

A STUDY OF PREVALENCE OF DEPRESSION AND ANXIETY IN PATIENTS WITH PEMPHIGUS VULGARIS- A CROSS SECTIONAL STUDY

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ABSTRACT

BACKGROUND

Psychiatric disorders in pemphigus vulgaris may occur due to long term course, impact of body image, unlikelihood of complete recovery and frequent recurrences. These are the major predisposing factors towards depression and anxiety. Although, investigators have evaluated psychiatric aspects of the patients suffering from skin diseases, there are rare studies in India concerning mental health in pemphigus patients.

Aim- The aim and objectives of the study is to estimate the prevalence of depression and anxiety in patients with pemphigus vulgaris, to assess the socio demographic profile and quality of life.

MATERIALS AND METHODS

Between august 2017 and September 2017, a cross sectional study of 105 patients diagnosed as pemphigus vulgaris attending pemphigus clinic of dermatology department, Rajiv Gandhi Government General Hospital, Chennai were assessed using semi structured proforma and following questionnaires GHQ-12, HAMA, HAMD, DLQI.

RESULTS

105 patients were evaluated; 55% presented depression (58/120; 46 women and 12 men); 45 patients (43%) with mild depression, 13 patients (12%) with moderate depression. Duration of illness and social support presented statistical significance ($P = 0.039$) and ($P < 0.001$) respectively. 32% presented anxiety (34/105; 25 women and 9 men); 32 patients (30%) with mild anxiety, 2 patients (2%) with moderate anxiety. Social support showed statistical significance ($P < 0.001$). In DLQI, 32 patients had no effect, 24 patients (23%) had small effect, 33 patients (31%) had moderate effect, 16 patients (15%) had very large effect. QOL was significantly impaired, particularly with poor social support ($P < 0.001$), low education ($P = 0.010$), duration of illness ($P = 0.003$) and number of episodes ($P = 0.017$).

CONCLUSIONS

Prevalence of depression and anxiety were higher in patients with pemphigus vulgaris and depression was found to be higher among females and anxiety was higher among male patients. Also increased duration of illness, increased number of episodes, site of lesion especially at genitals and whole body showed increased prevalence of depression and anxiety and affected their quality of life. They are at need of mental health professionals help and should be screened for depression and anxiety.

KEYWORDS

DLQI, GHQ-12, Pemphigus Vulgaris, Depression, Anxiety.

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BACKGROUND

Pemphigus (pemphix- bubble) designates a chronic life-threatening autoimmune bullous disease characterized by intraepithelial blister formation.^{1,2}

It is mediated by IgG auto-antibodies which disrupt the connection between squamous cells of epidermis. Clinically there are many subtypes of pemphigus.

Pemphigus vulgaris is the most common type accounting for approximately 80% of cases worldwide. Women are more likely to be affected than men and mean age of onset is approximately 4-6 decades.³ Pemphigus vulgaris is a relapsing, difficult to treat long term illness requiring frequent hospitalization and treatment. It affects the self-esteem, appearance and cause significant psychological trauma to the patients. Pemphigus patients are more prone to psychiatric disorders such as depression, suicidal ideations⁴ and anxiety disorders. The presence of a chronic condition is normally associated with lower health-related quality of life and disease severity also influences quality of life.⁵ Therefore, these patients should be carefully assessed for comorbid psychiatric disorders and treated appropriately.

10%-17% of patients with severe and chronic dermatological diseases are frequently associated with psychiatric disorders,⁶ personality traits, psychological

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stress, sexual problems and deterioration of quality of life.⁷ Depression is one of the most common manifestations in patients with autoimmune diseases. However, in patients with pemphigus, a prevalence of depression of 26% has been reported by Stanley JR et al² similarly, in a study of Barrimi et al⁸ a prevalence of depression of 27% was reported.

A study conducted by Woodruff et al⁹ in general hospital psychiatry journal reported the prevalence of anxiety as 35%. Most studies on psychiatric comorbidity in dermatological disorders derived from western countries focus mainly on conditions such as psoriasis, vitiligo, lupus erythematosus, dermatomyositis and leprosy.^{7,10} Since we have lack of studies about mental health in pemphigus patients, it is necessary to evaluate their mental health status and its determinants. The purpose of the study is to find the prevalence of depression and anxiety in patients with pemphigus vulgaris and to assess their quality of life. This study may help to improve dermatologists' view to psychological aspects in pemphigus vulgaris patients and to enhance their quality of life.

