

## Effect of Implementing a Protocol of Nursing Care on Pemphigus Vulgaris Patients' Clinical Health Outcomes.

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### Abstract

**Background** Pemphigus Vulgaris is a skin disease recognized for its characteristic autoantibody production, which assails skin proteins, leading to the formation of blisters and erosions that require special nursing care to maximize patients' health outcomes. **This study aimed to** conclude the effect of imposing a protocol of nursing care on pemphigus vulgaris patients' clinical health outcomes. **Methods:** The study encompassed a convenience sample of 50 subjects and conducted a quasi-experimental research design. **Tool 1:** Bio-sociodemographic-constructed Interview: the tool's primary use is to identify patients' socio-demographic and clinical data **Tool 2:** severity of pemphigus vulgaris assessment sheet this tool was used to evaluate the severity of the illness **Tool 3:** the Dermatological Quality of Life index (DQOLI): used to assess the influence of the illness on the patient's life-quality during the last week. **Results:** there were statistically significant difference in all items of dermatology quality of life index pre and post nursing's care protocol application and in Kumar's oral and skin scoring preceding and subsequent to enforcing the nursing's care. **Conclusions.** Nursing's care protocol was effective in improving patients' clinical health outcomes **Recommendations:** Creation of an educational unit for Nursing Care on Pemphigus of Vulgaris Patients in the dermatology hospital departments. Conducting similar studies on a larger probability sample is recommended to achieve generalization of the findings.

**Keywords:** Protocol of Nursing care, pemphigus vulgaris, and health outcomes.

### Introduction

Pemphigus denotes to a group of sporadic autoimmune skin disorders that affect the mucocutaneous membranes. These conditions are characterized by acantholysis, which is the breakdown of cell-to-cell adhesion. This phenomenon leads to the formation of blistering and erosions, which can be life-threatening if left untreated. Numerous subsets of pemphigus were recognized grounded on their individual characteristics and underlying pathophysiology. Some of these include pemphigus foliaceus (PF), pemphigus vulgaris (PV), IgA pemphigus, and paraneoplastic pemphigus (Gandhi et al., 2021).

Pemphigus vulgaris is the most widespread autoimmune blistering skin and mucous membrane disorder, with a high fatality rate (Chatterjee et al., n.d.). It accounts for around 70% of pemphigus cases (Kridin, 2018). PV can be fatal if not treated properly, as a large region of skin can miss its epidermal barrier function, resulting in loss of bodily fluids, starvation, and secondary infections. One of the greatest prevalent consequences is secondary bacterial infection, which can develop to septic shock (Porro et al., 2019).

Moreover, there are two types of PV: the mucosal foremost form, which is produced by autoantibodies aiming mainly desmoglein-3 (DSG3), and the

mucocutaneous type, which is caused by autoantibodies directing both DSG1 and DSG3. It is distinguished by flaccid blisters and erosions that may involve not only the skin but also mucosal membranes such as the pharyngo-laryngeal, esophageal, vaginal, anal, and conjunctival mucosae (**Kridin, 2018; Rehman et al., 2021**).

Pemphigus can be triggered by a variety of factors, including mental stress, radiotherapy, hormonal changes, pregnancy, ultraviolet rays, specific medicines and therapies, autoimmune illnesses, and cancer. Definite nutrients (such as allium vegetables) and several micronutrients (such as vitamin D, selenium, copper, and zinc) are also less commonly reported triggers. To avoid the stimulation of immunological responses that develop or worsen pemphigus, it is necessary to recognize all of these triggers. (Tavakolpour, 2017). PV manifests clinically as many flaccid soft blisters filled with clear fluid can occur on both healthy and irritated skin. In some cases, this pattern of blistering starts with blisters in the mouth, which may be followed by the appearance of blisters on the skin that come and go over time (**Kridin, 2018**).

Mucocutaneous blisters and erosions that are painful, Cutaneous lesions, especially when they are spreading, are frequently connected with issues such as difficulty wearing clothes, restriction of movement, corrupt odor, danger of secondary infections, cosmetic apprehensions, and humiliation linked to skin illnesses, as oral gashes exist, they cause substantial pain, making eating difficult. Occasionally the disease, particularly the oral lesions, is resistive to traditional management approaches (**De Felici et al., 2023**).

