

## **Results**

- **Baseline characteristics**

The age of psoriatic patients ranged from 18 to 60 years. The mean age for cases was  $51.97 \pm 13.57$  years. Seventeen psoriatic patients were males (56.7%) and thirteen patients were females (43.3%). 87.0% of cases were married. Most of the respondents finished middle education or higher. Regarding the crowding index (which was defined by Bonnefoy (2007) as crowding occurring if there is more than one person per room) the psoriatic patients had high crowding index Mean  $\pm$  SD  $2.24 \pm 0.53$ . Concerning family income, only 6.7% of cases had sufficient income.

- **Participant flow (PRISMA flow diagram)**

Patients went to Alexandria outpatient clinic, Alexandria Main University Hospital, Egypt.



Psoriatic patients was selected



Confirmed diagnosis by dermatology specialist (30 patients selected)



Selection of the participants according to the inclusion and exclusion criteria: The inclusion criteria for cases were adult patients with a definitive clinical diagnosis of plaque psoriasis confirmed by a dermatologist and having chronic psoriasis for more than one year. Exclusion criteria were patients with any chronic systemic diseases affecting the metabolism (such as Hepatitis B, C, and Diabetes Mellitus).



Divide participants into 3 groups, ten patients each



Intervention (educational program for 3 months)



Measure the outcome: severity of the disease by PASI scoring 3 months after finishing the educational program

- **Adverse events**

No adverse effects have been reported.

- **Outcome measures**

The psoriatic severity measured by Psoriasis Area and Severity Index (PASI) scoring. Table 1 shows the PASI scoring for psoriasis before and after carrying out the educational program. The mean PASI score before the educational program was  $19.43 \pm 8.62$  with a median of 20.0 (12.0 – 26.0). After performing the educational program for 3 months for the studied cases, a significant positive reduction ( $p = 0.001$ ) was found in the PASI scoring, indicating improvement in the health condition and a reduction in the disease severity. The mean PASI score of psoriatic cases has decreased to  $15.37 \pm 8.28$  with a median of 15.0 (9.0 – 22.0) after the educational program.

**Table 1: Descriptive Analysis of PASI scoring before and after the educational program (n=30).**

PASI	Pre	Post	Z	p
Min. – Max.	6.0 – 37.70	0.0 – 35.0		
Mean $\pm$ SD.	$19.43 \pm 8.62$	$15.37 \pm 8.28$	3.211*	0.001*
Median (IQR)	20.0 (12.0 – 26.0)	15.0 (9.0 – 22.0)		

Z: Wilcoxon signed ranks test      \*: Statistically significant at  $p \leq 0.05$

p: p-value for comparison between pre and post

In order to determine which of the previous factors that were included in the educational program actually contributed to the improvement of PASI scoring, a multivariate stepwise logistic regression model was constructed. The final model revealed that of the seven factors tested, only two showed a significant association with improvement of the PASI scoring which were strict commitment to treatment with an OR of 0.028 (95% CI=0.71 – 11.35) and reduced exposure to stress (physical, chemical, or psychological stresses) with an OR of 0.013 (95% CI =1.69– 13.05).

**Table 2: Multivariate Logistic regression analysis for factors affecting PASI scoring after the educational program (n=30).**

	Coefficient B	p. value	95% CI (LL-UL)
<b>Strict commitment to treatment</b>	6.026	0.028*	0.71 – 11.35
<b>Reduce smoking or exposure to ETS</b>	2.762	0.178	-1.36–6.88
<b>Reduce stress</b>	7.369	0.013*	1.69–13.05
<b>Reduce weight</b>	-0.453	0.802	-4.16– 3.25
<b>Wear protective equipment during exposure to environmental risk factors (such as gloves, sunglasses, hats, and sunscreen)</b>	-0.306	0.892	-4.90–4.29
<b>Increase the use of emollient</b>	0.881	0.724	-4.23–6.00
<b>Reduce eating salty or spicy food</b>	-3.528	0.090	-7.65–0.06

B: Unstandardized Coefficients

C.I: Confidence interval      LL: Lower Limit      UL: Upper Limit    \*: Statistically significant at  $p \leq 0.05$