MATERIALS AND METHODS

This cross-sectional study was conducted between August 2017 to September 2017 at the pemphigus clinic of dermatology department, Rajiv Gandhi Government General Hospital, Chennai. Our study protocol was reviewed and approved by the Institutional Ethics committee of Madras Medical College. The population included pemphigus vulgaris patients attending the pemphigus clinic of Dermatology department in Rajiv Gandhi Government General hospital. Sample size calculation was done and 150 patients of Pemphigus vulgaris, diagnosis was confirmed by clinical features, pathology and direct immunofluorescent (DIF) findings by dermatologist were taken up as study subjects. Of which 120 patients aged between 20-80 years including both male and female were enrolled in study. Informed consent was obtained from them. Psychiatric disorders other than depression, anxiety were excluded, concomitant severe medical illness and or thyroid disorder, past history of psychiatric disorders and or usage of psychotropic medication in the last 6 months, patients with cognitive impairment, mental retardation, patients not giving consent to participate in the study were excluded.

Socio-demographic profile including age, gender, marital status, education, occupation, income, socio-economic status, residence, type of family, social support were assessed using semi structured proforma and illness details including age of onset of pemphigus vulgaris, number of episodes, duration of illness, site of lesion, treatment adherence, comorbid medical factors, family history of pemphigus vulgaris, social support details were collected using semi structured proforma.

General Health Questionnaire 12 (GHQ 12) with a four-point Likert Scale (0-1-2-3) was applied as a screening questionnaire. It was self-administered and to those who cannot read the questionnaires were read by the researcher. GHQ is an extensively validated and highly reliable

questionnaire. A positive GHQ score was detected in 105 patients. These patients were clinically interviewed and diagnosed as anxiety and depressive disorders based on International Classification of Diseases (ICD 10) criteria.

Then Hamilton rating scale for Anxiety (HAM A) and Hamilton rating scale for Depression (HAM D) were applied for severity assessment. Hamilton Depression Scale instrument was applied in its reduced version⁸ the scale was validated, includes 17 common statements of depression. The total score ranges from 0 to 52; Score of (0-7) is normal, mild depression (8-13), moderate depression (14-18), severe depression (19-22), and very severe depression (>23). HAM D Scale was read to the patient and assessed by the researcher.

Hamilton rating scale for anxiety (HAM A) was applied. It has 14 items, 7 of the items specifically address psychic anxiety and remaining seven items address somatic anxiety. Total anxiety score ranges from 0 to 56. Score of (0-13) is normal, mild anxiety (14-17), moderate anxiety (18-24), severe anxiety (>25). HAM A was read to the patient and assessed by the researcher.

Dermatological life quality index (DLQI) Scale is a general questionnaire to assess the Quality of Life (QOL) in dermatological patients. It was translated in Tamil and handed to the patients. The questions were categorised to 6 heading items: symptoms and feelings (questions 1 and 2), daily activities (questions 3 and 4), leisure (questions 5 and 6), and personal relationships (questions 8 and 9) each item with a maximum score of 6; and work and school (question 7), and treatment (question 10) each item with a maximum score of 3. The DLQI score was calculated by summing the score of each question resulting in a maximum of 30 and a minimum of 0. The higher the score, the more quality of life is impaired.¹¹ All the scales were applied to the patients by same researcher.

Data were analysed using ANOVA, Tukey's HSD post hoc tests for multiple pairwise comparisons, Chi-Square test is applied with 95% confidence interval (CI). Differences were defined as statistically significant at P <0.05.

RESULTS

Of the 150 patients (aged 20 to 80 years), who signed the informed consent were given the questionnaires. Of the returned questionnaires, 30 were either blank or incomplete, which were excluded from further analyses. Finally, we had a total of 120 patients for the final analysis.

A total of 120 patients with a diagnosis of pemphigus vulgaris were included in our study. A positive GHQ reflecting probable minor non-psychotic psychiatric disorders such as depression and anxiety was detected in 87% of the patients, 105 patients of whom 24.8% (26/105) were men and 75.2% (79/105) were women. (Table 1)

