



Original Research Article

A Comparative Study of Anxiety, Depression and Neuroticism in Patients with Contact Dermatitis

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ABSTRACT

Introduction: The relationship between skin and the brain exists due to more than a fact, that the brain, as the center of psychological functions, and the skin, has the same ectodermal origin and are affected by same hormones and neurotransmitters.

Aims:

- A) To find out the correlation of socio-demographic factors in contact dermatitis patients if any,
- B) To find out the prevalence of depression, anxiety and neuroticism in contact dermatitis patients as compared to normal controls.

Materials and Methods: 100 consecutive patients each with diagnosis of contact dermatitis (CD) were interviewed with the help of specially designed Performa (for socio-demographic data), Hamilton Anxiety Rating Scale (HAM-A), Beck Depression Inventory (BDI) and Psychoticism, Extroversion and Neuroticism (PEN) to assess the severity of Anxiety, depression and neuroticism scores. A normal control group of 100 subjects matched on age, sex, education was also assessed on the same parameters. Prior to interview, consent was taken from all the subjects.

Results: The prevalence of depression and anxiety among contact dermatitis patients were found to be 30% and 50% respectively. Neuroticism scores were found to be high in contact dermatitis patients at 22%.

Conclusion: High prevalence of anxiety, depression and neuroticism in contact dermatitis has profound effect on patient's quality of life, management and prognosis.

Key Word: Contact Dermatitis, Anxiety, Depression, Neuroticism.

INTRODUCTION

Skin has a special place in psychiatry with its responsiveness to emotional stimuli to express emotions such as anger, fear, shame and frustration, and by providing self esteem. The skin plays an important role in the socialization process which continues from childhood to adulthood. [1] The

relationship between skin and the brain exists due to more than a fact, that the brain, as the center of psychological functions, and the skin, has the same ectodermal origin and are affected by same hormones and neurotransmitters. [2] Psychopathological disorders are highly prevalent among dermatology patients. [3,4] A considerable

amount of research has focused on the body's general adaptation to acute and chronic stress, especially the effect of stress on the hypothalamic–pituitary–adrenal (HPA) axis, inflammation, and immunity, as well as various psychological and social parameters. ^(5,6) When one is about to be faced with some type of danger, the body turns on everything it needs to protect itself. One of the things it turns on is cortisol - a stress hormone that plays a variety of functions in one's body. Cortisol helps trigger many of the necessary responses; the body uses to combat dangers. But one of the effects it has is to suppress the immune system, and that leads to inflammation - especially on the skin. On clinical observation, psychological problems seem to contribute to 'habitual scratching', which is difficult to manage. ⁽⁶⁾

Dermatological diseases have an effect on the daily life, self-confidence and self-respect. In fact, they may lead to questions on self-image; thus, creating a problem of identity. ^[7,8] Dermatologists have observed their patients to be relatively more concerned and worried about the diseases that are related to their physical appearance, ^[9] as a result of which dermatology patients may be afflicted with disorders such as anxiety, depression and other psychosocial problems. ^[3]

Psychiatry is more focused on the 'internal' non-visible disease, and dermatology is focused on the 'external' visible disease. In the last decade, there has been growing evidence indicating that psychological factors such as personality and stress may play an important role in the pathogenesis of skin diseases.

In the present study, it has been planned to assess depression, anxiety and neuroticism in outdoor patients in Skin and V.D. department at Mahatma Gandhi Medical College and Hospital, Jaipur.

Aims and objectives:

- i. To find out the correlation of socio-demographic factors in contact dermatitis patients if any,
- ii. To find out the prevalence of depression in contact dermatitis patients as compared to normal controls,
- iii. To find out the prevalence of anxiety in contact dermatitis patients as compared to normal controls.
- iv. To find out the neuroticism in contact dermatitis patients as compared to normal controls.

MATERIALS AND METHODS

The present study is conducted at Mahatma Gandhi Medical College and Hospital, Jaipur.

Sample

Total number of subjects-200

Group 1:- 100 outdoor patients with the diagnosis of Contact Dermatitis (CD) in Skin and V.D. department.

Group 2:- :- 100 normal controls not suffering from any Psychiatric or Medical illness.

Tools:

- Specially designed Performa
- Hamilton Anxiety Rating Scale (HAM-A)
- Beck Depression Inventory (BDI)
- Psychoticism, Extroversion and Neuroticism (PEN)

Methodology

Approval from Institutional Human Ethical Committee (IHEC) was obtained before conducting the study. Written consent was taken from all 200 subjects. This is a comparative study involving 100 contact dermatitis patients selected from skin and V.D. department of M.G.M.C.H Jaipur and a normal control group of 100 subjects matched on age, sex, education was also assessed on the same parameters.

100 patients with the diagnosis of contact dermatitis (CD) were interviewed with the help of specially designed Performa (for socio-demographic data), Hamilton Anxiety Rating Scale, Beck Depression Inventory and PEN to assess the severity of Anxiety, depression and neuroticism scores. Similarly 100 normal controls also have been assessed by same scales.

