Quality of life of patients with psoriasis based on EQ-5D-5L questionnaire: an analysis at specialized hospital in Vietnam

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SUMMARY

Introduction. Psoriasis is a chronic proliferative skin inflammation associated with an immune-allergic mechanism. With long-term treatment regimen, abnormal recurrences can negatively affect the quality of life of patients. In Vietnam, the quality of life of psoriatic patients has not been fully and comprehensive researched.

Objectives: To survey characteristics of psoriatic patients;To estimate quality of life (QoL) of psoriatic patients;Analyze impact factors on quality of life of psoriatic .

Materials and methods. Cross-sectional study based on data collected by surveying patients with EuroQuality of life-5 Dimensions-5 Level (EQ-5D-5L) and visual analogue scale (VAS) from psoriatic patients treated at HCMC Hospital of Dermato Venerelogy, satisfying inclusion and exclusion criteria. Analyzing impact factors were performed with relevant statistical tests and multivariate linear regression model with the 95% confidence intervals, using SPSS 20.0.

Results. Sample size included 310 patients with the mean age of48.84±16.27 years; the mean disease duration of 11.51±9.82 years; the male: female ratioof 1.4:1; 52.6% patients with under high school and 68.4% living in HCMC. The mean HRQoL was 0.787±0.128 (according to EQ-5D-5L) and 0.773±0.124 (according to VAS). Withthe 95% confidence interval, gender had positive correlation with HRQoL with low level (r=0.229, p=0.000).

Conclusion. The mean HRQoL of psoriatic patients was accounted for 0.787±0.128 (EQ-5D-5L) and 0.773±0.124 (VAS). Gender was an impact factor on QoL.

Key words: psoriasis, quality of life, EQ-5D-5L, VAS, Ho Chi Minh City Hospital of Dermato Venerelogy.

ОЦЕНКА КАЧЕСТВА ЖИЗНИ У БОЛЬНЫХ ПСОРИАЗОМ С ПОМОЩЬЮ ОПРОСНИКА EQ-5D-5L: АНАЛИЗ В СПЕЦИАЛИЗИРОВАННОЙ БОЛЬНИЦЕ ВО ВЬЕТНАМЕ

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РЕЗЮМЕ

Введение. Псориаз – это хроническое пролиферативное воспаление кожи, связанное с иммуноаллергическим механизмом. При длительном режиме лечения аномальные рецидивы могут негативно сказаться на качестве жизни пациентов. Во Вьетнаме качество жизни пациентов с псориазом недостаточно изучено.

Цель – изучить характеристики больных псориазом; оценить качество жизни (QoL) пациентов с псориазом; проанализировать влияние определенных факторов на качество жизни таких больных.

Материал и методы. Поперечное исследование, основанное на данных, собранных путем опроса пациентов с псориазом, получавших лечение в госпитале HCMC дерматовенерологии, удовлетворяющих критериям включения и исключения критериев с использованием Euro-Quality of life-5 (EQ-5D-5L) и визуальной аналоговой шкалой (VAS). Анализ факторов влияния проводился с помощью соответствующих статистических тестов и многомерной модели линейной регрессии с 95% доверительными интервалами с использованием SPSS 20,0.

Результаты. Для исследования выбрано 310 пациентов в возрасте 48,84±16,27 года; средняя продолжительность заболевания – 11,51±9,82 года; соотношение мужчин и женщин составляет 1,4:1; у 52,6% пациентов образование – неполное среднее и 68,4% находятся на лечении в HCMC. Среднее значение HRQoL составило 0,787±0,128 (согласно EQ-5D-5L) и 0,773±0,124 (согласно VAS). При доверительном интервале 95% пол имел положительную корреляцию с низким уровнем HRQoL (r=0,229, p=0,000).

Заключение. Среднее значение HRQoL у пациентов с псориазом составило 0,787±0,128 (EQ-5D-5L) и 0,773±0,124 (VAS).

Ключевые слова: псориаз, качество жизни, EQ-5D-5L, VAS, Хошиминская городская больница дерматовенерологии.