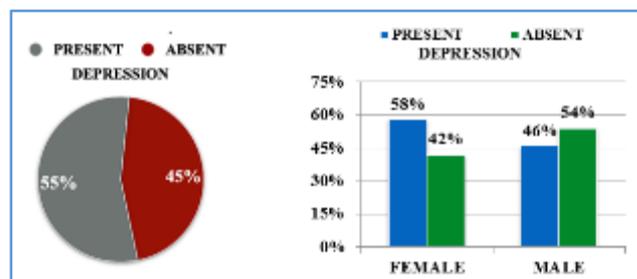
		No.	%
Gender	Female	79	75.20%
	Male	26	24.80%
Marital Status	Married	81	77.10%
	Unmarried	4	3.80%
	Separated	4	3.80%
	Widow	16	15.20%
Education	Illiterate	44	41.90%
	Primary School	15	14.30%
	Middle School	20	19.00%
	High School	18	17.10%
	Post High School	4	3.80%
	Graduate(UG/PG)	4	3.80%
Occupation	Unemployed	54	51.40%
	Unskilled	15	14.30%
	Semiskilled	22	21.00%
	Skilled	13	12.40%
	Profession	1	1.00%
Income per month	<2164	10	9.50%
	2165-6430	43	41%
	6431-10718	38	36.20%
	>10719	14	13.30%
Socio Economic Status	Lower	87	82.90%
	Middle	17	16.20%
	Upper	1	1.00%
Residence	Urban	72	68.60%
	Rural	33	31.40%
Family History	No	99	94.30%
	Yes	6	5.70%
Treatment Adherence	Good	98	93.30%
	Poor	7	6.70%
Comorbid Medical Illness	None	64	61.00%
	DM	21	20.00%
	HTN	6	5.70%
Social Support	Good	81	77.10%
	Poor	24	22.90%

Table 1

The best cut-off point for GHQ-12 bimodal score was determined to be 2, i.e., those scoring 2 and above were designated as possible cases of mental disorder. In our study, a total of 105 patients of 120 scored ≥ 2 on GHQ-12. Bimodal scoring, yielding a prevalence of 87% for probable minor non-psychotic psychiatric disorders such as depression and anxiety.

Variable	PV with Depression (n = 58)	PV Without Depression (n = 47)
Age (mean \pm SD) years	54.34 \pm 12.48	49.87 \pm 13.73
Gender (Female) %	46 (58%)	33 (42%)
Educational level	Illiterate (29 patients, 66%)	Illiterate (15 patients, 34%)
Marital status	Married (41 patients, 51%)	Married (40 patients, 49%)
Place of residency	Urban (40 patients, 56%)	Urban (32 patients, 44%)
Social support	poor (21 patients, 86%)	Poor (3 patients, 13%)

Table 2. Shows the main Socio-Demographic Characteristics of the Patients and their Association with Depression



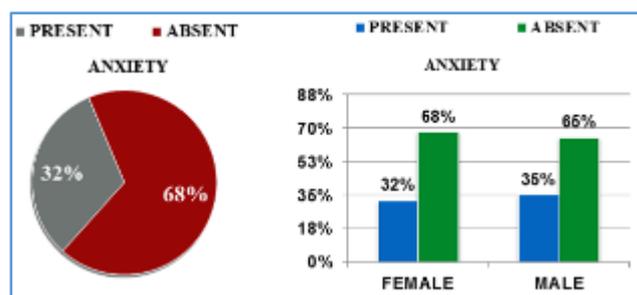
Graph 1. PV = Pemphigus Vulgaris; SD = Standard Deviation; NS = Not Significant

The prevalence of depression was 55% of patients (58 patients) 46 female (58%) and 12 male (46%).

According to Hamilton rating scale for Depression, severity was classified as mild (score of 8-13) in 45 cases (43%) and as moderate (score of 14-18) in 13 patients (12%). A (score of 19-22) severe depression status was not found in the sample studied. A female predominance of 46 patients (58%) was observed, and (81 patients) 77% were married and 69% living in urban with poor social support ($p < 0.001$) in 87.5% patients.

Variables	HAM D	N	Mean	Std. Dev	F-Value	P-Value
Age (years)	Normal	47	49.87	13.73	1.58	0.211
	Mild	45	54	12.369		
	Moderate	13	55.54	13.314		
Pemphigus -Age of Onset	Normal	47	45.34	14.013	0.763	0.469
	Mild	45	48.84	12.84		
	Moderate	13	47.46	14.987		
No. of Episodes	Normal	47	2.51	1.14	1.291	0.28
	Mild	45	2.96	1.796		
	Moderate	13	3.15	2.23		
Duration of Illness	Normal	47	4.45	3.229	3.359	0.039
	Mild	45	5.2	4.751		
	Moderate	13	8.08	6.861		

Table 3. One Way ANOVA Used to Compare Mean Values Between HAM D and Duration of Illness Shows Significant P Value



Graph 2

Duration of illness also presented statistical significance ($P = 0.039$).

