

The Factors Affecting Quality of Life in Thai Psoriasis Patients

Smathorn Thakolwiboon^{##}, Sikarin Upala^{##}, Tanawat Geeratragoon^{##}, Nattorn Benjatikul^{##}, Maythad Uathaya^{##}, Athiwat Tripipitsiriwat^{##}, Supakan Jiranapakul^{##}, Butchat Chutinimitkul^{##}, Wanchai Chinchalongporn^{##}, Chanisada Wongpraparut MD^{*}, Kanokvalai Kulthanan MD^{*}, Sukhum Jiamton MD, PhD^{*}

[#] Medical student

^{*} Department of Dermatology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Objective: To identify the factors that affect quality of life in Thai psoriasis patients.

Material and Method: Data collected from 326 psoriasis patients that visited dermatology clinic at Siriraj Hospital, Bangkok, Thailand between 2001 and 2007 was used. Dermatology Life Quality Index (DLQI) was used to measure quality of life. Severity was evaluated by Psoriasis Area and Severity Index (PASI).

Results: Overall, psoriasis had moderate to very large negative effect on the patient's life. There was a tendency that elderly patients had a slightly better quality of life than younger adult and middle-age patients. However, other demographic variables (i.e., gender, occupation, and income) had no influence on quality of life. This study also identified a linear trend of increased overall DLQI with greater PASI.

Conclusion: Only older age and lesser severity of disease had association with few burdens in Thai psoriasis patients.

Keywords: Psoriasis, Quality of life, Thai, DLQI, PASI

J Med Assoc Thai 2013; 96 (10): 1344-9

Full text. e-Journal: <http://jmat.mat.or.th>

Psoriasis is a chronic, relapsing inflammation skin disease characterized by well-defined erythematous plaque with silvery scales that may appear on any part of body. Nowadays, psoriasis is categorized as a systemic inflammatory disorder caused by autoimmune process. Moreover, it is associated with increased risk of metabolic syndrome, cardiovascular diseases, and stroke⁽¹⁻³⁾. In mental aspect, psychological distress, psychiatric morbidity, and experiences of stigmatization are significantly related to psoriasis⁽³⁻⁹⁾.

Without doubt, quality of life in a psoriasis patient is impaired in not only physical but also mental and psychosocial aspects. The disability experienced by psoriasis sufferers is comparable to that of patients with other major medical illnesses such as diabetes, cancer, depression, and heart diseases^(10,11). Additionally, some psoriasis patients reported their social difficulties in daily life. For example, they did not receive equal service in hair salons, pools, health clubs, and other community facilities⁽⁸⁾.

Similar to other chronic illnesses, the management of psoriasis should be holistic. Consideration in all of aspects, which are physical, mental, environmental, and spiritual, is required. Therefore, identifying the factors that impact patient's quality of life is essential to facilitate the development holistic approaches for relieving patient's burden. In this study, we focused demographic and disease factors.

Material and Method

Data collection

Data were routinely collected from psoriasis patients who were diagnosed by dermatologist and visited dermatology clinic at Siriraj Hospital between 2001 and 2007 for service purpose. This study was ethically approved from Siriraj institutional review board to review aforementioned information. Data from 326 patients, including 90 men (27.6%) and 236 women (72.4%) were analyzed.

Questionnaire

Demographic data (age, sex, occupation, and income), co-morbidities, and obstacles during treatment were collected using questionnaires. Quality of life was evaluated using Dermatology Life Quality

Correspondence to:

Jiamton S, Department of Dermatology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand 10700

Phone: 0-2419-7000 ext. 4332

E-mail: sukhum.jia@mahidol.ac.th

Index (DLQI)⁽¹²⁾, which was developed in 1994 by Finlay and Khan. Professor Kulthanan was permitted to develop and use the Thai version of DLQI⁽¹³⁾. The questionnaire has 10 questions and evaluates quality of life in six aspects, which are symptoms and feelings, daily activities, leisure, work, and school, personal relationship, and treatment. Total DLQI score is ranged from 0 to 30; higher score indicated worse quality of life. Severity of psoriasis was evaluated by a dermatologist using Psoriasis Area Severity Index (PASI) that combines the assessment of the severity of lesions and the area affected into a single score in the range 0 (no disease severity) to 72 (maximal severity of disease). In our study, we divided PASI into three severity group (mild, moderate, severe) based on Schmitt's study, which are (1) less than 7, (2) 7 to 12, and (3) more than 12⁽¹⁴⁾.

Statistical analysis

Means and standard deviations (SD) were used to present the data in this study. All p-values are two-sided. The level of statistical significance was consider to be the type I error = 0.05. Kruskal-Wallis H test and Mann-Whitney U test was performed to find the associations between demographic factors and DLQI. Relationship between PASI and DLQI was analyzed by logistic regression.