Introduction

Psoriasis is a chronic proliferative skin inflammation with prevalence in the world ranging from 0.6% to 4.8% [1]. As a common chronic disease, persistent and abnormal recurrent, psoriasis affects not only esthetics, mentality, but also living and working capacity [2]. The survey from National Psoriasis Foundation reveals that QoL of 79% severe psoriatic patients had been affected negatively [3]. The QoL of psoriatic patients has not been fully and comprehensive researched in Vietnam. Therefore, to estimate QoL and impact factors on QoL of psoriatic patients, study was conducted based on data which was collected from patients with psoriasis undergoing treatment at HCMC Hospital of Dermato Venerelogy.

Objectives

1. To survey characteristics of psoriatic patients treated at HCMC Hospital of Dermato Venerelogy.

2. To estimate quality of life of psoriatic patients treated at HCMC Hospital of Dermato Venerelogy.

3. Analyze impact factors on quality of life of psoriatic patients treated at HCMC Hospital of Dermato Venerelogy.

Subjects – Methods

Methods. Cross-sectional study based on data which collected by EuroQuality of life-5 Dimensions -5 Level (EQ-5D-5L) withvisual analogue scale (VAS) on psoriatic patients at HCMC Hospital of Dermato Venerelogy, satisfying inclusion and exclusion criteria. Analyzing impact factors were performed with relevant statistical tests (Mann-Whitney U., Kruskal-Wallis H.T., Anova) and multivariate linear regression model with the 95% confidence intervals, using SPSS 20.0.

Study sample. All psoriatic patients at HCMC Hospital of Dermato Venerelogy from November to December in 2017 satisfied the inclusion and exclusion criteria (Table 1) were selected for study.

The EQ-5D-5L questionnaire consists of 5 questions about 5 dimensions of health (mobility, self-care, usual activities, pain/discomfort, anxiety/depression). Each question has 5 options that correspond to levels ranging from not difficult to impossible. Visual analog scale- a vertical scale with dividing line from 0 to 100. In which, 0 means the worst health and 100 means the best health. Surveyed patients score correspondingly on current state of their health.

Due to the unavailability of Vietnamese tarif table and according to Agota et al [4], the values of QoL in the EQ-5D-5L questionnaire is looked up to the Tariff table of country which was geographically close to Vietnam such as Thailand.

The inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Psoriatic patients were treated at HCMC Hospital of Dermato Venerelogy Patients agree to participate in the research Patients have ability to read, write and answer all questions in the survey questionnaire Patients can decide the payment for medical expenses Patients use health insurance for treatment	Patients are not able to communicate in Vietnamese Patients don't complete the survey questionnaire

Results

Demographic and pathological characteristics of the participants. The demographic and pathological characteristics of the study participants were shown in Table 2. According to Table 2, the study was conducted on 310 patients, the proportion of men and women was 1.4:1. Majority of patients had under high school (52,6%) and mostly were living in HCMC (68,4%). Most patients were common labors (35,2%) and there were only 8.4% of patients were unemployed. The proportion of single patients is lower than that of married patients (12,6% and 85,8%, respectively). The mean age in studied patients was 48,84 ± 16,27 years, the mean disease duration was 11,51 ± 9,82 years.

Quality of life of psoriatic patients. The influence structure of psoriasis on QoL of 310 patients were presented in Figure 1. According to Figure 1, patients had no problems in mobility (80,0%) and 16.8% felt slightly difficult. Most of patients had no problems in self-care and usual activities (99,4% and 98,8%, respectively); 1,2% of patients felt slightly or moderately difficult in usual activities such as work, study, housework, leisure activities. In pain/discomfort dimension, 46,5% of patients had no pain or discomfort and 45,8% had slight pain or discomfort. In anxiety/depression, there were 42,6% of patients who were not anxious or depressed, 46,8% were slightly anxious or depressed and 10,6% moderately anxious or depressed.

HRQoL based on EQ-5D-5L and VAS were presented in Figure 2. According to Fig.2, the mean HRQoL of study sample was 0,787 ± 0,128 (from 0,414 to 1,000) based on EQ-5D-5L and 0,773 ± 0,124 (from 0,400 to 1,000) based on VAS. There was a positive correlation with low level between HRQoL of EQ-5D-5L and VAS (r=0,295; p=0,000<0,05; CI 95%).