In addition, vaginal lesions, particularly in women, generate a burning feeling when the patient urinates. Several studies have found a link between pemphigus vulgaris and other physical conditions such as dementia, epilepsy, Parkinson's disease, Myasthenia Gravis, rheumatoid arthritis, and cardiovascular

disease. Furthermore, patients with pemphigus vulgaris have a higher risk of mortality from infections, particularly septicemia and pneumonia, as well as cardiovascular diseases. Even though when pemphigus patients achieve diminution, they may still experience psychological distress. This distress can stem from various worries, including risk of future decline, the necessity of continuous therapy, the associated cons, and the physical, professional, and sexual effects of the illness.

Pemphigus vulgaris has a dramatic effect on both the physical and emotional well-being of patients, leading to a decline in their overall health quality. When life-quality is compromised, individuals are more prone to developing psychiatric disorders like anxiety and depression. The presence of skin and/or mucosal lesions, prolonged hospital stays, and a high likelihood of disease recurrence can severely affect patients' emotional state, physical health, and social interactions, thereby influencing their overall health status. Moreover, the long-term use of systemic steroids and immunosuppressants, which are necessary to manage the disease, can result in side effects that further worsen patients' life-quality during both ongoing illness and remission. (Teimourpour et al., 2020; Matthews & Ali, 2022)

The initial treatment approach for patients with pemphigus typically involves systemic immunosuppression by the use of immunosuppressive adjuvants in conjunction with systemic glucocorticoids (like prednisone). Adjuvant immunosuppressive medications, including cyclophosphamide, dapsone, mycophenolate mofetil, and azathioprine (Tovanabutra et al., 2022) (Gangan, 2019). Corticosteroid use over an extended period of time can result in infection spread, immunosuppression, lassitude, weakness, low bone density, avascular necrosis, diabetes and, hypertension.(Behkar et al., 2022).

There is no enough evidence that conducted to examine various aspects of distress in patients with pemphigus which

is critical in order to preserve health status and quality of life. It is very important to provide nurses caring for the patients with training on the needed nursing managements', which includes frequent monitoring and evaluation for the occurrence of problems. Physical care includes wound care, injury care, and other measures as assessing blood pressure, glucose checking, delivering pain prescription applying topical oral analgesics or anesthetics following cautious hygiene care; encouraging the ingestion of cool, non-provocative foods and fractionated meals in high protein, hypercaloric nutrition supplements, if called for; refraining from using adhesive tape on the skin; avoiding hypothermia; and moisturizing lips with lanolin or petrolatum. Furthermore, it proposes offering emotional support and referring the client to a support group in order to assess the psychological state of pemphigus patients who have already achieved clinical remission. As a result, this study aims to determine the impact of enforcing a nursing's care protocol on the clinical health results of Pemphigus Vulgaris patients.

#### **Significance of the study**

Pemphigus Vulgaris patients which are chronic skin disease' patients, who must receive treatment for a prolonged period. Patients become physically and mentally exhausted as the condition progresses. Patients also experience societal stigma, which causes psychological stress and low self-esteem. Many patients with these chronic skin disorders experience anxiety, despair, frustration, and shame when they go out in public, and disruptions in their interpersonal relationships are observed on the other hand there is severe shortage in the trained nurses who had the required skills for caring for those patients and so there a great need for teaching the patients on how to care for themselves in order to improve their quality of life . (Deshmukh et al., 2020)

#### **The study's objective is to:**

Ascertain the effect of imposing a protocol of nursing care on pemphigus vulgaris patients' clinical health outcomes.

#### **Study hypothesis:**

Patients who receive A Nursing's care protocol will have positive Clinical Health Outcomes.

#### **Operational definitions:**

##### **• A Nursing's care protocol**

It is a special instruction that designed to help the patients to gain knowledge about pemphigus vulgaris' definition, predisposing factors, clinical manifestation, diagnostic procedures, management, physical activity, and schemes to execution skin care, oral care and to eliminate complications through an illustrated colored booklet.

### • Patients' Clinical Health Outcomes

The patients' health parameters that measured by assessing the severity of the disease by using Kumar's Scoring System and by measure the consequence of the illness on the patient's life-quality for the last week using dermatological life-quality index.

### Material and method

#### I-Material

##### Research design:

- A quasi-experimental design (pre- post interventions) study was used to accomplish the aim of the current study.

##### Setting:

- The study was performed at Dermatology Department and Outpatient Clinic of Main Alexandria University, Egypt.