Results

Of 326 psoriasis patients, 236 (72.4%) data providers were female. The mean age was 39.8 years, ranging from 20 to 65 years. The demographic, socioeconomic data, and Psoriasis Area and Severity Index are shown in Table 1. The mean (SD) DLQI of all participants was 10.6 (7.0). Therefore, it indicated that psoriasis had moderate to very large effect on patient's life. The data regarding DLQI of all participants is shown in Table 2.

Relationship of demographic factors and quality of life

Age

The patients were divided into three groups by their age, younger than 25-year-old, 25 to 50-year-old, and older than 50 year-old group. Among the three groups, the highest age group had highest quality of life. Considering in each domain of DLQI, there were the significant differences in the domain of daily activities ($p = 0.001$) and leisure ($p < 0.001$). Overall analyses demonstrated that psoriasis affected activities of daily-living of adolescent and

working-age patients much more than the elderly, as shown in Table 3.

Gender and occupation

It appears that gender and quality of life were unrelated. Additionally, neither overall DLQI score nor score in each domain had significant difference among retiree, blue collar, and white collar.

Table 1. Demographic and clinical characteristics of participants

Variables	Number (n = 326)	Percent
Age		
Lower than 25 years	53	16.2
25-50 years	190	58.3
More than 50 years	83	25.5
Gender		
Male	90	27.6
Female	236	72.4
Occupation		
Retiree	52	16.0
White collar	71	21.8
Blue collar	115	35.3
Not answered	88	27.0
Income (per month)		
≤7,500 Baht (\$250)*	151	46.3
>7,500 Baht (\$250)*	138	42.3
Not answered	37	11.3
Psoriasis area and severity index (PASI)		
Less than 7	175	53.7
7 to 12	54	16.6
More than 12	97	29.8

* 1 US Dollar = 30 TH Baht

Table 2. Summary of dermatology life quality index (DLQI) of 326 participants

Domain	DLQI	
	Mean	SD
Symptoms and feeling	3.35	1.64
Daily activities	2.27	1.93
Leisure	2.08	1.94
Work and school*	0.66	1.03
Personal relationships	1.17	1.56
Treatment*	1.05	1.06
Total score	10.60	6.96

* Maximum score of each domain is 6, except work and school, and treatment which their maximum scores are 3.

Table 3. Comparison of DLQI by three age groups

Domain	<25 years old		25-50 years old		>50 years old		p-value
	Mean	SD	Mean	SD	Mean	SD	
Symptoms and feeling	3.32	1.63	3.47	1.64	3.18	1.67	0.403
Daily activities	2.56	2.01	2.58	1.93	1.62	1.75	0.001*
Leisure	2.16	1.74	2.61	2.11	1.33	1.65	<0.001*
Work or school	0.73	0.97	0.71	1.08	0.38	0.72	0.087
Personal relationships	1.09	1.47	1.42	1.76	1.14	1.50	0.511
Treatment	1.00	1.12	1.18	1.08	0.92	0.98	0.159
Total score	10.47	7.03	11.42	7.23	7.93	5.58	0.049*

* Shows statistical significant

Income

Although overall DLQI score did not associate with income, lower income group (<\$250 per month) had less burden in work and school domain (p = 0.003).

Obstacles during treatment

Psoriasis patients reported their problems during treatment as shown in Fig. 1. Overall, 43.25% of participants reported difficulties to perform their daily activities. More than half of patients suffered from social stigmatization and rejection. Although only 12.26% of participants stated that they did not receive enough information regarding disease and its treatment from health-care provider, we found that 38.95% of psoriasis sufferers did not understand the natural history of disease. In order to receive treatment, 32.51% of patients had transportation difficulties, and 20.85% of participants reported that psoriasis treatment drove them to a financial problem. However, these problems had no statistical association with DLQI.

Relationship between PASI and DLQI

Fig. 2 shows that after adjusting for age and sex, PASI is increasing with DLQI. It means that greater severity of psoriasis is associated with lower quality of life. The proportion of participants with DLQI greater than 20 increased approximately 8-fold from mild to severe psoriasis (3.42% to 26.8%). For DLQI ranging 11 to 20, the increment from 30.85% to 43.29% was found. There was also a linear trend of increased overall DLQI with greater PASI (test for trend, p = 0.001). Additionally, five of six domains, except symptoms and feelings shared the same trend with overall DLQI, see Table 4.