The prevalence of Anxiety was 32% of patients (34 patients: 25 female (32%) and 9 male (35%).

According to Hamilton rating scale for Anxiety, severity was classified as mild (score of < 17) in 32 cases (30.5%)

and as moderate (score of 18-24) in 2 patients (1.9%). A (score of 25-30) severe depression status was not found in the sample studied. A female predominance of 25 patients (31.6%) was observed and (26 patients) 32% were married and 35 % living in urban with significant poor social support (p value <0.05) in 58.3% patients.

Site of Lesion		HAM-D		Total
		No	Yes	
Face	N	6	8	14
	Row %	42.90%	57.10%	
Scalp	N	9	8	17
	Row %	52.90%	47.10%	
Upper Limb	N	12	5	17
	Row %	70.60%	29.40%	
Lower Limb	N	7	5	12
	Row %	58.30%	41.70%	
Body Trunk	N	14	10	24
	Row %	58.30%	41.70%	
Whole Body	N	8	31	39
	Row %	20.50%	79.50%	
Genitals	N	0	3	3
	Row %	0.00%	100%	
Mouth	N	5	7	12
	Row %	41.70%	58.30%	
Total	N	47	58	105

Table 4. Shows Site of Lesion at Genitals and Whole Body Showing Increased Percentage in HAM D Scores

Site of Lesion		HAM-A		Total
		No	Yes	
Face	N	11	3	14
	Row %	78.60%	21.40%	
Scalp	N	10	7	17
	Row %	58.80%	41.20%	
Upper Limb	N	14	3	17
	Row %	82.40%	17.60%	
Lower Limb	N	11	1	12
	Row %	91.70%	8.30%	
Body Trunk	N	20	4	24
	Row %	83.30%	16.70%	
Whole Body	N	19	20	39
	Row %	48.70%	51.30%	
Genitals	N	0	3	3
	Row %	0.00%	100%	
Mouth	N	6	6	12
	Row %	50.00%	50.00%	
Total	N	71	34	105

Table 5. Shows Site of Lesion at Genitals and Whole Body Showing Increased Percentage in HAM A Scores

Site of Lesion		DLQI		Total
		No	Yes	
Face	N	5	9	14
	Row %	35.70%	64.30%	
Scalp	N	7	10	17
	Row %	41.20%	58.80%	
Upper Limb	N	10	7	17
	Row %	58.8%	41.20%	

Lower Limb	N	5	7	12
	Row %	41.70%	58.30%	
Body Trunk	N	10	14	24
	Row %	41.70%	58.30%	
Whole Body	N	2	37	39
	Row %	5.10%	94.90%	
Genitals	N	0	3	3
	Row %	0.00%	100%	
Mouth	N	4	8	12
	Row %	33.30%	66.70%	
Total	N	32	73	105

Table 6. Shows Site of Lesion at Genitals and Whole Body Showing Increased Percentage in DLQI Scores

Table 4 and Table 5 shows site of lesion at Genitals and whole body showing increased percentage in HAM A and HAM D scores.

Quality of life assessment done using DLQI Scores. A score of 0-1 indicates no effect, a score of 2-5 indicates mild effect, a score of 6-10 indicates moderate effect, a score of 11-20 indicates very large effect, a score of 21-30 indicates extremely large effect. 23% patients show mild effect, 31% patients show moderate effect, 15% patients show very large effect. QOL was significantly impaired, particularly with poor social support (P<0.001), low education (P=0.010), duration of illness (P = 0.003) and number of episodes (P = 0.017).

Table 6 shows site of lesion at Genitals and whole body showing increased percentage in DLQI scores.

DISCUSSION

The association of psychiatric disorders and dermatological problems has long been known.^{12,13} Dermatological diseases affect daily routine life, self-confidence and self- respect, they may also lead to questions on self-image thus creating a problem of identity.^{13,14} Pemphigus vulgaris is a chronic and severe autoimmune dermatological disease that may be associated with psychiatric co- morbidity.¹⁰

The General Health Questionnaire (GHQ) has been widely used as a screening instrument for minor psychiatric morbidity.¹⁵ GHQ-12(12 item version) has recently become the most popular form of the scale because of its good psychometric properties and its brevity. GHQ-12 with a four-point Likert-Scale (0-1-2-3) was used. The total score ranges from 0–36, with higher scores representing higher levels of mental distress.¹⁶ In our study a positive GHQ reflecting probable minor non-psychotic psychiatric disorders such as depression and anxiety was detected in 87% of the patients, 105 patients of whom 24.8% (26/105) were men and 75.2% (79/105) were women.