##### Sample Size Calculation:

An Epi info 7 was utilized to evaluate the size of the sample affording to the following criteria:

- The population size = 140 (2023)
- The anticipated frequency = 50%.
- Max. error border = 10%.
- Reliance level =95%.
- Approximated sample size = 50

##### Subjects:

The study encompassed a convenience sample of 50 subjects who were engaged in the study.

**Encompassing criteria:** Participants were encompassed if they met the subsequent inclusion criteria:

- Age: 20- 60 years'
- Clinically diagnosed with of Pemphigus Vulgaris

**Omission criteria:** Patients were omitted if they had:

- Diabetes mellitus
- Uncontrolled hypertension, heart diseases,
- Any other dermatology diseases

**Tools:** three tools were used to gather the needed data:

#### **Tool 1. Bio-sociodemographic-structured interview:**

It was produced by researcher after examining relevant literature to evaluate

patients' sociodemographic and clinical information. The tool encompassed various elements such as age, gender, educational background, occupation, place of residence, marital status, and years of experience. Additionally, it considered clinical data relating to patients, including family medical history, disease onset, and body surface area affected with the disease (**Kim & Kang, 2023; Poggemiller et al., 2021**).

#### **Tool 2: Severity of pemphigus vulgaris assessment sheet**

This tool was adopted from **Palumbo** to assess the magnitude of disease, allocated by utilising **Kumar's Scoring System** (Palumbo et al., 2015) which was utilised to assess the magnitude of skin or mucosal complicity during data collection the scoring system: include the following:

##### **Oral score.**

- 0- No mucosal involvement.
- 1- Mild (less than 10% body surface area (BSA) and only buccal mucosa, lingual, labiolingual, pharyngeal, palatal).
- 2- Moderate (11-30% body surface area)
- 3- Sever (more than 30% BSA and widespread oral erosions, i.e., >3 mucosal spots).

##### **Dermatological score**

- 0 Quiescent disease.
- 1 = Minor disease (<10% body surface area involvement (BSA) involved).
- 2 = Moderate disease (11-30% BSA involved).
- 3 = Excessive disease: (>30% BSA involved).

#### **Tool III: Dermatological Life-quality Index (DQOLI):**

This tool was adopted from Novikov (Novikov et al., 2020) to measure the illness's effect on the patient's life-quality for the last week. The questionnaire contains of 10 questions regarding sentiments, daily activities, symptoms, leisure, work, learning, treatment, personal and sexual relations, each answered fluctuating from not at all, a little, a lot to very much. Scores, ranging from 0-3 for

each question, are calculated, and the giving a range from 0 if there is no set back on the life-quality to 30 if there is a maximum impairment. We characterized the resultant score to

- 0 -1 “no effects on QL”
- 2-5 “low effect on QL”
- 6-10 “moderate effects on QL”
- 11-20 “Very large effect on patient's life”
- 21-30 “Extremely large effect on patient's life.

A higher score = a higher degree of impairment in life-quality.

#### **Method:**

- An assent carried out by the ethical committee of the faculty of Nursing, at Alexandria University was acquired.
- Authorized permits to conduct from the identified setting authorities were acquired, following elucidations of the study's aims.
- Tools were conducted / adjusted by the researchers following extensive reviews of related literary works (Novikov et al., 2020; Palumbo et al., 2015). Arabic translations were then conducted by the researchers.
- Content and construct validity of the tools were accredited under the supervision of three veterans in Medical Surgical Nursing, Alexandria University, alterations will be carried out accordingly.
- Credibility of tools (I & II) was confirmed using Cronbach's Alpha Coefficient Test.
- A Pilot trial was performed on 10% of participants to test the competence of the tool and alterations were introduced as required. Any data acquired from the pilot was omitted from the study.
- **Data elicitation and categorization technique:**
  - Following the administrative concurrence, data collection was initiated using tool I, tool II, and tool III.

- The researchers introduced themselves to the selected participants and attained informed written consent. The patients were interviewed individually to gather information.
- Subsequent assessment (posttest) was done 4 weeks' post-implementation of the nursing care protocol using tool II, and tool III to evaluate the effect of nursing interventions.

