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Psychiatric Morbidity In Patients With Neurodermatitis

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Abstract : *Psycho-dermatology is a collaborate field of activity that is based on the relationship and interaction between Psychiatry and Dermatology, and in practice this collaboration may be disease that are based on a psychiatric disorder that appear as a dermatologic disease, dermatological diseases formed or advanced by psychosomatic factors, Psychiatric disorders secondary to social isolation ,Dermatological and Psychiatric disorders related to genetic or environmental influences, Dermatological diseases that appear in chronic psychiatric patients and on those with medical treatment. The prevalence of psychiatric disorders in the patients presenting to dermatology clinic has been reported as 25-43% [1] [2]. Stress may aggravate the cutaneous disease in 40-100% of Patients and it was reported that skin diseases appear in persons who cannot express their anger and hostility sufficiently [3].*

Methodology: *The aim of the studyis to assess the prevalence of the Psychiatric morbidity in patients with Neurodermatitis, to correlate them with stressors, personality profile and physical variables and to know their clinical relevance. The Research design was planned to be based on hypothesis testing design, with the use of validated structured tools and statistics. Patients diagnosed as Neurodermatitis by Dermatologist were chosen and forty patients were included for the study. Patients were interviewed before any psychiatric medication.*

Results*: From this study, it has been found that psychiatric morbidity is higher in Neurodermatitis patients. Depression and anxiety disorder are the common psychiatric illness in them. These patients had high neuroticism and higher total hostility and self directed hostility. As age advances, risk of psychopathology increases and multiple lesions with lesions on the lower limb in patients increases risk of psychopathology.*

Conclusion*: Based on the findings in our study, it is understandable that dermatological patients have a high risk of psychiatric illness and when emotional factors are not addressed adequately, the morbidity of these patients may increase. Early recognition and treatment of Psychiatric illness by involving Psychiatrist as a team member in the Dermatology clinic may lead to a better outcome.*

Keywords: *Neurodermatitis , Psychiatric morbidity , stressors, physical variables , personality profile*

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I. Introduction

As an easily noticed and touched organ, the skin has a special place in psychiatry. With its responsiveness to emotional stimuli and ability to express emotions and by providing self image and self esteem, the skin plays an important role in the socialization process [4]. Ingram states that the skin is an extension of the mind and therefore, is an essential part of character and personality assessment [5]. The relationship between skin and the brain begins in the embryonic period [4]. Stress and other psychological factors trigger the formation and exacerbations of many dermatological diseases [6]. Neurodermatitis [Lichen Simplex Chronicus-LSC]: Neurodermatitis circumscripta, a localized form of lichenification, is a chronic, superficial, pruritic inflammation of the skin occurring in a well circumscribed plaques. Pruritis is more pronounced during periods of inactivity. It typically presents as single or multiple, well demarcated hyper pigmented rough plagues on any location that the patient can reach. Neurodermatitis occurs mostly in mid-to-late adulthood, with highest prevalence in persons aged 30-50 years. It is observed more commonly in females than in males. The most common sites of involvement are the scalp, the nape of the neck (especially in women), the ankles, the extensor aspects of the extremities, and the anogenital region. The labia majora in women and the scrotum in men are the most common sites of genital involvement.

Psychiatric Morbidity in Dermatological Disorders: Woodruff [2] have reported a prevalence of 30-40% for psychiatric problem and Picardi [1] have reported 25.2% among the dermatology patients attending their clinic. In general the prevalence of psychiatric morbidity was found to be 25-43% in outpatient dermatology patients [7]. Depression (34%) was the most prevalent finding in the study of Pulimood [8]. Woodruff [2] have reported mild to moderate depression (28%), mild anxiety (25%) and severe depression (14%) and found mean age of female patients with psychiatric disorder was 46.8 years, and of male patients 41.9 yearsThe prevalence of psychiatric morbidity is higher in female patients and widows.Psychiatric

morbidity rate has been found to be high in females with hand and foot lesions [7] .Psychiatric morbidity rate in the patients with dermatological problems of longer than one year was 27.8% while it was 72.2% in those with problems of less than one year.

