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## Effect of psoriasis on patient's Quality of life and disability

Zeinab Mohamed Ahmed Mohamed<sup>1</sup> & Aida Ahmed Mohamed Ibrahim<sup>2</sup>

<sup>1</sup>Lecturer in Medical-Surgical Nursing at Zagazig University, Egypt

<sup>2</sup>Lecturer in Medical-Surgical Nursing at Zagazig University, Egypt

### Abstract

Psoriasis is a chronic inflammatory skin disease with substantial genetic and autoimmune pathogenic aspects that significantly reduces the quality of life of individuals who suffer from it. **Aim:** Assess the effect of how psoriasis affects patients' life quality, stress, and disability. **Research design:** The study was carried out using a descriptive research approach. **Sample:** Purposive of all 33 patients with psoriasis was recruited in the study. **Setting:** The research was carried out at Zagazig University Hospitals' Outpatient Dermatology Clinic. **Tools:** Patient evaluation questionnaire, Index of Quality of Life, Psoriasis Life Stress Inventory Scale, and Psoriasis Disability Index were the four instruments employed. **Results:** Psoriasis disease affects severely on 66.7% of patients' quality of life. Additionally, 63.6% of patients had severe stress related to psoriasis. Moreover, 75.8% of patients had very large effect of total disability related psoriasis disease. **Conclusion:** More than two-thirds of patients with psoriasis are having negative impact on total QOL. As well, about two thirds of patients had severe stress and more than three quarters of them are having very large effect of disability. **Recommendations:** To generalize the findings, replicate this study on a large number of psoriasis patients in various settings.

**Keywords:** *Psoriasis Patients, Quality of Life & Disability*

### Introduction

Psoriasis is a chronic chronic inflammatory condition marked by white scale and acutely defined erythematous plaques. One of the most common chronic inflammatory skin illnesses is psoriasis. (Kamiya et al., 2019). Psoriasis is diagnosed mostly by clinical examination. There are several forms of psoriasis, the most common of which is chronic plaque psoriasis, which affects 80 percent to 90 percent of psoriasis sufferers. Plaques can appear anywhere on the body, but are most typically found on the scalp, trunk, buttocks, and extremities. Patients may have nail involvement, which may or may not be accompanied by plaques. (Kim et al., 2017).

Itching, discomfort, and scaling are common psoriasis symptoms, and they're linked to higher disease severity, worse quality of life, and decreased productivity at work. (Bulat et al., 2020). Patients also experience issues with self-concept and self-esteem, poor psychological adaptability, and feelings of shame, stigmatization, and humiliation as a result of their appearance. As a result, patients have a tough time choosing the appropriate clothing. (Yaghoubinia et al., 2020).

Psoriasis-related physical and emotional deterioration typically affects a patient's ability to function at work, with afflicted persons reporting both greater impairment while at work and psoriasis-related absenteeism. (Tsai et al., 2018). Psoriasis is associated with social and economical suffering, which isn't always proportional to the severity of the

condition. People with a more severe condition are more likely to consider chronic disease, its negative implications, and the emotional impact it has. (Wahl et al., 2014).

Psoriasis is a long-term condition that necessitates the patient's continual effort. Patients with knowledge of psoriasis can make better decisions about their disease's treatment and monitoring. (Nagarajan et al., 2016). Topically, glucocorticoids, vitamin D analogues, and phototherapy can be used to treat mild to severe psoriasis. Psoriasis that is moderate to severe generally need systemic therapy. (Rendon & Schäkel., 2019).

Quality of life (QOL) is described by the World Health Organization as an individual's awareness of their roles in life in relation to their objectives, forecasts, measurements, and concerns, in the context of the culture and value system in which they live. Psoriasis may have a significant influence on a patient's quality of life, affecting every day, social, and other elements of life. (Sendrasoa et al., 2020). It's critical to detect people with psoriasis in terms of their quality of life and to be aware of potential factors that might improve their QOL. (Meneguín et al., 2020).

Stress is a side effect of having psoriasis, a persistent, disfiguring condition that is linked to anxiety and despair. Psoriasis stress can be induced by the illness itself or by external psychosocial factors such as bereavement, work stress, family troubles, and financial concerns. (Leibovicl & Menter, 2016).