Discussion

Effect of psoriasis on quality of life

Generally, patients with psoriasis had moderate to very large negative effect on their life. Moreover, psoriasis had negative impacts on all of domains in DLQI. Symptoms and feeling was the aspect that was affected the most. It indicated that controlling the symptoms and providing appropriate

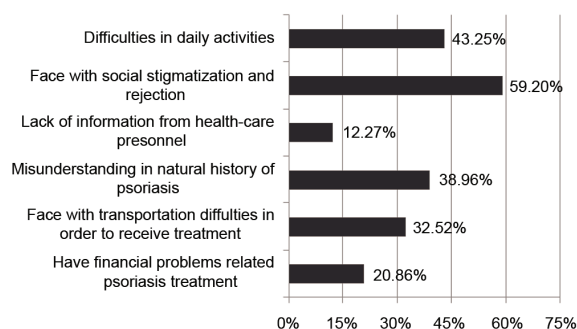


Fig. 1 The percentage of psoriasis patients who experienced each obstacle during treatment.

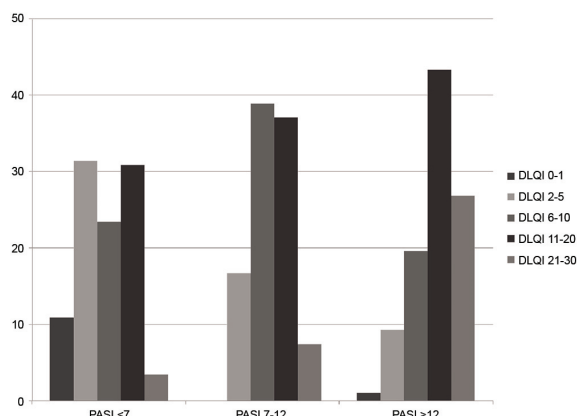


Fig. 2 Proportion of DLQI according to PASI.

Table 4. The association between PASI and DLQI

Domain	Odd ratio	95% confidence interval	
		Lower limit	Upper limit
Symptoms and feeling	1.62	0.67	3.93
Daily activities	1.89	1.37	2.60
Leisure	1.81	1.34	2.45
Work and school	1.82	1.40	2.36
Personal relationships	2.37	1.80	3.11
Treatment	1.86	1.41	2.44
Overall DLQI	5.26	1.55	17.86

psychological support (e.g. promote self-esteem) is a priority to promote good quality of life for psoriasis patients. However, difficulty-related treatment was also reported that it also impaired patients' quality of life. For alleviating this problem, physician should select the treatment modality which suits with patient's daily life and always ask for obstacles during treatment from patients. Although DLQI questionnaires showed that work and school and personal relationships were the two least affected domains, approximately 60% of participants experienced social stigmatization and rejection. Since psoriasis is a chronic disease and DLQI evaluates quality of life only in "over the last week", the burden of patients may be underestimated. Therefore, publicize the knowledge regarding psoriasis and promote good social attitude should not be overlooked. These strategies may help patients living with psoriasis happier.

Demographic factors and quality of life

Socioeconomic characteristics (i.e. age, gender, occupation, and income) had only modest influence on their quality of life. Older age was an only demographic variable associated with fewer burdens, especially in their daily-life activities and leisure. Our finding is similar to the review of 17 studies conducted by de Korte and colleagues in 2004⁽¹⁵⁾. Additionally, many recent studies in various countries including India⁽¹⁶⁾, South Africa⁽¹⁷⁾, and Singapore⁽¹⁸⁾ shared similar trends with ours.

Eliminate obstacles during treatment

During treatment, patients did not suffer only from disease. Problem-related with treatment and side effects can also impair well-being state of patients. According to our study, participants also reported treatment-related difficulties such as transportation, and financial problems. Without doubt, these

obstacles may affect adherence and compliance in the treatment.

First, about 40% of patients did not understand the natural history of psoriasis which is controllable chronic disease and not curative. It is essential to let patients know that psoriasis needs long-term follow-up and good compliance is important for controlling the symptoms. Secondly, nearly half of the patients had difficulties in their daily life. Hence, physicians should choose the treatment which suit with patient's life style and has minimal side-effects. Furthermore, transportation and financial problems were also complained. Because psoriasis requires a specialist to perform treatment, and dermatologists are not normally available at primary care units, some patients had to go to a tertiary care unit for receiving the best treatment. Therefore, a way that health-care provider in tertiary care can help patients who have transportation problem is to arrange appropriate follow-up, but not too frequently. For financial difficulties, health-care provider may consider intervention covered in Universal coverage as the first line strategy, and high-cost interventions as adjunctive treatments.

In a nutshell, holistic management is crucial for minimizing the problems during treatment. Physicians should not treat only the disease. The true goal of management in psoriasis patients should be the best quality of life. Health-care providers should inform patients about the natural history of disease as well as treatment options and their potential adverse effects. Patient should be included in the therapy decisions. Treatment strategy should be individualized by considering patient's life style and socioeconomic status. Lastly, psychological support and enhancement of coping skill have to be included in a treatment plan.

