

# Correlational Study on Gender, Social Support, and Disability in Patients with Psoriasis

Chin-Chih Ho<sup>1</sup>, Chia-Hsiao Kuo<sup>2</sup>

Department of Healthcare Administration, Central Taiwan University of Science and Technology<sup>1</sup>;

Department of Orthopedic, Tung' Taichung MetroHarbor Hospital<sup>2</sup>

## Abstract

### Purposes

Psoriasis, a psychodermatological disease, is often stigmatized and discriminated against in society, affecting both men and women equally. The aim of this study is to explore the relationship between gender, social support, and disability in patients with psoriasis.

### Methods

A Web-based self-administered questionnaire was employed. Emails were sent to 571 members aged over 20 years and registered with Psoriasis Association Taiwan. A total of 239 valid samples were collected (recovery rate of 41.86%). The questionnaire included sections on demographic data, the Berlin Social Support Scale (BSSS), and the Psoriasis Disability Index (PDI). SPSS 22.0 was used for statistical analyses.

### Results

The average age of patients with psoriasis was 39.14±10.60 years, with a majority being female. Patients with psoriasis reported receiving high levels of social support and experiencing low levels of disability due to the condition. There were significant differences in social support based on gender, education, and income among patients with psoriasis. Similarly, there were significant differences in disability due to psoriasis based on gender, income, and biologics treatment. A weak yet significant negative correlation was noted between age and instrumental support. The higher the social support, the lower was the disability due to psoriasis. Age, income, biologics treatment, and instrumental support were significant predictors of disability in psoriasis patients.

### Conclusions

Female patients with psoriasis tend to receive more social support, although gender has a relatively low impact on disability due to psoriasis and does not serve as a predictor of disability in these patients. (Cheng Ching Medical Journal 2024; 20(2): 57-68)

**Keywords :** *Psoriasis, Gender, Social support, Disability, Quality of life*

## Introduction

Psoriasis is a highly stigmatized psychocutaneous skin disease. Patients with psoriasis often experience psychiatric comorbidities, and the incidence of depression and severe anxiety requiring psychotherapy among patients with psoriasis is 28%-67% and 22.2%, respectively[1]. Psoriasis affects 1.4%-2% of the world's population and approximately 4.6% of the populations of developed countries. The prevalence of psoriasis is the same among men and women[2,3]. Similar to other skin diseases, the disfigurement caused by psoriasis gives rise to negative reactions among patients, high levels of anxiety and anger, and low levels of self-confidence[1]. The effects of psoriasis on patients' quality of life (QoL) and well-being are typically stronger than those of other skin and chronic diseases[4]. In most patients with psoriasis, the clinical severity of psychiatric comorbidities of

Corresponding author: Chia-Hsiao Kuo

Address: No. 699, Sec. 8, Taiwan Blvd., Wuqi Dist., Taichung City 435403, Taiwan (R.O.C.)

E-mail: orthkuo@gmail.com

Received: February 2023; Accepted: July 2023

psoriasis is disproportionate with the severity and areas of psoriasis lesions. Therefore, the severity of psoriasis in patients may not reflect the patients' level of psychological disability. The mental health problems of such patients may be primarily attributed to their perceptions of the disease, their perceived importance of appearance in their daily life, and their perceived importance of self-esteem[5]. In addition, the patients with psoriasis perceived social support and the positive, acceptable social interactions experience are crucial. Social support may affect individuals in different manners, depending on the sex of the recipient and whether the type of social support the individual receives meets their personal needs[4]. Social support is more effective in preventing depression in women than in men[6].

Numerous studies have been made on patients with psoriasis; however, most of them have focused on the medical aspects of the disease, exploring its pathogenesis and treatment. Few have focused on the mental health of patients with psoriasis and the social support received by patients of different sexes. To address this gap, this study analyzed the correlations among sex, social support, and psoriasis disability to understand the physical and mental challenges, familial interactions, living and working conditions, and coping mechanisms of patients with psoriasis. The findings of this study may provide suggestions on how society can provide care and support to patients with psoriasis and how patients can develop their self-care abilities to relieve their symptoms and achieve a higher QoL.

## Methods

We adopted a cross-sectional design and collected data through an online questionnaire survey. According to the sample size determination guidelines proposed by Krejcie and Morgan, a sample size of 381 participants is sufficient if the population exceeds 50,000[7]. Considering the recovery rate, we increased the sample size by 50% to obtain a final estimated sample size of 571 participants. This study commissioned the Psoriasis

Association Taiwan to email 571 questionnaires to 571 of their registered members aged 20 years or older. Four months later, 239 valid questionnaires were retrieved, posting a recovery rate of 41.86%. The questionnaires consisted of general information items, the Berlin Social Support Scales (BSSS), and the Psoriasis Disability Index (PDI).