Impact factors on quality of life of patients. Impact factors on QoL of patients were presented in Table 3. According to Table 3, gender is the only factor that impacted on QoL of psoriatic patients with p=0,000. In detail, the mean HRQoL of male patients was statistically significantly higher than female patients

Demographic and pathological characteristics of the participants

Characteristics		Frequency (Percentage)/Mean (Standard deviation)	Cumulative percentage
Gender	Male	181 (58,4%)	58,4%
	Female	129 (41,6%)	100,0%
Education	Under high school	163 (52,6%)	52,6%
	High school	109 (35,2%)	87,8%
	University/College	38 (12,2%)	100,0%
Living places	Ho Chi Minh City	212 (68,4%)	68,4%
	Other provinces/cities	98 (31,6%)	100,0%
Occupation	Intellectual work	37 (11,9%)	11,9%
	Manual work	109 (35,2%)	47,1%
	Unemployed	26 (8,4%)	55,5%
	Retired	61 (19,7%)	75,2%
	Others	77 (24,8%)	100,0%
Marital status	Single	39 (12,6%)	12,6%
	Married	266 (85,8%)	98,4%
	Divorced	5 (1,6%)	100,0%
Disease duration		11,51 ± 9,82 (years)	
Age		48,84 ± 16,27 (years)	

(0,811 compares to 0,754, respectively). From that, the correlation matrix between independent variable (gender) and dependent variable (HRQoL) was established and presented in Table 4. According to Table 4, the indepent variable gender (male) had positive correlation with the dependent variable HRQoL at low level (r=0,229, p=0,000). From that, the simple linear regression modelhad been built and evaluated. The result was shown in Table 5 and Table 6. According to Table 6, the value of the adjusted R squared was 0,047, which means that this model could explain only 4,7% variability of the HRQoL.

To estimate the level of real impact of independent variables on the dependent variable (HRQoL), verifying the meaning of the partial regression coefficients was conducted by T-test with the null hypothesis: the partial regression coefficient of independent variable k was not statistically significantly different from zero. The result was presented in Table 7. According to Table 7, the independent variable gender (male) had positive correlation with HRQoL, the p-value of T-test for partial regression coefficient was <0,05, the standardized coefficients β_k=0,223. Therefore, it is estimated that male patients will have 0,058 scores more HRQoL than female patients.

Discussion

According to study, the number and QoL of male patients with psoriasis was higher than female, which is similar to study of Mahsid Moradi MSc et al (5), study of Wei-Chih Ko et al (6) with proportion of male and female was 3:1. The average mean of psoriatic patients undergoing treatment at HCMC hospital of Dermato Venerelogy was 48,84 years, which was higher than patients in Iran (40,40 years)
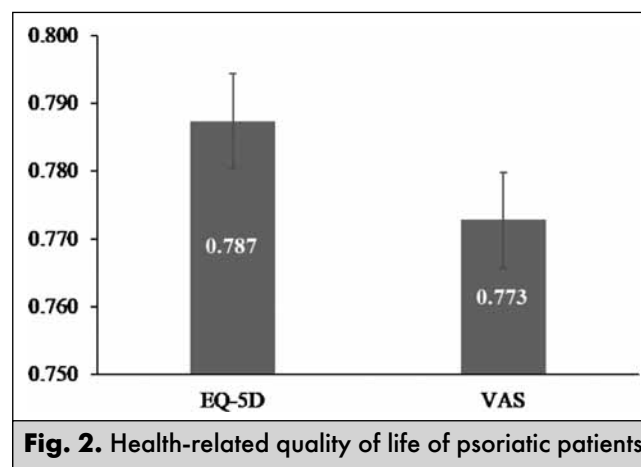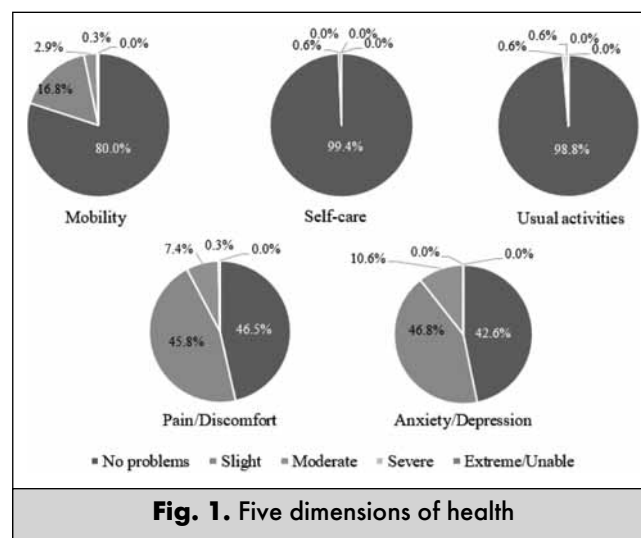