#### ▪ **Nursing's care protocol:**

- A nursing's care protocol was developed by the researchers after an extensive review of related literature to help the patients to gain knowledge about pemphigus vulgaris' definition, predisposing factors, clinical manifestation, diagnostic procedures, management, physical activities, and schemes to execution skin care, oral care and to eliminate complications (**Brandão & Santos, 2013; Kowalewska et al., 2020; Poggemiller et al., 2021; Soares et al., 2020**).
- A vivid booklet was established by the researchers and disseminated to patients. The nursing care was conducted and applied separately to each patient using demonstration and redemonstration for three sessions, each session of about 30 minutes.
  - The first session aims to provide the patients with pemphigus vulgaris information such as definition, causes, management, signs and symptoms, and diagnostic procedures.
  - The following session aims to assist patients in performing skin care, oral care, and measures to prevent complications.
  - The third session aims to teach the patients about physical activity, proper exercises, and psychological care.

#### ▪ **Ethical consideration:**

- Prior to their participation in the study, pemphigus vulgaris patients were provided with detailed information about the study's objectives and purposes, and their voluntary consent was obtained in written form. In cases where patients were unable to read or write, the study purpose was verbally explained to them, and their consent was obtained. This ensured that all participants were adequately informed and willingly agreed to take part in the study.
- The privacy and anonymity of the subjects were guaranteed.
- Participants were explicitly informed of their right to discontinue participation in the study at any time, without any negative consequences.
- The confidentiality of the participants' data was respected, and steps were taken to prevent unauthorized access or disclosure.

#### ■ **Statistical analysis:**

Statistical analysis were carried out using the IBM SPSS software package, version 20.0 (Armonk, NY: IBM Corp). The collected information was input into the software for analysis. Descriptive statistics were used to summarize qualitative data, which were presented in terms of numbers and percentages. To assess the normality of distribution, the Shapiro-Wilk test was conducted. Quantitative data were described using various statistical measures, including the range, mean, standard deviation, and median. The importance of the results was confirmed at the 5% level, indicating that a p-value less than 0.05 was deemed statistically significant.

#### **The statistical tests that used were**

##### **1 – McNemar Test**

- Utilised to assess the statistical relevance differences among the distinct stages.

##### **2 –The Wilcoxon ranks**

- Used to associate between two periods for abnormally distributed quantitative variables,

##### **3 – The Mann Whitney**

- Employed to collate two, studied for abnormally distributed quantitative variables, groups.

##### **4 – Kruskal Wallis test**

- Employed to collate among more than two studies. for abnormally distributed quantitative variables.

## **Results**

### **Table (I): illustrate distribution of the bio-sociodemographic characteristics of the studied patients with pemphigus vulgaris.**

More than half of the studied PV patients (56%) had an age range between 40 and 60 years with a mean of  $43.38 \pm 7.45$  years. And also they were females, married, and had a low socioeconomic status (60, 74 & 65%) respectively. Additionally, the bulk of the participating patients were of rural origins and over half of them had low educational levels (65, 60 & 54%) respectively. In relation to clinical data, the majority of studied patients had no familiar history and a disease onset of more than one year (68&60%) respectively.

### **Table (II) Delineate comparison between patients pre and post application of the nursing's care protocol affording to Kumar's Scoring System.**

Regarding the score of Kumar's system, it was revealed that there was a statistically relevant gap in Kumar's oral and skin scoring pre and post the nursing's care protocol application of with p-value ( $<0.001^*$  and  $0.012^*$ ) respectively.

### **Table (III): Shows the contrast between the studied participants pre and post the nursing's care protocol application rendering to items scores of the Dermatology Life Quality Index.**

Most of the studied patients reported that they suffer from **itchy, painful skin and mucous membranes** with high score (3very much and 2 a lot) (42%,52%) respectively pre- application of the nursing's care protocol, whereas 2% only

expressed suffering very much, 48 % a lot and 48% little after its application.

**Social or leisure activities, Interpersonal problem with close friends or relatives, and Sexual relation** was affected very much among nearly half of the patients) pre – nursing’s care protocol implementation (42,48 and 42% respectively) ,whereas after application of the nursing’s care protocol only (12%,20% and 16% respectively only who had a high scores of very much affection.

**Embarrassment** was a complain of the majority of patients (60%) with a score 3 (very much),18% a lot, and 6% little while 16% expressed that there was no embarrassment at all pre- application of the nursing’s care protocol, whereas only 44% expressed very much sensation of embarrassment 44%,30% a lot and 16% not at all after nursing’s care protocol implementation with a statistically significant difference 0.002\*

On the assessment of patient’s ability of **shop and look after home difficulties**, it was revealed that about one- third of the patients affected very much (36%),18% a lot,11% little, and only 8% had no affection pre- application of the nursing’s care protocol, whereas after- application of the nursing care only about a quarter expressed very much affection,26% a lot ,20% little while the percent of a patient who was not affected become 16%

**Finally**, the tabulation displays a statistically prominent gap in all items of dermatology life-quality index pre and post

nursing’s care protocol implementation with a P value  $<0.001^*$  for all of them and  $0.002^*$  for feeling of embarrassment, except their ability to do sports and interrelationship with other, the nursing care effects were negligible.