The BSSS was originally developed by Schwarzer and Schulz for patients with cancer[8]. The scales measure the cognition and behavior of social support in six dimensions. Social support can be categorized into two types: subjective social support, such as emotional support (mentality-based support), and objective social support, such as instrumental support (practicality-based support)[8]. Emotional support is support stemming from love or affection; it includes encouragement provided out of a sense of warmth, caring, understanding, or empathy with the aim to make an individual feel comfortable. Instrumental support refers to practical support and specific assistance that may include financial or material support and services. We only applied one scale (i.e., perceived available support).

The perceived available support scale measures emotional and instrumental support with four items each. Each item is scored on a 4-point Likert scale, on which responses of strongly agree, agree, disagree, and strongly disagree correspond to scores of 3 points, 2 points, 1 point, and 0 points, respectively. Each patient's scores for the items were summed. A higher total score indicated a higher level of social support. The scale we adopted had satisfactory internal consistency and validity[4,9,10].

First established by Finlay and Coles, the PDI is a self-administered questionnaire that evaluates psoriasis-related functional disabilities[11]. The PDI contains 15 items measuring the effects of psoriasis on a patient's daily activities (1st-5th questions), work (6th-8th questions), personal relationships (9th-10th questions), leisure activities (11th-14th questions),

and treatment (15th question). Each item is scored on a 4-point Likert scale, with responses of very much, a lot, a little, and not at all corresponding to scores of 3 points, 2 points, 1 point, and 0 points, respectively. Each patient's scores for the items were summed. A higher total score indicates a higher degree of disability. The PDI was determined to have satisfactory reliability and validity.

The PDI can be used to evaluate the health status of adult patients with psoriasis and the outcomes of various treatments. A higher PDI score indicates a stronger negative effect of psoriasis on an individual's QoL. The PDI measures psoriasis disability in five dimensions, namely, daily activities, work or school, personal relationships, leisure, and treatment. The PDI scale can be used to effectively evaluate the effects of interventions on psoriasis-related treatment and health services[12].

To increase the validity of the questionnaire, we invited two domestic experts and three scholars to conduct a content validity test. We selected 20 patients with psoriasis through purposive sampling to complete a pretest to evaluate the appropriateness, sensitivity, and clarity of the wording of the items; the answering time required; and the questionnaire validity. We used SPSS 22.0 for descriptive and inferential analyses.

The data are presented as number of times (N), percentage (%), mean (M), and standard deviation (SD) values. We conducted t tests, ANOVA, Pearson's correlation analysis, and multiple regression analysis. The Cronbach's  $\alpha$  reliability coefficients of the BSSS questionnaire and PDI questionnaire was 0.96 and 0.92, respectively.

This study was initiated after approval from the Institutional Review Board of Cheng Ching Hospital (IRB: HP170032). The research purpose and participants' rights were detailed in writing on the first page of the online questionnaire. After the data were collected, the data was delinked from individual responses to protect the participants' personal information. The participants had the right to withdraw from the study at any time. After a participant provided informed consent, they could proceed to the questionnaire.

## Results

As indicated in Table 1, most of the participants were female (137, 57.3%), not married (134, 56.1%), had income (172, 72.0%), had a bachelor education (124, 51.9%), had psoriasis symptoms on the extensor surfaces of their extremities (76, 31.8%), and had not received biological therapy (171, 71.5%). Their ages ranged from 20-68 years, with a mean age of 39.14±10.60 years.

**Table 1. Characteristics of Sample**

Characteristics	n (%)	Characteristics	n (%)
<b>Gender</b>		<b>Income</b>	
Female	137 (57.3)	Yes	172 (72.0)
Male	102 (42.7)	No	67 (28.0)
<b>Marital Status</b>		<b>Psoriasis Region</b>	
Single	134 (56.1)	Scalp	59 (24.7)
Married	105 (43.9)	Extremities	76 (31.8)
<b>Education</b>		Trunk	66 (27.6)
Junior high school or below	9 ( 3.7)	Genital	4 ( 1.7)
Senior high school	33 (13.8)	Other	34 (14.2)
College	34 (14.2)	<b>Biological Therapy</b>	
University	124 (51.9)	Yes	68 (28.5)
Master	39 (16.3)	No	171 (71.5)

Age in years mean (SD)(Range): 39.14 (10.60) (20-68)

As indicated in Table 2, the mean social support score of the participants was  $1.84 \pm 0.71$ , and the mean scores on the perceived emotional and instrumental support subscales were  $1.87 \pm 0.71$  and  $1.81 \pm 0.76$ , respectively, thereby indicating a high level of perceived social support. As indicated in Table 3, the mean psoriasis disability score of the participants was  $1.11 \pm 0.73$ , suggesting a low degree of psoriasis disability. The dimensions most strongly influenced by psoriasis were work or school ( $1.20 \pm$