RESULTS

Table 1: Socio-demographic variables of the total sample

Gender	CD patients n=100	Normal controls n=100	Total=200
Male	56(56%)	52(52%)	108(54%)
Female	44(44%)	48(48%)	92(46%)
Age			
20-30y	22(22%)	16 (16%)	38(19%)
31-40y	34(34%)	42(42%)	76(38%)
41-50y	34(34%)	30(30%)	64(32%)
51-60y	10(10%)	12(12%)	22(11%)
Marital status			
Married	96(96%)	90(90%)	186(93%)
Unmarried	4(4%)	10(10%)	14(7%)
Separated/ widow	0	0	0
Education			
Illiterate	18(18%)	20(20%)	38(19%)
Primary	8(8%)	8(8%)	16(8%)
Middle	4(4%)	8(8%)	12(6%)
Secondary and higher secondary	16(16%)	20(20%)	36(18%)
Graduate/ postgraduate	54(54%)	44(44%)	98(49%)
Income			
1000-5000	26(26%)	24(24%)	50(25%)
5001-10000	20(20%)	28(28%)	48(24%)
10001-20000	24(24%)	20(20%)	44(22%)
>20000	30(30%)	16(16%)	46(29%)
Occupation			
Unemployed(house wife)	22(22%)	24(24%)	46 (23%)
Semiskilled	14(14%)	10(10%)	24 (12%)
Farmer	16(16%)	20(20%)	36 (16%)
Businessman	16(16%)	20(20%)	36 (16%)
Professionals	18(18%)	14(14%)	32 (16%)
Students	14(14%)	12(12%)	26(13%)

Data shows, both male and females are equally affected by dermatological diseases 68% Of the all subjects belongs to middle age group [31-50yrs]. Most of the subjects were married (96%). Only 18% patients were illiterate, 28% were educated from primary to secondary level and about 54% were highly educated. Data showed, 46% of

all the Contact Dermatitis group had monthly income less than 10000 and rest (54%) had more than 10000. Data revealed, 22% of housewives, 14 % labourers and about 16% of farmers, businessmen, professionals, students have contact dermatitis.

Table no. 2:- Assessment of depression in CD patients and Normal control with BDI

SEVERITY	Contact Dermatitis Patients (N=100)	Normal Control (N=100)
Minimal depression	70 (70%)	90(90%)
Mild depression	14(14%)	6 (6%)
Moderate depression	10(10%)	4(4%)
Severe depression	6(6%)	0

$X^2 = 14.3$, $df=3$, $p < 0.05$, highly significant

These findings revealed that, mild to severe depression was present in 30% of CD pt, only 10% of the normal controls had mild to moderate depression. The difference between the groups found to be statistically highly significant.

Table no.3:- Assessment of anxiety in CD patients and Normal control with HAM-A

Severity	CD patients (n=100)	Normal control (n=100)
Minimal-mild anxiety	50(50%)	76(76%)
Mild-moderate anxiety	36(36%)	20(20%)
Modrate- severe anxiety	14(14%)	4(4%)

$X^2 = 15.5$, $df=2$, $p < 0.05$, highly significant

HAM-A results revealed that Anxiety scores were high 50% in CD group and 24% in normal controls. Statistically the difference found to be highly significant.

Table no.4:- Assessment of neuroticism in CD patients and Normal control with EPQ

Neuroticism scores	CD patients (n=100)	Normal control (n=100)
0-10	78(78%)	94(94%)
MORE THAN 10	22(22%)	6(6%)

$X^2 = 10.6$, $df=1$, $p < 0.05$, highly significant

Neuroticism scores were found to be high in CD patients 22%, where as only 6% of the control group showed high neuroticism scores, which is statistically highly significant.

DISCUSSION

Psychodermatology describes an interaction between dermatology, psychiatry and psychology. In the present study prevalence of depression and anxiety was found to be 30% and 50% respectively in contact dermatitis patients (table 2 and 3). The incidence of psychiatric disorders among dermatological patients has been estimated to be 30% to 60%⁽¹⁰⁾ and 33.45%.⁽¹¹⁾ Similarly, the study done on 196 dermatological outpatients and 40 inpatients, showed the rate of co-morbid psychiatric disorders of 30% and 60% respectively.⁽¹²⁾

In the present study depression was found to be three times common and anxiety two times common in CD patients as compared to normal control, similarly an epidemiological survey of psychiatric disorders in Iran concluded that the prevalence of psychiatric disorder is about four to five times higher in dermatologic patients as compared to general population.⁽¹³⁾

In the present study, results revealed that only 6% of the patients with CD were suffering from severe depression, while 10% had moderate depression and 14% had mild depression. The results also revealed that mild to moderate anxiety was found to be in 36% and moderate to severe anxiety in 14% of the patients with CD. Another study done on patients referred to a dermatology-psychiatry clinic reported mild to moderate depression 28%, mild anxiety 25% and severe depression 14%,⁽¹⁴⁾ while the prevalence of depression was found in 32.0%, adjustment disorder 15.5% and anxiety 13.4% in dermatological patients.⁽¹⁵⁾

Data from the table 4 revealed that neuroticism scores were high in CD patients 22% as compared to control group.

CONCLUSION

Patients with skin diseases, especially those with contact dermatitis have a higher prevalence of psychiatric disorders than the general population. High prevalence of anxiety, depression and neuroticism in contact dermatitis has profound effect on patient's quality of life, management and prognosis. Early diagnosis and treatment of psychiatric co-morbidities in chronic dermatitis will improve patient's physical and psychosocial functioning.

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