**Table (IV): Describes total scores of the Dermatology Life Quality Index pre and post enforcing the nursing’s care protocol among the studied participants with pemphigus vulgaris.**

Regarding **dermatology life quality index** total score pre and post nursing’s care protocol application, the mean score was  $(6.96 \pm 6.33$  and  $9.80 \pm 5.72)$  with a high statistical significant difference with p - value  $<0.001^*$

**Table (V): Describes the total scores of the Dermatology Life Quality Index pre and post enforcing the nursing’s care protocol among the studied patients with pemphigus vulgaris.**

Regarding the total score of the **dermatology life quality index pre and post nursing’s care**, the mean score was  $(6.96 \pm 6.33$  and  $9.80 \pm 5.72)$  a prominent gap (p-value  $< 0.001^*$ )

**Table (VI): Shows the correlation between % score for dermatology life and Socio demographic data (n = 50)** There was no correlation between the percent score of the dermatology life-quality index with area of residence, gender, education level, and occupation while it was positively correlated with age, income, and marital status.

**Table (I):** Frequency distribution of the studied patients according to their socio - demographic, and clinical characteristics (n = 50)

Socio- demographic data	No.	%
<b>Age</b>		
20 <30	9	18.0
30 <40	13	26.0
40 <50	11	22.0
50-60	17	34.0
<b>Gender</b>		
Male	20	40.0
Female	30	60.0
<b>Marital status</b>		
Married	37	74.0
Divorced	2	4.0
Widow	2	4.0
Single	9	18.0
<b>Occupation</b>		
Administrative work	6	12.0
Manual work	20	40.0
Unemployed	24	48.0
<b>Area of residence</b>		
Urban	20	40.0
Rural	30	60.0
<b>Income</b>		
Sufficient	17	34.0
Insufficient	33	66.0
<b>Educational level</b>		
Illiterate	19	38.0
Primary	2	4.0
Secondary	19	38.0
University	10	20.0
<b>Clinical status</b>		
<b>Family history</b>		
Yes	16	32.0
No	34	68.0
<b>Onset of disease</b>		
≤ One year	20	40.0
> one year	30	60.0
<b>Body surface area affected</b>		
Oral	20	40.0
Face and chest	6	12.0
Genital area	14	28.0
All over the body	10	20.0



**Table (II):** Comparison between the studied patients pre and post application of the nursing's care protocol according to Kumar's Scoring System (n = 50)

Tool (II): Kumar's Scoring System	Pre		Post		MH	p
	No.	%	No.	%		
<b>Oral Score</b>						
• No Involvement	24	48.0	30	60.0	27.00	<0.001*
• Minimal disease	7	14.0	12	24.0		
• Moderate disease	10	20.0	4	8.0		
• Severe disease	9	18.0	4	8.0		
<b>Skin Score</b>						
• Quescent	20	40.0	25	50.0	21.500	0.012*
• Minimal (<10% BSA)	13	26.0	12	24.0		
• Moderate (11-30% BSA)	8	16.0	6	12.0		
• Severe (>30% BSA)	9	18.0	7	14.0		

**MH: Test of Marginal Homogeneity**\*: Statistical significant at  $p \leq 0.05$

**Table (III):** Comparison between the studied patients pre and post the nursing's care protocol application rendering to items scores of the Dermatology Life Quality Index. (n = 50)