$0.96$ ) and treatment ( $1.14 \pm 0.98$ ), followed by personal relationships ( $1.07 \pm 0.90$ ), daily activities ( $1.07 \pm 0.68$ ), and leisure activities ( $0.73 \pm 0.61$ ). The three items with the highest mean scores were “4. How much of a problem has your psoriasis been at the hairdressers?”, “7. How much has your psoriasis prevented you from doing things at work or school over the last four weeks?” and “6. How much has your psoriasis made you lose time off work or school over the last four weeks?” which had mean scores of  $1.66 \pm 0.99$ ,

**Table 2. Descriptive Information of the Social Support Subscales and Total Scale**

Variables	M±SD
<b>Emotional Support</b>	1.87±0.71
1. There are some people who truly like me.	2.00±0.79
2. Whenever I am not feeling well, other people show me that they are fond of me.	1.79±0.82
3. Whenever I am sad, there are people who cheer me up.	1.89±0.78
4. There is always someone there for me when I need comforting.	1.77±0.84
<b>Instrumental Support</b>	1.81±0.76
5. I know some people upon whom I can always rely.	1.87±0.82
6. When I am worried, there is someone who helps me.	1.74±0.83
7. There are people who offer me help when I need it.	1.83±0.78
8. When everything becomes too much for me to handle, others are there to help me.	1.80±0.80
<b>Social Support</b>	1.84±0.71

**Table 3. Descriptive Analysis of the Patients' with Psoriasis Disability**

Variables	M±SD	Rank
<b>Daily Activities</b>	1.07±0.68	
1. How much has your psoriasis interfered with you carrying out work around the house or garden?	1.00±0.94	9
2. How often have you worn different types or colours of clothes because of your psoriasis?	1.19±1.00	5
3. How much more have you had to change or wash your clothes?	1.01±1.02	8
4. How much of a problem has your psoriasis been at the hairdressers?	1.66±0.99	1
5. How much has your psoriasis resulted in you having to take more baths than usual?	0.50±0.77	14
<b>Work or School</b>	1.20±0.96	
6. How much has your psoriasis made you lose time off work or school over the last four weeks?	1.32±0.92	3
7. How much has your psoriasis prevented you from doing things at work or school over the last four weeks?	1.32±1.20	2
8. Has your career been affected by your psoriasis? e.g. promotion refused, lost a job, asked to change a job.	0.64±0.93	13
<b>Personal Relationships</b>	1.07±0.90	
9. Has your psoriasis resulted in sexual difficulties over the last four weeks?	1.16±1.04	6
10. Has your psoriasis created problems with your partner or any of your close friends or relatives?	0.97±0.94	10
<b>Leisure</b>	0.73±0.61	
11. How much has your psoriasis stopped you going out socially or to any special functions?	1.28±0.97	4
12. Is your psoriasis making it difficult for you to do any sport?	0.74±0.86	11
13. Have you been unable to use, criticised or stopped from using communal bathing or changing facilities?	0.66±0.86	12
14. Has your psoriasis resulted in you smoking or drinking alcohol more than you would do normally?	0.25±0.60	15
<b>Treatment</b>	1.14±0.98	
15. To what extent has your psoriasis or treatment made your home messy or untidy?	1.14±0.98	7
<b>Psoriasis disability</b>	1.11±0.73	

1.32±1.20, and 1.32±0.92, respectively. The three items with the lowest mean scores were “14. Does psoriasis make you smoke or drink more than usual?” “5. Does psoriasis cause you to take more baths than you did before you had psoriasis?” and “8. Has your career been affected by psoriasis (e.g., being denied a promotion, being unemployed, or being asked to change jobs)?” which had mean scores of 0.25±0.60, 0.50±0.77, and 0.64±0.93, respectively.

As indicated in Table 4, the mean emotional and instrumental support scores were higher among the participants who were female (vs. those who were male), who had income (vs. those without income). The mean instrumental support scores were higher among the participants who were high school, bachelor, or a master’s degree (vs. those who had an educational level of college). The male participants had a higher mean score in the leisure activities dimension than did the female participants. The participants

without income had higher mean scores in the daily activities, work or school, personal relationships, and leisure activities dimensions than did those with income. The participants who had psoriasis on the extensor surfaces of their extremities had a higher mean score in the leisure activities dimension than did those who had psoriasis on the scalp or in other areas. The participants who had received biological therapy had higher mean scores in the daily activities, leisure activities, and treatment dimensions than did those who had not received biological therapy.