Psychiatric Aspects of Neurodermatitis : The severe form of Neurodermatitis accompanied by intense pruritis are met within subject who have an essentially nervous temperament [9]. Anxiety or depression exacerbates Neurodermatitis by elicting scratching behavior, and depressive symptoms appear to amplify the itch perception. Depression, hypochondriacal symptoms and chronic anxiety are significantly more frequent [10]; Anxiety neurosis and neurotic depression are common psychiatric disorders [11].

Indian Studies Mattoo [12] had studied psychiatric morbidity in Psoriasis, found 22.33% rate of ICD 10 diagnosable psychiatric disorder which was far lower rate than other studies including study done by Pulimood [8] who have found depression itself was found in 34% of patients with dermatological disease. In the study of psychological factors in psoriasis, Chaudhury [13] had found 18-20% rate of alcohol dependence in patients with psoriasis and higher psychopathology correlated with stressors. Personality profile studies show high neuroticism with involvement of scrotum and free floating anxiety higher in Neurodermatitis patients [14]. Substance dependence disorders were found to be absent in dermatological outpatients in their study done by Bharath [15] and Deshpande [16], but psychiatric morbidity have been higher in the range of 40-50% with depression and 33-50% had anxiety disorder.

Future Direction: The recognition of psychiatric disorders by a dermatologist is not adequate in itself. The drugs used in the treatment of dermatological diseases such as steroid and retinoid may lead to psychiatric symptoms. The co-operation of the Dermatologist and a Psychiatrist in order to increase the life quality of the patients suffering from dermatological disease is of utmost importance. Psychiatrist liaison with Dermatologist, improving the knowledge on the psychiatric morbidity in dermatological diseases may help in early diagnosis of psychiatric condition and prompt referral.

Relevance of this study As the findings made out during the survey of the literature, Neurodermatitis patients reports having been emotionally deprived in childhood; reports parental psychopathology; is likely to have anxious or obsessive disposition, high neuroticism, have high degree of inhibited anger, aggressive hostility and suppressed hostility; is likely to have several symptoms of anxiety and depression and higher rate of psychiatric morbidity.

II. Methodology

The aim of the studyis to assess the prevalence of the Psychiatric morbidity in patients with Neurodermatitis, to correlate them with stressors, personality profile and physical variables and to know their clinical relevance. The Research design was planned to be based on hypothesis testing design, with the use of validated structured tools and statistics. The following HYPOTHESES were framed. 1) Psychiatric morbidity is more in patients with Neurodermatitis. 2) Depression is the commonest psychiatric morbidity in patients with Neurodermatitis. 3) Significant stressful life events and life events scoring increases the risk of psychiatric illness. 4) Advancing age increases the risk of psychiatric illness in Neurodermatitis.5) Psychiatric illness is more common in women than in men with Neurodermatitis. 6) Family history of psychiatric illness increases the risk of psychiatric morbidity in Neuordermatitis. 7) High neuroticism score in personality profile increases risk of development of Neurodermatitis. 8) Total hostility and self directed hostility has been high in patients with Neurodermatitis.

III. Inclusion Criteria

Patients should fulfill the criteria for Neurodermatitis (ICD_{10} L28.0), according to International classification of Disease – 10^{th} Revision (ICD_{10}) [17] included as cases. 2) Patients should be between age group of 18-65 years. 3) Patients should be willing and cooperative and who gave consent was included for the study.

Exclusion Criteria: 1) Patients who have co morbid medical illness in the present or any medical illness in the past. 2) Patients who have other dermatological diseases including atopic dermatitis. 3) Patients who have suffered from any past psychiatric illness or substance dependence or mental retardation or dementia. 4) Patients who have received any psychiatric treatment currently.