Q	Dermatology Life Quality Index	Pre										Post										MH	p
		Very much		A lot		A little		Not at all		Not relevant		Very much		A lot		A little		Not at all		Not relevant			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
1	Itchy, sore, painful or stinging	21	42.0	26	52.0	3	6.0	0	0.0	0	0.0	1	2.0	24	48.0	24	48.0	1	2.0	0	0.0	83.500*	<0.001*
2	Embarrassed or self-conscious	30	60.0	9	18.0	3	6.0	8	16.0	0	0.0	22	44.0	15	30.0	4	8.0	9	18.0	0	0.0	18.500*	0.002*
3	Shopping or looking after home & garden	18	36.0	9	18.0	11	22.0	4	8.0	8	16.0	9	18.0	13	26.0	10	20.0	10	20.0	8	16.0	49.0*	<0.001*
4	Clothing	18	36.0	12	24.0	0	0.0	3	6.0	17	34.0	7	14.0	13	26.0	10	20.0	3	6.0	17	34.0	48.500*	<0.001*
5	Social or leisure activities	21	42.0	11	22.0	16	32.0	1	2.0	1	2.0	6	12.0	18	36.0	16	32.0	10	20.0	0	0.0	75.0*	<0.001*
6	Sport	6	12.0	4	8.0	3	6.0	0	0.0	37	74.0	5	10.0	5	10.0	2	4.0	0	0.0	38	76.0	7.50	0.366
7	Working, studying	0	0.0	10	20.0	14	28.0	0	0.0	26	52.0	0	0.0	8	16.0	16	32.0	0	0.0	26	52.0	6.0	0.317
8	Interpersonal problem with close friends or relatives	23	46.0	9	18.0	12	24.0	6	12.0	0	0.0	10	20.0	8	16.0	22	44.0	8	16.0	2	4.0	59.500*	<0.001*
9	Sexual difficulties	21	42.0	6	12.0	5	10.0	4	8.0	14	28.0	8	16.0	13	26.0	9	18.0	6	12.0	14	28.0	37.500*	<0.001*
10	Treatment difficulties	16	32.0	13	26.0	9	18.0	8	16.0	4	8.0	5	10.0	14	28.0	17	34.0	11	22.0	3	6.0	49.0*	0.001*

**MH: Marginal Homogeneity Test**

\*: Statistical significant at  $p \leq 0.05$

**Table (IV):** Comparison between the studied patients pre and post enforcing the nursing's care protocol according to total score of the Dermatology Life Quality Index (n = 50)

Dermatology Life Quality Index	Pre		Post		Test of Sig.	p
	No.	%	No.	%		
<b>Severity</b>						
No effect a (0 –1)	15	30.0	3	6.0	MH= 72.000*	<0.001*
Small effect (2 – 5)	10	20.0	9	18.0		
Moderate effect(6 – 10)	8	16.0	16	32.0		
Very large effect (11 – 20)	17	34.0	20	40.0		
Extremely large effect on patient's life (21 – 30)	0	0.0	2	4.0		
<b>Total Score (0 – 30)</b>					Z= 4.529*	<0.001*
Min – Maximum .	0.0 – 19.0		0.0 – 23.0			
Mean ± SD.	6.96 ± 6.33		9.80 ± 5.72			
Median	5.50		9.0			
<b>% Score</b>						
Min. – Max.	0.0 – 90.48		0.0 – 83.33			
Mean ± SD.	30.32 ± 28.19		40.14 ± 23.48			
Median	23.02		37.50			

Z: Wilcoxon test - MH: Marginal Homogeneity Test---\*: Statistical significant at  $p \leq 0.05$

**Table (V):** Comparison between the studied patients pre and post enforcing the nursing's care protocol according to a total score of the Dermatology Life Quality Index (n = 50)

Dermatology Life Quality Index	Pre	Post	Z	P
<b>Total Score</b>				
Min. – Max.	0.0 – 19.0	0.0 – 23.0	4.529*	<0.001*
Mean ± SD.	6.96 ± 6.33	9.80 ± 5.72		
Median	5.50	9.0		
<b>% Score</b>				
Min. – Max.	0.0 – 90.48	0.0 – 83.33		
Mean ± SD.	30.32 ± 28.19	40.14 ± 23.48		
Median	23.02	37.50		