As indicated in Table 5, age was significantly and negatively correlated with instrumental support. Emotional support was significantly and negatively correlated with scores on the work, personal relationships, and leisure activities dimensions, indicating that psoriasis less strongly affected the work, personal relationships, and leisure activities of patients who received greater emotional support.

**Table 4. Differences Among the Patients with Psoriasis on Social Support and Psoriasis Disability**

Variables	n	Social Support						Psoriasis Disability							
		Emotional Support		Instrumental Support		Daily Activities		Work or School		Personal Relationships		Leisure		Treatment	
		M±SD	t/F	M±SD	t/F	M±SD	t/F	M±SD	t/F	M±SD	t/F	M±SD	t/F	M±SD	t/F
<b>Gender</b>															
Female	137	2.03±1.37	4.24***	1.93±0.73	2.79**	1.03±0.66	-1.25	0.91±0.84	-1.71	1.00±0.89	-1.3	0.65±0.57	-2.58**	1.23±0.95	1.54
Male	102	1.64±0.77		1.65±0.78		1.14±0.70		1.17±0.85		1.16±0.91		0.85±0.63		1.03±1.01	
<b>Income</b>															
Yes	172	1.92±0.68		1.88±0.73		1.02±0.66		0.83±0.76		0.98±0.87		0.64±0.57		1.13±0.92	
No	67	1.72±0.78	-1.92*	1.64±0.83	-2.18*	1.21±0.71	1.97*	1.34±0.90	3.36**	1.31±0.95	2.56**	0.97±0.64	3.84***	1.18±1.14	0.33
<b>Education</b> (post hoc: social support: 1>2, 3>2, 4>2)															
1.High school	7	1.94±0.69	1.79	1.89±0.73	2.81*	1.15±0.82	0.28	1.27±0.90	1.21	1.17±0.01	0.66	0.88±0.72	1.03	1.07±0.91	0.18
2.College	34	1.62±0.73		1.48±0.89		1.02±0.68		1.00±0.68		0.88±0.86		0.70±0.50		1.37±0.43	
3.Bachelor	124	1.88±0.75		1.83±0.76		1.07±0.68		1.03±0.90		1.08±0.93		0.70±0.61		1.10±0.74	
4.Master	39	1.96±0.56		1.95±0.62		1.05±0.54		0.69±0.64		1.09±0.72		0.71±0.52		1.11±0.60	
<b>Psoriasis Region</b> (post hoc: psoriasis disability: 2>1,2>4)															
1.Scalp	7	1.76±0.72	1.07	1.81±0.73	0.06	1.13±0.59	0.72	0.81±0.83	2.19	1.00±0.89	0.15	0.63±0.58	3.71**	1.28±0.40	0.77
2.Extremities	76	1.85±0.76		1.81±0.81		1.10±0.72		1.29±0.94		1.10±0.91		0.88±0.64		1.10±0.83	
3.Trunk	66	1.89±0.69		1.78±0.77		1.07±0.69		0.92±0.86		1.08±0.90		0.77±0.60		1.13±0.83	
4.Other	38	2.02±0.66		1.85±0.74		0.93±0.72		0.93±0.57		1.09±0.95		0.53±0.51		0.82±0.71	
<b>Biological Therapy</b>															
Yes	68	1.77±0.83		1.71±0.81		1.30±0.74		1.20±0.79		1.13±0.84		0.91±0.68		1.49±1.00	
No	171	1.90±0.66	1.16	1.85±0.74	1.23	0.98±0.64	-3.35***	0.97±0.87	-1.36	1.04±0.93	-0.68	0.66±0.56	-2.87**	1.01±0.94	-3.49***

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001

1. Junior high school or below and senior high school merged into high school, genital merged into other.  
2. Due to space limitations, results that were not significant from the statistical analysis were not listed.

Instrumental support was significantly and negatively correlated with scores on the daily activities, work, personal relationships, leisure activities, and treatment dimensions, indicating that psoriasis less strongly affected the daily activities, work, personal relationships, leisure activities, and treatment of patients who received greater instrumental support.

The predictor variables were the general information and social support (emotional and instrumental support) scores of the participants. Multiple stepwise regression analysis was conducted to estimate the ability of the predictor variables to predict the criterion variable (Table 6). According to the model, age, income, biological therapy, and instrumental support were significant predictors of

psoriasis disability ( $R^2=0.208$ , adjusted  $R^2=0.167$ ,  $F(9,171)=4.996$ ,  $p<0.001$ ) and could explain 20.8% of the participants' perceived QoL. Participants who were older received greater instrumental support and had lower psoriasis disability scores. Those with income had lower psoriasis disability scores than did those without income. Those who had received biological therapy had higher psoriasis disability scores than did those who had not received such therapy.