Operational Design; The study was conducted in Government Rajaji Hospital, Madurai with approval of Ethical Committee. Patients who attended Dermatology Outpatient Clinic were chosen. Patients diagnosed as Neurodermatitis by Dermatologist based on ICD_{10}[17] were chosen and forty patients with Neurodermatitis seen consecutively were chosen for the study. Patients were interviewed before any psychiatric medication. Details of socio-demographic profile were collected followed by physical examination and mental status examination was done. Blood, urine and biochemical screening tests were done. Patients were assessed in two sessions on two consecutive days. All the patients co-operated very well. The following tools were used to evaluate the patients. 1) Proforma 2)Mini-International Neuropsychiatric Interview [18] 3)Socio-economic status scale (Gupta and Sethi, 1978; Kuppusamy, 1962) 4) Presumptive Stressful life events scale[19] 5)Hostility and Direction of

Hostility Questionnaire (T.M. Caine et al. 1967) 6)Eysenck's Personality Inventory (Eysenck & Eysenck, 1964) 7)Hospital Anxiety and Depression Scale [20]

IV. Statistical Design

Statistical Design for each of the scales and socio-demographic variables, the central values and Dispersion tendencies were calculated. In comparison of the data, for categorical variables, Chi square and for numerical variables Student 't' test were used.

V. Limitations

Major Limitation of the study is the fact that, it is a cross sectional analysis involving a small sample size and Consecutive follow up longer period could have enabled a more detailed understanding

VI. Results

On analysis of socio-demographic profile, half of the patients were above 51 years, majority were females, married and from rural and middle socioeconomic status (Table 1).

Table 1 Showing Socio Demographic Variables

S.No.	Variables		Neurodermatitis Patients (N=40) n	Percentage %
1.	Age (in years)	<30 31-50 >51	2 18 20	5 45 50
2.	Sex	Male Female	16 24	40 60
3.	Literacy	Nil Primary Secondary > 11 years	2 21 16 1	5 52.5 40 2.5
4.	Socio economic Status	Upper Middle Middle Lower Middle Very Low	1 13 23 3	2.5 32.5 57.5 7.5
5.	Marital Status	Married Unmarried	39 1	97.5 2.5
6.	Domicile	Urban Rural	18 22	45 55

40% of patients had moderate stressful life events scoring and one fourth had high scoring on stressors; 29 patients (72.5%) had absence of Family history of Psychiatric illness and two thirds of patients had Neuroticism on personality profile. Majority had single lesion and 70% of patients had lesion in the lower limb (Table 2).

Table 2: Showing Stressful Life Events And Scoring, Family History Of Psychiatry Illness And Personality Profile

S.no.	Variables		Neurodermatitis Patients (N=40) n	Percentage %
1.	PSLE Scoring	<200 201-500 >251	14 16 10	35 40 25
2.	PSLE Events	<4 >5	23 17	57.5 42.5
3.	Family H/O Psychiatric Illness	Absent Present	29 11	72.5 27.5

4.	Personality Profile	Introversion Ambivert Extraversion	0 40 0	0 100 0
		Stable Tendency to be Neurotic Neuroticism	0 13 27	0 32.5 67.5
5.	Number of Lesion	Single Multiple	22 18	55 45
6.	Distribution of Lesion	Face & Neck Upper Limb Lower Limb	2 10 28	5 25 70

23 patients (57.5%) had scored significant anxiety and depressive symptoms in HADS each and 70% of patients scored high in total score on HADS (Table 3).

Table 3 Showing Anxiety And Depressive Symptoms In Neurodermatitis

S.No.	Variables		Neurodermatitis Patients (N=40) n	Percentage %
1.	HADS -Anxiety Symptoms	<10 >11	17 23	42.5 57.5
2.	HADS – Depressive Symptoms	<10 >11	17 23	42.5 57.5
3.	HADS – Total Score	<21 >22	12 28	30 70

The study revealed Psychiatric morbidity in patients with Neurodermatitis was 80% as shown in the Table 4.

Table 4 Showing Psychiatric Morbidity In Patients With Neurodermatitis

Variable		Neurodermatitis Patients (N=40)	
		n	%
Psychiatric Morbidity	Present Absent	32 8	80% 20%

Among the Neurodermatitis patients, 11(27.5%) had GAD, 4 (10%) had Dysthymic Disorder, 8(20%) had MDD, 3(7.5%) each had panic disorder, substance dependence and adjustment disorder (Table 5).