Social stigmatization, loss of self-confidence, pain, discomfort, physical inadequacy, and psychological suffering are all common symptoms of psoriasis. (Sarkar et al., 2016).

Nurses are essential in patient education as well as illness prevention and management. Nurses' primary goal is to provide continuity of care for patients by utilizing the nursing process and collaborating with them to satisfy their requirements. As a result, psoriasis patients should be aware of how to care for themselves in order to control their symptoms. (Mohamed et al., 2021).

### Significance of the study

Psoriasis is a chronic skin condition that has a negative impact on sufferers' quality of life. Between November 2015 and November 2018, the percentage of patients with psoriasis among all patients attending the Outpatient Skin Clinic in Egypt was 1.3 percent. (El-Komy et al., 2020). The dearth of data and limited research on the influence of psoriasis on patients' quality of life in Egypt justify the conduct of this study, according to the literature review.

### Aims of the study

The study's goal was to evaluate the impact of psoriasis on patients' quality of life and disability, with the following goals: - Evaluate the impact of psoriasis on patients' quality of life.

- Determine the amount of stress among psoriasis patients.
- Determine the amount of impairment among psoriasis patients.

### Research questions

- What is the quality of life like for psoriasis patients?
- What is the stress level of patients?
- What is the amount of impairment among affected patients?

### Patients and Methods

#### Research design

This study was carried out using a descriptive research approach. Descriptive research may be defined as an endeavor to figure out, represent, or identify what is going on (Ethridge, 2004).

#### Setting

The research was conducted on the fourth floor of Zagazig University Hospitals' Outpatient Dermatology Clinic, which consisted of a hall with a number of seats for waiting patients and two corridors to the right and left. There are six rooms in each corridor.

#### Sample:

Purposive of all 33 psoriasis patients attending the Dermatology Clinic at Zagazig University Hospitals was used in the study.

#### Tools of data collection

Four tools were being utilized for data collection to achieve the purpose of this study:

#### Tool (I): Patient Assessment questionnaire:

It was evolved by the researchers depending on the current national and international literatures, it includes two parts:

**Part (1): Demographic characteristics of patient questionnaire:** includes (7) Age, sex, marital status, occupation, degree of education, residence, and income are all factors to consider.

**Part (2): Assessment of medical patient history:** Assess the medical history of patient and it includes seven items which are; family history, co-morbidities, severity of psoriasis, daily adequate exposure to sun, apply sun block when exposed to the sun, taking treatment for psoriasis, symptoms improved after taking the treatment, and types of psoriasis.

**Tool (II): Psoriasis Index of Quality of Life:** This tool was adapted by Mckenna et al., (2003), to assess the quality of life index score in psoriasis patients

#### Scoring system

There are 18 items in the quality-of-life index questionnaire. Each item is graded on a 5-point Likert scale ranging from 0 (never) to 4 (always) (Very often). (0=Never, 1=Rarely, 2=Sometimes, 3=Often, and 4=Very frequently) The total score is the sum of the scores of the 18 items. the total score is then divided into mild (>65% of the total possible maximum score), Moderate (50% - 65%) of the total possible maximum score) and Severe effect (<50% of the total possible maximum score).

**Tool (III): Psoriasis Life Stress Inventory Scale (PLSI):** This tool was adapted by Gupta and Gupta., (1995) to assess psoriasis life stress inventory score among patients with psoriasis.

#### Scoring system

The patients' responses to the life stress inventory questionnaire are made up of 11 items. Each item is graded on a four-point Likert scale ranging from (not at all) to (very) (Great degree). (0=not at all, 1=slightly, 2=moderately, and 3=extremely). The total score is the sum of the 11 items' scores. The overall score is then broken into three categories: Mild (less than 50 percent of the maximum potential score), Moderate (50 percent to 65 percent of the maximum possible score), and Severe (more than 65 percent of the maximum possible score).

**Tool (IV) Psoriasis Disability Index (PDI):** This tool was adapted by Finlay, Kelly., (1987), to determine psoriasis disability index score among patients with psoriasis.