### Discussion

The physical, mental, and socioeconomic burdens of psoriasis include skin discomfort, disfigurement, shame, and inconvenient and uncomfortable skin treatments, all of which may eventually lead to negative mental health outcomes. A supportive

**Table 5. Correlations Between age, Social Support, Psoriasis Disability**

Variables	Age	Social Support	
		Emotional Support	Instrumental Support
<b>Age</b>	-	-0.126	-0.151*
Daily activities	-0.065	-0.095	-0.143*
Work or school	-0.133	-0.190*	-0.279**
<b>Psoriasis Disability</b>	Personal relationships	-0.024	-0.318**
Leisure	0.100	-0.212**	-0.296**
Treatment	0.086	-0.209	-0.382**

\* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

**Table 6. Predictors of Psoriasis Disability in Patients with Psoriasis**

Variables	Model		t	VIF
	B	Beta		
<b>Gender (ref: female)</b>	0.160	0.120	1.58	1.242
<b>Age</b>	-0.010	-0.158	-2.18*	1.135
<b>Income (ref: no)</b>	-0.212	-0.151	-2.12*	1.101
<b>Biological Therapy (ref: no)</b>	0.333	0.224	3.22**	1.043
<b>Psoriasis Region (ref: extremities)</b>				
Scalp	-0.118	-0.071	-0.91	1.323
Trunk	-0.073	-0.050	-0.61	1.442
Other	-0.177	-0.102	-1.28	1.370
<b>Emotional Support</b>	0.233	0.253	1.89	3.856
<b>Instrumental Support</b>	-0.422	-0.481	-3.68***	3.686
<b>R<sup>2</sup></b>		0.208		
<b>Adjust R<sup>2</sup></b>		0.167		
<b>F</b>		4.996***		
<b>df</b>		9.171		

\* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

Criterion variable: Psoriasis disability

interpersonal environment can facilitate patients' adaptation to chronic diseases and alleviate their experienced burdens. Adjustments to dermatological outcomes are not predicted by disease severity but rather by various physical, cultural, and cognitive factors. These factors can modulate an individual's responses to mental distress[1]. The results of the present study reveal that patients with psoriasis received high levels of social support, among which participants reported receiving more emotional support than instrumental support and that female patients reported to receive more support than male patients do. In a study by Wojtyna et al., the participants (Polish patients with psoriasis) reported receiving high levels of social support[4], which is consistent with our results.

However, in the Polish study, the participants' instrumental support scores were higher than their emotional support scores, and the male participants received greater support than did the female participants, although the difference was not statistically significant. Possible reasons for these discrepancies are differences in cultures, psoriasis areas, or levels of psoriasis severity. Strong social relationships were associated with stronger health, which is consistent with other research on skin diseases[13]. Social support has substantial physical and mental health benefits (e.g., reducing an individual's risk of developing diseases, promoting self-determination, prolonging an individual's lifespan, and preventing suicide). It has also been determined to reduce pain intensity and discomfort (e.g., those associated with head and neck cancer, psoriasis, and albinism) and alleviate painful physiological reactions and distress[14].

Female patients with psoriasis have higher levels of depression, distress, and body image distortion because women are more often judged based on their appearance[15]. The results of the present study reveal that female patients are more likely to seek emotional support and that emotional support more strongly affects female patients than do other types of support. The effects of emotional support might

be more complicated than those of instrumental support. Because psoriasis is a common chronic, recurring, and intractable inflammatory skin disease, patients with psoriasis require instrumental support, including services or materials, to solve their problems. Therefore, instrumental support might make patients think that they have limited self-control over their illness, which in turn lowers the patients' perceived control over the disease and increases their sense of helplessness[10].

Psychological adaptation models for chronic illness and disability have reported reduced QoL as a primary negative effect of chronic diseases[16]. The adaptation process to mental illness, an individual's reactions to illness (e.g., anxiety, depression, and changes in body image), and other factors, such as clinical variables (e.g., types of illness, disease locations, and duration of illness), sociodemographic characteristics (e.g., age, educational level, and daily life activities), psychosocial attributes (e.g., psychological disease symptoms), and environmental characteristics (e.g., family stress and social support) influence and exert moderating effects on an individual's QoL.

According to our results, the instrumental support scores of the participants with an educational level of senior or vocational high school or below, university, or a master's degree or above were higher than those with an educational level of senior college. A possible reason for this trend is that the participants with higher educational levels may have more strongly believed that they could change their clinical outcomes and may have viewed their illness in a more rational manner than did those with lower educational levels. In the case of participants with an education level of senior or vocational high school or below having a higher instrumental support score than those with an education level of senior college, our results suggested that the participants with an educational level of senior or vocational high school or below perceived themselves capable of improving the disease prognosis. They were more aware of the particularity of psoriasis and were able to efficiently use any specific assistance

provided by family or friends, adjust their mentality, and effectively respond to social support[17].