Table 5 Showing Type Of Psychiatric Illness

Sl.No.	Type of Psychiatric Illness	Neurodermatitis Patients (N=40)	
		n	%
1.	Nil	8	20%
2.	Generalised Anxiety Disorder	11	27.5%
3.	Dysthymic Disorder	4	10%
4.	Major Depressive Disorder	8	20%
5.	Panic Disorder	3	7.5%
6.	Substance Dependance	3	7.5%
7.	Adjustment Disorder	3	7.5%

On analysis of age and psychiatric morbidity, there is significant relationship was made out in which advancing age increases the chance of Psychiatric illness. But such an association could not be found with marital status, family history of Psychiatric illness and number of lesion. On comparison of distribution of lesion there is higher prevalence of Psychiatric illness in patients with lower limb distribution pattern and difference was statistically significant. Majority of the patients 22 (68.8%), had neuroticism profile in those with Psychiatric illness and the difference was not statistically significant (Table 6).

Table 6 Showing Comparisons Of Sociodemographic And Illness Variables In Patients With And Without Psychiatric Illness

S.No.	Variables		Neurodermatitis with Psychiatric Morbidity (N=32)	Neurodermatitis without Psychiatric morbidity (N=8)	Statistical analysis	
					df	Chi-square
1.	Age	<30 31-50 >51	1 12 19	1 6 1	2	x^2= 5.94*
2.	Sex	Male Female	12 20	4 4	1	x^2 = 0.42
3.	Marital Status	Married Unmarried	31 1	8 0	1	x^2 = 0.26
4.	Distribution of lesion	Face &neck Upper limb Lower limb	1 6 25	1 4 3	2	x^2= 18.71**
5.	Number of lesion	Single Multiple	17 15	5 3	1	x^2 = 0.23
5.	Family history	Absent Present	23 9	6 2	1	x^2 = 0.03
6.	personality	Tendency to be neurotic Neuroticism	10 22	3 5	1	x^2 = 0.11

* P <0.05., ** P <0.01

Table 7 Showing Comparisons Of Age, Stressor, Hostility, Duration And Psychological Symptoms In Patients With And Without Psychiatric Illness

Sl.No.	Variable	Neurodermatitis with Psychiatric Morbidity (N=32)		Neurodermatitis without Psychiatric morbidity (N=8)		't' df=38 *p<0.05 **p<0.01
		Mean	S.D.	Mean	S.D.	
1.	Age	51.44	8.96	44.00	7.80	-2.15*
2.	Duration of illness	36.00	26.75	22.25	10.98	-1.41
3.	HDHQ-Total Hostility	30.94	3.23	30.38	2.26	-0.46
4.	HDHQ-Direction of Hostility	19.78	11.18	19.25	4.83	-0.13
5.	PSLE-Scoring	225.16	48.12	225.13	46.62	-0.00
6.	PSLE – Events	4.47	1.16	4.63	0.92	0.35
7.	HADS – Anxiety Symptoms	12.59	3.26	8.25	1.91	-3.59**
8.	HADS – Depressive Symptoms	11.88	3.42	9.13	1.25	-2.22**
9.	HADS –Total Symptoms	24.47	3.94	17.38	2.39	-4.85**

Apart from advancing age, anxiety score , Depressive Score and Total Score has been high in patients with psychiatric morbidity and the difference show statistical significance (Table 7).

VII. Discussion:

Prevalence of psychiatric illness in Neurodermatitis patients in this study was 80% which has been found to be more than twice the rate compared to previous studies. The prevalence rate found in this study was higher than the rate of 30-40% by Woodruff [2]; 25.2% by Picardi [1]; 33.4% by Aktan [21] and 22.33% by Mattoo [12].