#### Scoring system

There are 12 items in the psoriasis disability questionnaire that patients must respond to. Each item is graded on a four-point Likert scale ranging from

Not at all to Extremely). (Nothing=0, a little=1, a lot=2, and very much=3). The total score is the sum of the 12 items' scores. The total score is then divided into Moderate (<50% of the total possible maximum score), Very Large (50% - 65% of the total possible maximum score) and Extremely Large (> 65% of the total possible maximum score).

#### **Methods of data collection**

This study was conducted in the following manner:

#### **Content validity**

The tools were examined for clarity, relevance, application, inclusiveness, comprehension, and ease of use by a group of three specialists from the disciplines of Dermatology Medicine and Medical-Surgical Nursing at Zagazig University's Faculty of Medicine and Faculty of Nursing. The needed changes were made in accordance with the requirements.

#### **Tools reliability**

The reliability test was conducted using Cronbach's Alpha, and the tools appeared to be trustworthy. Where the psoriasis life stress inventory scale ( $r=0.83$ ), the psoriasis index of quality of life scale ( $r=0.86$ ), and the psoriasis disability index scale ( $r=0.90$ ) are all used.

#### **Pilot Study**

To test the content, clarity, and compatibility of the tools, a pilot research was conducted on 10% (3) of psoriasis patients recruited from the same study environment. Those who took part in the pilot study were not included in the main research. Modifications to the study tools were made when needed to make them more appropriate, and the required adjustments were made by correction, omission, or addition of things until the final form of the tools was achieved.

#### **Field work**

The data gathering procedure began when all formal clearances were obtained. To make the instruments easier to use, the researchers introduced themselves to start a dialogue. The researchers spoke with each patient individually and discussed the study's nature and goals. From the beginning of September 2019 to the end of February 2020, the whole data collecting procedure took around six months. The trial was conducted for all available patients in the morning and afternoon shifts until 1.30 p.m. The four questionnaire instruments were filled out by the participants. Each interview took between 35 and 45 minutes to complete.

#### **Administrative design**

The Dean of the Faculty of Nursing sent an official letter to the director of the Dermatology Outpatient Clinic, requesting authorization to conduct the study. Every patient who decided to participate in the study gave verbal consent to the researcher.

#### **Ethical considerations**

- Study subjects were informed about having the right to reject to share and or retreat from the study without giving any reasons and at any stage of the study.
- Discreetness and anonymity were assured.

#### **Statistical analysis**

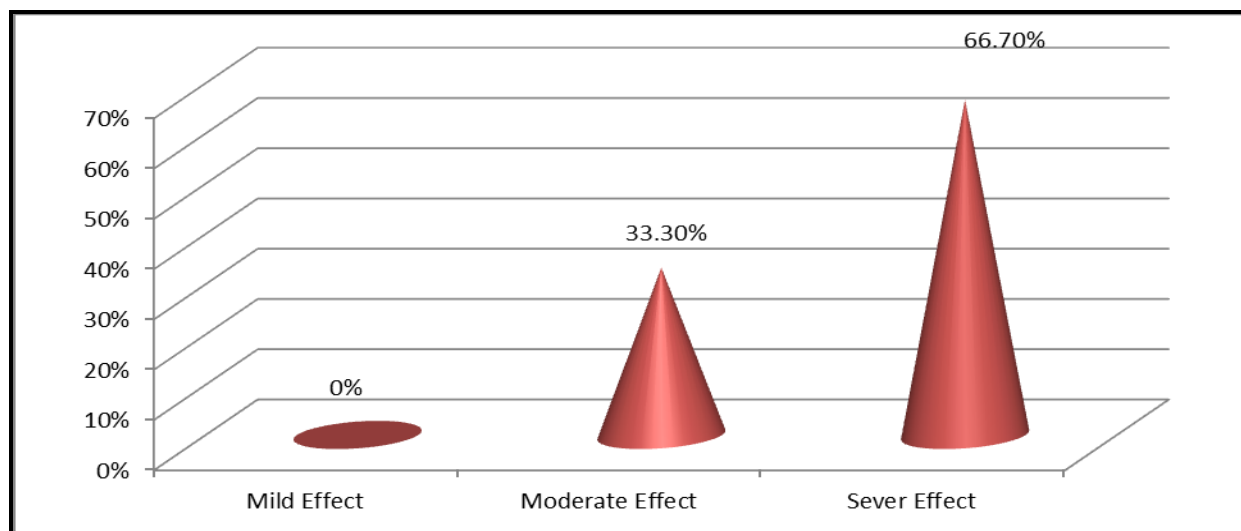
After data collection, they were coded and transmitted into especially prepared formats to be appropriate for computer feeding. After data entry, examination and verification process were proceeded to avoid any fault during data entry. Data were tabulated and statistical analysis was done using the Statistical Package for Social Sciences (SPSS) version 20. The data were represented as mean, standard deviation, number, and percentage, and the Chi-square test was performed to determine significance:

- $P<0.05$  Statistically Significant (S)

**Results**

**Table (1): Shows the frequency distribution of demographic characteristics for psoriasis patients (n=33).**

Demographic Characteristics	N	%
<b>Age (years)</b>		
20- < 31	7	21.2
31- <41	20	60.6
41 – 50	6	18.2
Mean ±SD	35.2 ±7.3	
<b>Sex</b>		
Male	17	51.5
Female	16	48.5
<b>Educational Qualifications</b>		
Illiterate	8	24.2
Read and write	8	24.2
Secondary	11	33.3
University or higher	6	18.2
<b>Marital Status</b>		
Single	8	24.2
Divorced/widowed	4	12.1
Married	21	63.6
<b>Occupational status</b>		
Sufficient	17	51.5
Insufficient	16	48.5
<b>Income</b>		
Enough	13	39.4
Not enough	20	60.6
<b>Residence</b>		
Rural	13	39.4
Urban	20	60.6



**Figure (1): Shows the psoriasis severity of the individuals evaluated in relation to their overall quality of life.**

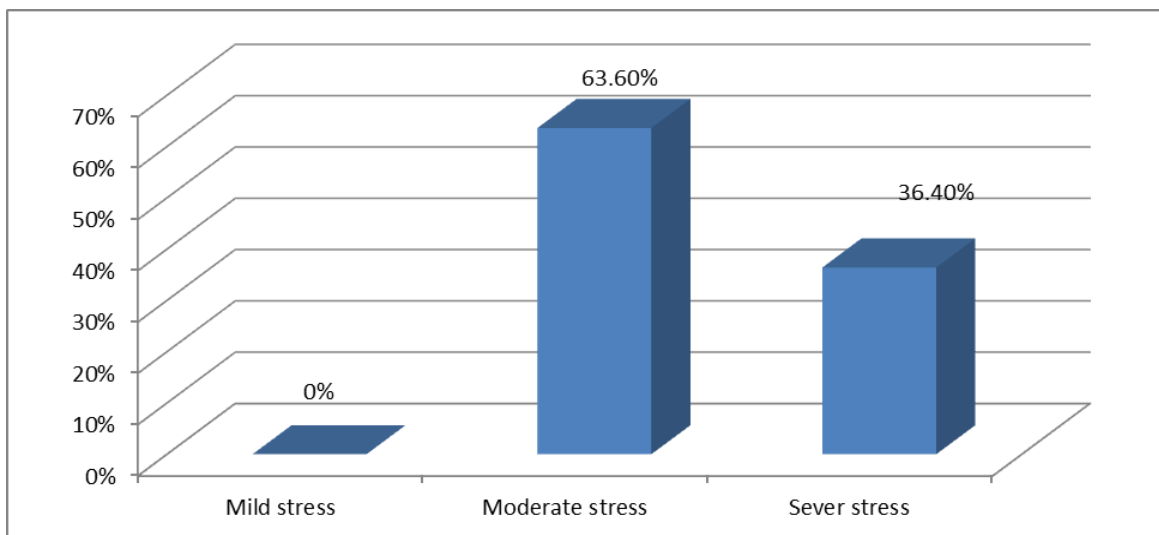


Figure (2): Psoriasis distribution in the study patients based on overall stress levels.