Furthermore, participants with income had higher emotional support and instrumental support scores than did those without income. Patients with psoriasis experience mental and spiritual suffering in their daily life; anxiety; emotional incontinence; and even social isolation. Their reduced QoL is associated with intangible loss, and they also must endure the financial burden of medical expenses. Patients with a higher socioeconomic status and more satisfactory working conditions tend to have more available resources. Their financial resources facilitate their treatment and recovery. In addition, because they possess sufficient resources, they are likely to receive more social support, which reduces the occurrence of negative mental health problems caused by psoriasis. Social support is considered a protective factor for health; perceived social isolation is a major risk factor for morbidity and mortality[18].

Regarding psoriasis disability, the work and treatment dimensions were the most strongly affected by psoriasis, followed by the personal relationships, daily activities, and leisure activities dimensions. These findings are inconsistent with those of other studies. Manjula et al. evaluated the psoriasis disability of 32 patients with psoriasis at a tertiary teaching hospital in India and identified daily activities as the dimension most strongly affected by psoriasis, followed by work, leisure activities, treatment, and personal relationships[12]. He et al. assessed the psoriasis disability of 884 patients with psoriasis from nine hospitals in China and determined that the PDI dimensions in descending order of influence by psoriasis were daily activities, leisure activities, work, personal relationships, and treatment[19]. Wahl et al. evaluated the psoriasis disability of 282 outpatients with psoriasis at three hospitals in Norway and determined that the PDI dimensions in descending order of influence by psoriasis were daily activities, treatment, leisure activities, personal relationships, and work. Possible reasons for this discrepancy are differences in patients' psoriasis areas and severity

levels[20].

The itching and pain caused by psoriasis can interfere with patients' basic functions, such as self-care tasks. Psoriasis on the hands and feet may make work and everyday tasks, including writing, holding objects, and cooking, more difficult; even walking can become painful. Having skin lesions, particularly on exposed parts of the body, forces patients to make necessary changes (e.g., select specific clothing to conceal the lesions).

The leisure activities of the male participants in this study were more strongly affected by psoriasis than those of female participants. This is inconsistent with the finding of Manjula et al., which reported that the effect of psoriasis on leisure activities was not correlated with sex. Regarding specific leisure activities, psoriasis most strongly affected participation in social or other special events[12]. A possible reason for this difference between the male and female participants is that women tend to have more unpaid labor hours than do men; that is, women spend more time on housework and therefore may have less free time for leisure activities[21,22]. The male patients may have attempted to avoid or to give up on normal life activities, limiting their participation in leisure activities.

In addition, the participants without income had higher psoriasis disability scores in the daily activities, work, personal relationships, and leisure activities dimensions than did those with income. Low income is causally linked to poor health[23]. Psoriasis is likely to induce emotional, social, and financial distress, and psoriasis-associated disability may result in underemployment or no income. With a stable income, patients can increase their life experience, confidence, connections, and self-worth, thereby minimizing the effects of psoriasis-related disability[24].

Participants who had received biological therapy had higher psoriasis disability scores in the daily activities, leisure activities, and treatment dimensions than did those who had not received biological therapy. A possible reason for this difference is that the patients who had received biological therapy may have been



living under the impact of psoriasis for a longer period, which may have generated negative emotions, such as anxiety or depression. Patients with psoriasis tend to use expensive biologics to suppress inflammation when traditional treatments are no longer effective. Biologics are mainly used by patients with moderate or severe psoriasis who required long-term treatment[15].

In our study, patients who had psoriasis on the extensor surfaces of their extremities (e.g., elbows, knees, and lumbosacral bones) demonstrated higher psoriasis disability scores in the leisure activities dimension than did those who had psoriasis on the scalp or in other areas. A possible reason for this difference is that patients with psoriasis on the extensor surfaces of their extremities have larger psoriasis surface areas than those with psoriasis on the scalp; this results in the former type of patient experiencing more skin discomfort when engaging in leisure activities due to having a larger surface area of lesion. Patients' movements are more restricted when they have more body parts affected by psoriasis, which causes discomfort, reduces the patients' ability to engage in self-care and leisure activities, and affects their mood[15,25].