SD: Standard deviation

Z: Wilcoxon test \*: Statistical significant at  $p \leq 0.05$

**Table (VI):** Relation between percentage score for the dermatology life and Socio-demographic data

Socio- demographic data	% Score for dermatology life			
	Pre		Post	
	Mean $\pm$ SD.	Median	Mean $\pm$ SD.	Median
<b>Age</b>				
20-<30	53.06 $\pm$ 17.31	60.0	62.22 $\pm$ 15.23	65.0
30-40	46.54 $\pm$ 20.86	52.50	55.77 $\pm$ 19.56	62.50
40-50	33.41 $\pm$ 20.83	37.50	45.45 $\pm$ 17.31	47.50
50-60	27.50 $\pm$ 10.38	30.0	38.09 $\pm$ 12.39	40.0
<b>H (p)</b>	14.435* (0.002*)		13.531* (0.004*)	
<b>Gender</b>				
Male	29.98 $\pm$ 27.53	22.22	39.58 $\pm$ 21.80	35.19
Female	30.54 $\pm$ 29.09	27.31	40.52 $\pm$ 24.90	37.50
<b>U(p)</b>	290.0 (0.842)		290.0 (0.843)	
<b>Marital status</b>				
Married	25.77 $\pm$ 24.82	20.83	35.06 $\pm$ 21.02	33.33
Divorced	0.0 $\pm$ 0.0	0.0	20.83 $\pm$ 5.89	20.83
Widow	21.43 $\pm$ 30.30	21.43	36.34 $\pm$ 25.21	36.34
Single	57.72 $\pm$ 28.17	66.67	66.16 $\pm$ 18.12	75.0
<b>H(p)</b>	12.485* (0.006*)		12.971* (0.005*)	
<b>Occupation</b>				
Administrative work	33.54 $\pm$ 36.16	20.37	42.64 $\pm$ 28.36	34.81
Manual work	36.93 $\pm$ 29.13	31.48	44.17 $\pm$ 22.96	42.59
Unemployed	24.01 $\pm$ 25.02	11.81	36.16 $\pm$ 23.07	35.42
<b>H(p)</b>	2.211 (0.331)		1.248 (0.536)	
<b>Area of residence</b>				
Urban	36.35 $\pm$ 30.27	38.89	46.69 $\pm$ 22.68	44.44
Rural	26.30 $\pm$ 26.30	21.53	35.78 $\pm$ 23.36	35.78
<b>U(p)</b>	241.0 (0.239)		224.0 (0.132)	
<b>Income</b>				
Sufficient	51.06 $\pm$ 29.88	56.67	55.49 $\pm$ 23.64	54.17
Insufficient	19.64 $\pm$ 20.60	11.11	32.24 $\pm$ 19.38	33.33
<b>U(p)</b>	118.50* (0.001*)		126.50* (0.002*)	
<b>Educational level</b>				
Illiterate	20.29 $\pm$ 21.79	12.50	29.37 $\pm$ 20.32	25.0
Primary	20.83 $\pm$ 29.46	20.83	37.50 $\pm$ 11.79	37.50
Secondary	38.94 $\pm$ 30.21	45.83	48.76 $\pm$ 22.88	48.15
University	34.88 $\pm$ 32.31	28.57	44.76 $\pm$ 26.20	38.52
<b>H(p)</b>	4.315 (0.229)		6.478 (0.091)	

SD: Standard deviation

U: Mann Whitney test H: H for Kruskal Wallis test

p: p-value for Relation between Relation between dermatology life and Socio demographic data

## Discussion

*Pemphigus vulgaris* has a devastating impact on the health of affected individuals and it could be lethal in the absence of treatment. The integrality of the human being includes the physical, social, emotional, and spiritual well-being, which namely were affected by this disease. Therefore, close monitoring of the treatment and course of the disease is of major importance and also, adept nursing care for the inhibition of exacerbations, stimulating the life conservation of the patients impacted is essential (**Mortazavi et al., 2008**). Going with this context, the present study was conducted in order to evaluate the effect of enforcing a nursing's care protocol on pemphigus vulgaris patients' clinical health outcomes.

In accordance to patients' *sociodemographic data*, the conclusions of the current study illustrated that more than half of the studied PV patients had an age range from 40 to 60 years. This may be credited with the selection criteria of patients' age that ranged from (21-60) years old. Furthermore, this finding was reinforced by **Porro** who found that, *Pemphigus vulgaris* occurs universally, and usually occur between 40 and 60 years of age (**Porro et al., 2019**). On the other hand **Felici** reported that the most common patients' age group ranged between 50 and 70 years more than other age groups and that may be related to pathogenic IgG autoantibodies focused against structural proteins of desmosomes, distinct structures accountable for interkeratinocytes' (**De Felici et al., 2023**).

Regarding gender, the contemporary study displayed that, the mainstream of the studied patients were females. This could be interpreted as females having a greater risk of developing PV than males as females at higher risk for physiological changes, that are thought to be a vital cause of the disease. Consequently, exposures for example altering breastfeeding patterns, hormone exposure during childhood, puberty, and

menopause/andropause, and dietary changes throughout life might play a role in disease pathogenesis and disease course. This result comes in line with **Rosi-Schumacher et al. (2023)** study findings which verified that, women compromised a majority of the study group, and he rationalized that, females had life styles as the use of the over counter medications such as analgesics and antibiotics (**Rosi-Schumacher et al., 2023**) and the effects from the menstrual cycle, hormonal impacts on the microbiome, and immune-related genes present on the X-chromosome. It is also found that female patients vary from males in genetic predisposition, immune dysregulation comprising autoantibody levels, and clinical course.

