     | 11          | 4.1  | 21  | 2.2      | 2.17    | 0.77, 6.08  |
| <b>Treatment</b>                  |             |      |   |          | NS      |             |
| Topical therapy                   | 176         | 63.3 | 653                                       | 65.6     | 1.00    | -           |
| Topical + Phototherapy            | 6           | 2.2  | 16  | 1.6      | 0.69    | 0.17, 2.80  |
| Topical + Systemic therapy        | 93          | 33.5 | 308                                       | 31.0     | 2.89    | 0.35, 23.79 |

Adj. OR = Adjusted odds ratio; NS = Not significant

<sup>a</sup> 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.

<sup>b</sup> Others ethnicity inclusive of Orang Asli

## DISCUSSION & CONCLUSION

Overall finding suggest that areas of body parts affected may influence changes in patient's DLQI after 1-2 years of treatment. Patients with more severe psoriasis (BSA>10%) were also more likely to show improvements in DLQI after treatment. Although not statistically significant, patients with erythrodermic psoriasis and patients on combination of topical and systemic therapy were more likely to show improvements in their DLQI after treatment. Due to the dynamic nature of psoriasis, it was difficult to determine the exact factors associated with improvements in DLQI.

## REFERENCES

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## CONFLICT OF INTEREST & ACKNOWLEDGEMENT

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