The results also revealed that age was significantly and negatively correlated with instrumental support. Older patients with psoriasis have often undergone monotonous and repetitive treatments, learned to manage their health, and greatly improved their QoL. Furthermore, they tend to require (or receive) less instrumental support (e.g., support related to housework management, childcare, health care, and shopping). Participants with higher social support scores had lower psoriasis disability scores; those with higher emotional support scores had lower psoriasis disability scores in the work, personal relationships, and leisure activities dimensions, whereas those with higher instrumental support scores had lower psoriasis disability scores in every dimension. Most (72%) of the participants were employed. Physically and mentally exhausted, they were eager to obtain additional social support from family, friends, or caregivers. One study revealed

that social support was significantly and positively correlated with skin care[26], thereby suggesting that social support is closely associated with whether the patients with psoriasis engage in skin care. Proper skin care can reduce the inconveniences caused by psoriasis disability.

This study identified age, income, biological therapy, and instrumental support as key predictors of psoriasis disability that could explain 20.8% of the total variation. Older participants demonstrated higher instrumental support scores, were more likely to have income, and were more likely to have received biological therapy, thus resulting in them having lower psoriasis disability scores. Instrumental support is a predictor of psoriasis disabilities; social support is a predictor of the alleviation of various skin diseases[4,26,27]. The participants in the present study were all members of the Psoriasis Association Taiwan; therefore, they regularly interacted with each other. In addition to the support of family, friends, and caregivers, the support of other patients with psoriasis was highly beneficial. Due to receiving strong social support, the patients had low psoriasis disability levels.

### Conclusions

We discovered that patients with psoriasis who receive greater social support, particularly female patients, experience less psoriasis disability. Patients with psoriasis who are not registered with civil society organizations, such as the Psoriasis Association Taiwan, are advised to do so to access additional support. Joining such organizations can not only help patients fight for the rights and interests of patients with psoriasis but also increase their self-confidence, self-care ability, and disease awareness; encourage them to integrate into society; and help them promote public awareness of psoriasis. Patients with psoriasis are also advised to consult doctors, receive regular treatment, pay attention to weather changes and their diets, maintain their physical and mental well-being, and avoid inappropriate behavior. Patients with psoriasis and their families should be united, caring, and supportive of each other.

Because of limitations in labor, materials, and

time, we recruited only members of the Psoriasis Association Taiwan as research participants. The generalizability of our results is therefore limited. The data were obtained through online questionnaires; therefore, recall bias might be reflected in our results. In addition, we measured QoL using PDI scores. Caution should be exercised in the interpretation and comparison of our results. Future studies should collect more diverse data to enhance the validity and generalizability of our conclusions.

## References

1. Coneo AMC, Thompson AR, Lavda A: The influence of optimism, social support and anxiety on aggression in a sample of dermatology patients: an analysis of cross-sectional data. *The British Journal of Dermatology* 2017; 176(5): 1187-1194.
2. Lakshmy S, Balasundaram S, Sarkar S, et al.: A Cross-sectional study of prevalence and implications of depression and anxiety in psoriasis. *Indian Psychiatric Society* 2015; 37(4): 434-440.
3. Karamata VV, Gandhi AM, Patel PP, et al.: A study of the use of drugs in patients suffering from psoriasis and their impact on quality of life. *Indian Journal of Pharmacology* 2017; 49(1): 84-88.
4. Wojtyna E, Lakuta P, Marcinkiewicz K, et al.: Gender, body image and social support: biopsychosocial determinants of depression among patients with psoriasis. *Acta Dermato Venereologica* 2017; 97(1): 91-97.
5. Cohen BE, Martires KJ, Ho RS: Psoriasis and the risk of depression in the US Population: National Health and Nutrition Examination Survey 2009-2012. *JAMA Dermatol* 2016; 152(1): 73-79.
6. Janowski K, Steuden S, Pietrzak A, et al.: Social support and adaptation to the disease in men and women with psoriasis. *Arch Dermatol Res* 2012; 304(6): 421-432.
7. Krejcie RV, Morgan DW: Determining sample size for research activities. *Educational and Psychological Measurement* 1970; 30(3): 607-610.
8. Schwarzer R, Schulz U: Berlin Social Support Scales (BSSS). 2013. Retrieved from <https://www.midss.org/content/berlin-social-support-scales-bsss>.
9. Schulz U, Schwarzer R: Social support in coping with illness: the Berlin Social Support Scales (BSSS). *Diagnostica* 2003; 49: 73-82.
10. Łuszczynska A, Kowalska M, Mazurkiewicz M, et al.: Berlin Social Support Scales (BSSS): Polish version of BSSS and preliminary results on its psychometric properties. *Studia Psychologiczne* 2006; 44: 17-27.
11. Finlay AY, Coles EC: The effect of severe psoriasis on the quality of life of 369 patients. *Br J Dermatol* 1995; 132(2): 236-244.
12. Manjula VD, Sreekiran S, Saril PS, et al.: A study of psoriasis and quality of life in a tertiary care teaching hospital of Kottayam, Kerala. *Indian Journal of Dermatology* 2011; 56(4): 403-406.
13. Picardi A, Gaetano P, Baliva G, et al.: Stress, social support, emotional regulation, and exacerbation of diffuse plaque psoriasis. *Psychosomatics* 2005; 46(6): 556-564.
14. DiMillo J, Hall NC, Ezer H, et al.: The Berlin social support scales: validation of the received support scale in a Canadian sample of patients affected by melanoma. *Journal of Health Psychology* 2017; 24(13): 1-11.
15. Ho CC, Hung CT, Ko YM, et al.: A study of relationships among body image, anxiety, depression and quality of life in patients with psoriasis. *Cheng Ching Medical Journal* 2020; 16(2): 23-32.
16. Livneh H: Psychosocial adaptation to chronic illness and disability: a conceptual framework. *Rehabil Couns Bull* 2001; 44(3): 151-160.
17. Yu TH, Hwang YJ: Influence of residence regions of indigenous peoples in Taiwan on their mental health through education, occupation, income, and social support. *Bulletin of Educational Psychology* 2016; 48(2): 279-301.
18. Picardi A, Gaetano P, Baliva G, et al.: Stress, social support, emotional regulation, and exacerbation of diffuse plaque psoriasis. *Psychosomatics* 2005; 46(6): 556-564.
19. He ZH, Lu CJ, Ou AH, et al.: Reliability and validity of the Chinese version of the Psoriasis Disability Index (PDI) in Chinese patients with psoriasis. *Health and Quality of Life Outcomes* 2012; 10: 37.
20. Wahl AK, Wiklund I, Moum T, et al.: The Norwegian version of the psoriasis disability index: a validation and reliability study. *Value in Health*