In addition, the economic status study exhibited that the mainstream of the studied patients had a low socioeconomic status. Similarly, **Mohta (2023)** found that the mainstream of the participating patients had rural origins and upbringing, paired with low socioeconomic status. The study also illustrated that, over half of the studied participants had low educational level. These notations come in line with those of **Miyachi et al. (2023)**, who found that the majority of them have a secondary education that related to disease burden.

**As for Dermatology Life Quality Index** symptoms scores it was found that most of the studied patients reported that they suffered from **itchy, painful skin and mucous membrane** pre- application of the nursing's care protocol, whereas near than half of studied participants suffered from little symptoms after enforcing the nursing's care protocol. This result was supported by **Kianfar et al. (2022)** who stated that The experience of individuals with pemphigus vulgaris spanning more than a decade has demonstrated the significance of expert nursing care in preventing itchy, painful skin and mucous membranes, as well as mitigating their aggravation. This is necessary to enhance

the well-being and lifetime maintenance of those afflicted (Kianfar et al., 2022).

**And in relation to social or leisure activities, Interpersonal problems with friends or relatives and Sexual life** there were affected very much among nearly half of the patients pre - application of the nursing's care protocol whereas nearly half of the patients expressed little affection following the implementation of the nursing's care regimen. These findings are consistent with the theory that the way the skin and its appendages look not only reflects the overall health of the body but also has an impact on an individual's sense of self-worth and self-image as well as how others see them, which can have a negative impact on their relationships (Tiwari et al., 2020). According to Tiwari et al. (2020), people with a variety of dermatological conditions typically have a distorted perception of themselves and feel disfigured, stigmatized, or even repulsive. This is especially true if the lesions cover a significant portion of the skin, including the genitalia and visible areas like the hands and face. These feelings may have a detrimental impact on dermatology patients' psychological well-being as well as their families, social lives, and careers.

**Concerning Embarrassment**, the majority of patients expressed embarrassment at all pre- application of the nursing's care protocol in relation to social interactions, particularly when people made notice of or inquired about their skin blemishes. Furthermore, the skin disease may lead to issues in personal relationships, potentially affecting some patients' intimate relations. whereas after application of the nursing's care protocol only about a quarter who expressed very much affection, Miyachi et al. (2023) also, found that sensations of fear, hatred, and uncertainty when receiving care. These embarrassed feelings' displays and behaviors, which increase stigma and suffering, run opposite to a culture that is centered on enhancing the standard of care and striving for humanization.

Regarding the total score of the **dermatology life quality index pre and post implementation of intervention**, it was revealed that the mean score was a high statistically prominent gap pre and post application of the nursing's care protocol, this come online with Fournier who found that Patients with severe conditions require strong support networks since they have a substantial impact on many facets of their lives. These kinds of protocol ought to be created in order to give them the information they require and direct them along the proper care pathway (Fournier et al., 2023). Also, Panda and Verma (2017) found that Pemphigus vulgaris has a great impact on the dermatology life-quality index. They approved that education by various support groups has potential to refine the life-quality of the patients. On the other hand, Kowalewska et al. (2020) illustrated that People who have skin diseases exhibit a negative attitude and are unable to adequately manage their illness. The type of dermatological condition determines the life-quality (QOL) of people with skin illnesses.

It was noticed that there is an association between PV and age, this may be attributed to immune, cardiac, endocrine, hematologic, and neuropsychiatric diseases that combined with elderly changes process and this results were supported by Frustaci et al. (2021) who found that PV, advanced age, and cardiovascular diseases have been linked to a chronic inflammatory process. The use of systemic corticosteroids, pain from the lesions, and decreased physical activity have all been shown to possess a detrimental influence on the health of the patient.

## **Conclusions**

Nursing's care protocol was effective in improving patients' clinical health outcomes

## **Recommendations**

Creation of an educational unit for nursing care on pemphigus of vulgaris

patients in the dermatology hospital departments.

Conducting similar studies on a larger probability sample is recommended to achieve generalization of the findings.

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