Fig. 1. Five dimensions of health

Fig. 2. Health-related quality of life of psoriatic patients

Table 3

Impact factors on quality of life of psoriatic patients

Characteristics		The mean HRQoL	p	Characteristics		The mean HRQoL	p
Gender	Male	0,811	0,000	Occupation	Intellectual work	0,788	0,385
	Female	0,754			Manual work	0,782	
Education	Under high school	0,784	0,493		Unemployed	0,768	
	High school	0,790			Retired	0,774	
	University/College	0,795			Others	0,811	
Living places	HCM City	0,797	0,097	Marital status	Single	0,804	0,592
	Others	0,767			Married	0,786	
					Divorced	0,725	
Disease duration				p=0,137, r=0,085			
Age				p=0,305, r=-0,058			

[5] and Taiwan (44,52 years) [6]. The disease duration of surveyed patients was at moderate level (Iran: 13,60 years, Taiwan: 10,90 years).

The mean HRQoL of psoriatic patients treated at HCMC hospital of Dermato Venerelogy was 0,787 ± 0,128 (according to EQ-5D-5L) and 0,773 ± 0,124 (according to VAS), which was higher than those of study of Mahshid Moradi M.S. et al. (EQ-5D-5L: 0,62 ± 0,37; EQ-VAS: 0,60 ± 0,27)[5], but similar to Wei-Chih Ko et al. (EQ-5D-5L: 0,82, VAS: 0,72).

Moreover, dimensions that were comprised by the descriptive system also revealed the high QoL level of psoriatic patients under going treatment at HCMC hospital of Dermato Venerelogy. The proportion of patients who were at severe and extremely severe in five dimensions of health (mobility, self-care, usual activities, pain/discomfort, anxiety/depression) were 0,3%, 0,0%, 0,0%, 0,3%, 0,0%, respectively. This might be explained by the fact that patients had adapted and were socially sympathetic because of prolonged disease duration.

The study noted that gender was the only factor impacting on QoL of psoriatic patients, among surveyed independent variables. However, according to research of Hui-Ju Yang et al. [7] in Taiwan claimed that there were six factors that had influence on QoL (severity of disease, duration of disease, age of patients, gender, educational level of patients, nor family history). Differences in inclusion/exclusion criteria and contents of the questionnaire could explain that variability.

Conclusion

The mean HRQoL of psoriatic patients treated at HCMC Hospital of Dermato Venerelogy was 0,787 ± 0,128 (according to EQ-5D-5L) and 0,773 ± 0,124 (according to VAS). Furthers more, gender was a factor that had influence on QoL. Results may be used as reference for study of pharmacoeconomics, improving the QoL and optimizing treatment effect for patients with psoriasis. However, the study did not estimate the effect of pathological factors (severity of disease, family history) and income on QoL. These are directions that can be further studied in the future.

Table 4

The correlation matrix

	Gender (male)
correlation coefficient	0,229
p-value	0,000

Table 5

Simple linear regression model

Model	Entered variable	Method
1	Gender (male)	p≤0,05

Table 6

Evaluating the suitability of model based on adjusted R squared

Model	R	R²	Adjusted R squared	SE
Gender (male)	0,223	0,050	0,047	0,125

Table 7

Verifying the meaning of the partial regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	p value
	B	SE	β		
Intercept	0,754	0,011		68,725	0,000
Gender (male)	0,058	0,014	0,223	4,011	0,000

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