Severity of psoriasis and quality of life

The significant correlation between clinical severity and quality of life was found via relationship between PASI and DLQI. We found that greater severity related with lower quality of life. This finding was in concordance with other researches of Iran⁽¹⁹⁾, India⁽²⁰⁾, and United States⁽²¹⁾. Although these researches used Psoriasis Disability Index (PDI) as an instrument in quality of life evaluation, the Iranian study⁽¹⁹⁾ also employed DLQI and showed that the relationship between PASI and PDI did not differ from with DLQI. In contrast, the studies in Singaporean Chinese⁽¹⁸⁾ and African⁽¹⁷⁾ found that disease severity had only a little influence on quality of life. Hence,

further research is needed to identify the relationship between severity of psoriasis and quality of life.

Considering in each domain of DLQI score, we found that the reductions of quality of life in five of six domains, except symptoms and feeling, associated with higher PASI. Therefore, symptom relieving and psychological support are required regardless of disease severity. However, further research with larger sample size may be able to show the association between each domain of DLQI score and disease severity.

Limitations

One of the limitations was that the cross-sectional study design did not allow us to understand the relationships between time and changes in quality of life. In addition, DLQI measure quality of life at the time of study, so it may underestimate the burden of patients with psoriasis, which is a chronic condition. Hence, further cohort study may provide a bigger picture. Moreover, the sample was dominated by females and restricted to a tertiary care unit attendees. Lastly, severity of psoriasis was rated using the PASI, which had low clinical sensitivity and high-interobserver variability. However, it is currently most common method for severity evaluation in psoriasis.

Conclusion

Psoriasis had moderate to very large effect on patients. Demographic factors had modest influence on patients' life. According to our study, only severity rated by PASI was associated with patient's well-being state. Greater severity related with worse quality of life. Additionally, patients also reported their burden during treatment in both physical and mental aspects. Therefore, management of psoriasis should be individualized and based on holistic approach that includes consideration in physical, mental, environmental, and spiritual aspects.

Acknowledgement

The authors are deeply indebted to Professor Punkae Mahaisavariya and Associate Professor Puan Suthipinitharm for their kind advice and facilitation. We also would like to express our gratitude to Professor Jariya Lertakyamane, Associate Professor Pattarachai Kiratisin, Assistant Professor Dr. Mayuree Homsanit, Assistant Professor Chakrapong Namatra, and Akarin Nimmannit, MD for their kind advice on research methodology.

Potential conflicts of interest

None.

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การศึกษาปัจจัยที่มีผลต่อคุณภาพชีวิตผู้ป่วยโรคสะเก็ดเงิน

สมมาตร ถกลวิบูลย์, สิทธิณัฐ อูประละ, ธนวัชร จีระตระกูล, ณัฏฐร เบญจาทิกุล, เมธัส เอื้อทยา, อริวัฒน์ ไตรทิธิศิริวัฒน์, ศุภกานต์ จิระนากุล, บุษยฉัตร ชุตินิมิตกุล, วรรณชัย ชินฉลองพร, ชนิษฐา วงษ์ประภารัตน์, กนกวลัย กุลทันทน์, สุขุม เจียมตน

วัตถุประสงค์: เพื่อหาปัจจัยที่ส่งผลต่อคุณภาพชีวิตของผู้ป่วยโรคสะเก็ดเงินชาวไทย

วัสดุและวิธีการ: การศึกษานี้ใช้ข้อมูลที่เก็บจากผู้ป่วยโรคสะเก็ดเงิน 326 ราย ที่เข้ารับการรักษาในคลินิกโรคผิวหนัง โรงพยาบาลศิริราช ระหว่าง พ.ศ. 2544-2550 ซึ่งใช้ *Dermatology Life Quality Index (DLQI)* ในการประเมินคุณภาพชีวิตของผู้ป่วย และ *Psoriasis Area and Severity Index (PASI)* ในการประเมินความรุนแรงของโรค

ผลการศึกษา: ในภาพรวมโรคสะเก็ดเงินส่งผลกระทบต่อผู้ป่วยในระดับปานกลางถึงรุนแรงมาก โดยผู้ป่วยสูงอายุสัมพันธ์กับคุณภาพชีวิตที่ดีกว่าผู้ป่วยในกลุ่มอื่นๆ ทั้งนี้ปัจจัยทางสังคมอื่นๆ ได้แก่ เพศ อาชีพ และรายได้ ไม่มีผลต่อคุณภาพชีวิตของผู้ป่วย นอกจากนี้การศึกษายังพบว่า DLQI แปรผันตรงกับ PASI

สรุป: อายุที่มากขึ้น และความรุนแรงของโรคที่น้อยกว่า มีความสัมพันธ์ต่อคุณภาพชีวิตที่ดีในผู้ป่วยสะเก็ดเงินชาวไทย