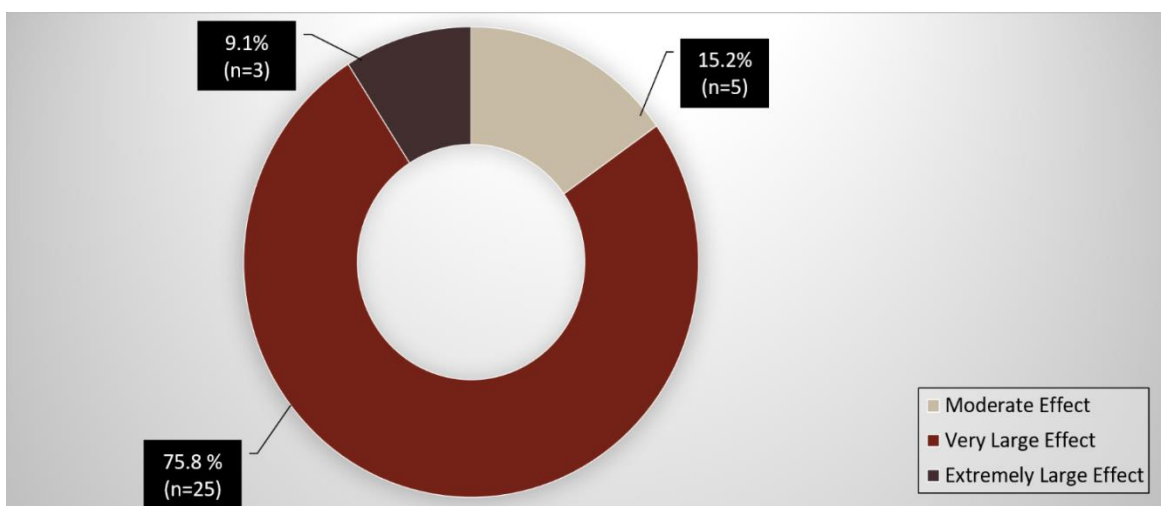


Figure (3): Psoriasis patients were divided into three groups based on their amount of overall impairment.

Table (2): Relationship Between Demographic Characteristics and Patients’ Quality of Life (n=33)

Demographic Characteristics	Severe effect (n=22)		Moderate effect (n=11)		Chi-Square	
	N	%	N	%	X <sup>2</sup>	P
<b>Age (years)</b>						
20 – <31	5	22.7	2	18.2		
31 – <41	14	63.6	6	54.5		
41 – 50	3	13.6	3	27.3	0.921	0.631
<b>Sex</b>						
Male	7	31.8	10	90.9		
Female	15	68.2	1	9.1	10.252	<0.001*
<b>Educational Qualifications</b>						
Illiterate	5	22.7	3	27.3		
Read and write	7	31.8	1	9.1		
Secondary	10	45.4	1	9.1		
University or higher	0	0.0	6	54.5	16.534	<0.001*

Demographic Characteristics	Severe effect (n=22)		Moderate effect (n=11)		Chi-Square	
	N	%	N	%	X <sup>2</sup>	P
<b>Marital Status</b>						
Single	6	27.3	2	18.2		
Divorced/widowed	2	9.1	2	18.2		
Married	14	63.6	7	63.6	0.750	0.687
<b>Occupational status</b>						
Employed	6	27.3	11	100.0		
Unemployed	16	72.7	0	0.0	10.182	<0.001*
<b>Income</b>						
Sufficient	2	9.0	11	100.0		
Insufficient	20	90.9	0	0.0	25.385	<0.001*
<b>Residence</b>						
Rural	9	40.9	4	36.4		
Urban Neutral (n=12)	13	59.1	7	63.6	0.063	0.801

**Table (3): Relationship Between Total Patients' Quality of Life Levels with Total Stress Level and Total Disability Level (n=33)**

Items	QOL Level					
	Severe effect (n=22)		Moderate effect (n=11)		Chi-Square	
	N	%	N	%	X <sup>2</sup>	P
<b>Stress levels</b>						
Severe effect	20	90.9	1	0.9		
Moderate effect	2	0.9	10	90.9	21.214	<0.001*
<b>Disability levels</b>						
Moderate effect	4	18.2	1	9.1		
Very large effect	18	81.8	7	63.6		
Extremely large effect	0	0.0	3	27.2	6.720	0.034*

**Table (1):** Demonstrates that; 60.6% of studied patients aged from 31 to less than 41 years with a mean age of  $35.2 \pm 7.3$ , an equal percentage of 51.5% were male and employed. According to educational credentials, the biggest proportion (33.3%) had a secondary education, 63.6 percent of them were married, and 60.6 percent of them lived in metropolitan areas and reported having insufficient money.