In this study, the findings suggest among patients with Neurodermatitis, Dysthymic disorder and major depressive disorder together account for 30% as the most common type of illness followed by 27.5% had generalized anxiety disorder and 7.5% each presented with panic disorder, substance dependence and adjustment disorder. This trend reflects in various studies done by previous workers. According to Ginsberg [10] and Koblenzer [11], Depression and Chronic anxiety were common in Neurodermatitis patients. Substance dependence were found to be absent in their study by Bharath [15] and Deshpande [16]. But our study showed 7.5% had substance dependence and this finding is lower compared to 20% reported substance dependence by Chaudhury [13].

Dermatological patients are at risk for anxiety and depression compared to General population and there is a need for considering emotional factors for effective management. Results of this study indicate 57.5% of patients had significant high anxiety score and the same rate had high depressive score. The results of this study indicate Neurodermatitis patients have higher psychological symptoms and more psychopathology, the findings which was also reflected in previous studies. Regarding personality profile, Neurodermatitis patients scored high in Neuroticism dimension and scored higher in ambiversion. These findings are similar to Ayyar [22] and Srivatsava [14]who found Neurodermatitis patients had higher neuroticism and lower extraversion.

Regarding analysis of stressors, Neurodermatitis patients had significant number of life events and scoring; on comparison of patients, who presented with and without psychiatric illness, they showed similar stressors and the difference was statistically not significant. With regard to family history of psychiatry illness, patients had equal distribution in both groups and the difference was statistically not significant.

In our study, it has been found multiplicity of lesions in Neurodermatitis increases risk of psychopathology (83.3%) but the difference was not significant. Regarding distribution of lesions, patients with Neurodermatitis who presented with lesions in Lower limb had significantly higher prevalence of psychiatric illness than other sites (89.3%). The study findings are comparable with Picardi [7] who reported higher rate particularly in female with hand and foot lesions.

Comparison of duration of illness in Neurodermatitis patients, those who had psychiatric illness had longer duration of illness compared to those without psychiatric illness. But the difference was statistically not significant. The trend indicates longer the duration of illness increases risk of psychopathology. Similar findings had been observed by Seyhan [23]; and Yesim Kaymak [24].

Comparison of total hostility and direction of hostility towards self, Neurodermatitis patients irrespective of psychiatric illness had similar higher scores. These findings reflect earlier descriptions that Neurodermatitis patients had more suppressed and self directed hostility by Doyle [25]. In our study, both total hostility and intra-punitive hostility did not have significant relationship with precipitation of Psychiatric illness.

Regarding socio-demographic variables and its correlation with psychiatric morbidity, the results obtained in the study albeit its limitations due to small sample size, demonstrate some important observations. Among Neurodermatitis patients, 67% of patients between 31-50 years and 95% patients above 51 years had psychiatric illness, the difference was significant compared to younger age. These findings suggest as age advances risk of psychopathology increases in Neurodermatitis. In our study, the prevalence of psychiatric morbidity is higher in females than males in Neurodermatitis patients (62.5%) but statistical difference could not be observed. A large section of sample population belonged to the lower middle socioeconomic status and in this study the majority of patients with psychiatric illness belonged to this category. One is tempted to make erroneous assumption that psychiatric illness is common in that class. Considering the Government Hospital caters to a large population belong to this category, the results cannot be generalized.

VIII. Conclusion

The study findings reveal with respect to the hypothesis that **Psychiatric morbidity is more in patients with Neurodermatitis. Major depressive disorder and Dysthmic disorder together present as commonest psychiatric morbidity in Neurodermatitis patients** followed by Anxiety disorder. Psychiatric illness does not have specific association with stressful life events or scoring and Family history of Psychiatric illness. **Advancing age significantly increases the risk of psychiatric illness among Neurodermatitis patients**. Psychiatric illness is more common in women than in men with Neurodermatitis. Higher neuroticism score in personality profile found in Neurodermatitis. Total hostility and self directed hostility have been high in

patients in the Neurodermatitis. Further studies to characterize pattern of psychiatric morbidity and their impact on daily living and longitudinal studies to observe improvement with pharmacotherapy and psychotherapy are necessary.

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