- 1999; 2(5): 342-349.
21. Shah YM, Kaushur B, Khodaboccus D, et al.: Impact of psoriasis on the quality of life. *National Journal of Community Medicine* 2015; 6(4): 469-473.
  22. Henderson KA, Gibson HJ: An integrative review of women, gender, and leisure: Increasing Complexities. *Journal of Leisure* 2013; 45(2): 115-135.
  23. Michael B, Judgeb K: Income and health: the time dimension. *Social Science & Medicine* 2001; 52(9): 1371-1390.
  24. Sato R, Milligan G, Molta C, et al.: Health-related quality of life and healthcare resource use in European patients with plaque psoriasis: an association independent of observed disease severity. *Clinical and Experimental Dermatology* 2010; 36(1): 24-28.
  25. Liu JC, Liao Y: Associations of physical activity and healthy body weight with psoriasis area severity index among patients with psoriasis. *Health Promotion & Health Education Journal* 2018; 42: 67-84.
  26. Lo SF, Hwang SL, Yau KP, et al.: Factors associated with stress and social support for caregivers of burn patients during the stage of rehabilitation. *Formosan Journal of Medicine* 2001; 5(1): 28-37.
  27. Ou-Yani HF, Ku NPing, WU HC, et al.: The relationship of health belief, social support to self-care in discharged burn patients. *Journal of Medical Sciences* 2000; 20(6): 279-294.

# 乾癬病患性別、社會支持與失能之相關研究

何清治<sup>1</sup>、郭家孝<sup>2</sup>

中臺科技大學 醫療暨健康產業管理系<sup>1</sup>、童綜合醫療社團法人童綜合醫院 骨科部<sup>2</sup>

## 摘要

### 目的

乾癬已知會受到一般公眾的汙名化與歧視，是一種皮膚的精神性疾病，男女受到同等影響。本研究目的探討乾癬病患性別、社會支持與失能之相關研究。

### 方法

採網路自填式問卷法，電郵 571 位 20 歲以上、登錄臺灣乾癬協會會員為研究對象，經過四個月後，得出有效回收 239 份問卷（回收率 41.86%）。問卷包括「基本資料」、「柏林社會支持量表」及「乾癬失能指數」。採 SPSS 22.0 進行統計分析。

### 結果

乾癬病患平均年齡 $39.14 \pm 10.60$ 歲，以女性最多。乾癬病患獲得高度社會支持及低度乾癬失能程度。乾癬病患的性別、學歷、收入在社會支持有顯著差異。乾癬病患的性別、收入、曾接受生物製劑治療在乾癬失能有顯著差異。年齡與工具性支持呈顯著低度負相關。社會支持愈高、則乾癬失能愈低。年齡、收入、曾接受生物製劑治療、工具性支持對乾癬失能具有顯著預測力。

### 結論

女性乾癬病患獲得較多社會支持，而性別在乾癬失能程度相對較低，且對乾癬失能不具預測力。（澄清醫護管理雜誌 2024；20（2）：57-68）

關鍵詞：乾癬、性別、社會支持、失能、生活品質