**Figure (1):** Illustrates that, psoriasis disease affects severely on 66.7% of patients' quality of life in the current study, while it affects with moderate degree on 33.3% of them.

**Figure (2):** Illustrates that 63.6% of patients in the ongoing study had severe effect of total patients of life stress inventory related psoriasis disease, while 36.4% of them had moderate effect.

**Figure (3):** Displays that 75.8% of patients in the current study had very large effect of total disability related psoriasis disease, while 15.2% of them had moderate effect, and 9.1% had extremely large effect.

**Table (2):** There were statistically significant connections between patient demographic features and quality of life in terms of sex, educational qualifications, employment position, and income, according to the study.

**Table (3):** There were statistically significant connections between overall patient quality of life, total stress, and total disability levels, according to this study.

### Discussion

Psoriasis is a systemic, inflammatory illness that is characterized by red plaques with white scales. It is a persistent, noncontagious disease. Psoriasis, which has itching, pain, and scaling as its primary symptoms, can have a significant influence on a patient's quality of life, stress, disability, and, depending on the severity of the illness, death. (Strober et al., 2019).

According to the continuing study, three-fifths of the study group was between the ages of 31 and 41, with a mean age of 35.27.3. Furthermore, more than half



of the responses were men. These findings contradicted those of López-Ortega et al. (2016), who said that their study sample was 50 years old, with a high number of women. In terms of marital status, the current study found that only about two-thirds of the patients were married. This finding was similar to one obtained by **mejkalová et al.** in previous research (2020), More over half of their respondents were married, according to the researchers. Furthermore, according to the present study's findings, one-third of the patients had completed secondary school and more than half of them were working. These findings contradicted those of **Daglioglu et al. (2020)**, who said that 40 percent of the patients were actively employed and 50 percent were unemployed.

In response to the first research question about psoriasis patients' QOL, the ongoing study revealed that two-thirds of psoriasis patients' QoL was negatively impacted by the disease in terms of worrying about what other people think of them, refusing to let anyone see their bodies, hating people seeing their skin, being embarrassed about their appearance, suffering from peeled skin flakes on their clothes, and having to look after their skin condition. These findings matched those of Sharaf et al. (2017), who found that the majority of the patients tested had low QoL in terms of physical activity, social interactions, and several psychological status categories.

In response to the second research question, the current study found that roughly two-thirds of psoriasis patients had significant stress, which might be attributable to the fact that stress can cause psoriasis flare-ups. This finding was consistent with Yuksel et al. (2018), who found that patients with psoriasis had more life events, experienced more stress, and were fatigued.

In terms of the third question and the Psoriasis Disability Index in relation to psoriasis levels, the current study found that the highest percentage of psoriasis patients, approximately three quarters, had a very large effect of total disability related to psoriasis disease, while less than a fifth had a moderate effect, and a minority, less than a tenth, had an extremely large effect, which could be due to the presence of extensive skin. These results are consistent with those of **Huq et al., (2021)**, who found that the majority of psoriasis patients had physical restrictions that limit their lifestyles.

There were statistically significant connections between psoriasis patients' quality of life and their demographic variables such as sex, educational qualifications, employment position, and income in this study. In addition, there were statistically significant correlations between overall quality of life, total stress, and total disability. These findings

contradicted those of **Rakshesh et al. (2008)**, who found that clinical severity was substantially associated to total physical disability (PDI), personal elements of PDI (excluding treatment-related activities), and stress assessment (PLSI).

### Conclusion

According to the findings of this study, over two-thirds of psoriasis patients experience acute stress as a result of their illness. Furthermore, about three-quarters experienced a significant complete impairment effect due to psoriasis. Two-thirds of psoriasis patients reported that their condition had a significant impact on their quality of life. There was a link between patients' demographic features and their stress levels, impairment levels, and quality of life.

### Recommendations

1. Develop an educational program to improve the quality of life of psoriasis patients.
2. To generalize the findings, replicate the study on a broader sample of patients in Egyptian hospitals.

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