As there were few studies in our population that determine the presence of psychiatric morbidity in patients with pemphigus vulgaris, in our study using Hamilton Depression Rating Scale in patients with pemphigus vulgaris, we found 55% of prevalence of depressive disorder. 47 patients (45%) with no depression, 45 patients (43%) with mild depression, 13 patients (12%) with moderate depression, a picture that is higher than the observed in

general population and comparable to that reported in other studies of pemphigus vulgaris.

With regard to the affected body surface, pemphigus vulgaris patients who develop lesion at genitals and whole body are 100% and 79.5% more likely to present depression respectively. However, there was no statistical significance.

Following studies have evaluated the presence of depression in patients with pemphigus. Tabolli et al¹⁷ conducted a study in Italy reported the prevalence of depression higher than 50%.

A study published in The Scientific Journal of Dermatology by Tirado-Sanchez A et al conducted a study in Mexico, found the prevalence of depression was 45% in pemphigus vulgaris patients, with a predominance of female gender in 30% cases, prevalence in men was 15%.

A similar study presented by Layegh, et al¹⁸ at Iran in the Journal of Dermatology reported the prevalence rate of depression in pemphigus vulgaris was 28%. Female cases were 47% and 53% were males. This study concluded that pemphigus patients are at risk of mild depression.

First two studies coincides with our study, although in these studies there were no reports of moderate or severe depression. A female predominance was observed in all these studies. Similar to the above studies we observed a predominance of the female cases.

In our study using HAM-A (Hamilton Anxiety Rating Scale) in patient with pemphigus vulgaris, we found 32% of prevalence of anxiety disorder, 71 patients (68%) with no anxiety, 32 patients (31%) with mild anxiety, 2 patients (2%) with moderate anxiety.

With regard to the affected body surface, pemphigus vulgaris patients who develop lesion at genitals, whole body are 100% and 51.3% more likely to present with anxiety respectively. However, there was no statistical significance. Woodruff et al⁹ in general hospital psychiatry journal reported the prevalence of anxiety among dermatological patients as 35% with male predominance. In our study 35% of male have of mild anxiety which coincides with study by woodruff et al and widower have higher prevalence of anxiety.

In our study using Dermatology life Quality Index (DLQI), 32 (31%) patients have no effect, 24 (23%) have small effect, 33 patients (31%) have moderate effect, 16 patients (15%) have very large effect. QOL is significantly impaired, particularly in patients with poor social support, low education, increased duration of illness and increased number of episodes. Pemphigus vulgaris patients who develop lesion at genitals, whole body are 100% and 94.9% more likely to have poor quality of life respectively. However, there was no statistical significance.

S. Zahra Ghodsi et al¹⁹ conducted study in Iran study says QOL was not affected by age, sex, educational level and marital status, which coincides with our study. Also the study shows no effect on DLQI score based on the presenting site of lesion. Even our study also shows no statistical significance but still lesion in genitals and whole body shows increased percentage affecting quality of life. Zahra Ghodsi et al's study showed a negative correlation between DLQI

score and duration of the disease suggesting more impairment of QOL in the primary phase of the disease, but in our study increased duration of illness cause impairment in quality of life as chronicity of disease, low socio economic background, poor social support considered as contributing factor.

CONCLUSION

Prevalence of anxiety and depression was higher in patients with pemphigus vulgaris and depression was found to be higher in females and anxiety was common among male patients especially widowers. Patients with low socioeconomic status, low education, married, unemployed with poor social support were at high risk. Also increased duration of illness, increased number of episodes, site of lesion especially at genitals, whole body were prone for depression and anxiety. These factors affect their quality of life. So it can be concluded that these patients are at need of mental health professionals help and should be screened for depression and anxiety. The cooperation of the dermatologist and a psychiatrist in evaluation and management at early stage can reduce these problems and their quality of life can be improved.

Strengths of my study are DLQI scale used in local language Tamil, Scales administered has good validity, construct, reliability. No interpersonal variation as the scales were applied by single interviewer. Proforma includes details of illness such as number of episodes, duration of illness, treatment adherence, comorbidity, family history of pemphigus, attitude of appearance, social support. Limitations are confounding factors were not considered in evaluation of QOL in patients with pemphigus, medication details were not included in this study, social support questionnaire was not used.

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