

Psychiatric Evaluation of Patients with Psoriasis Vulgaris and Chronic Urticaria

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Abstract

Objective: The aim of this study was to evaluate the psychiatric illness in psoriasis vulgaris and chronic urticaria patients. **Method:** Fifty consecutive clinically diagnosed psoriasis patients and fifty consecutive clinically diagnosed chronic urticaria patients were examined dermatologically and administered Mini International Psychiatric Interview (MINI). **Results:** Psychiatric co-morbidity was present in 34% of patients in both psoriasis vulgaris and chronic urticaria groups. In psoriasis vulgaris group, the most common psychiatric co-morbidity was depression (28%) followed by suicidality (6%), alcohol abuse and dependence (6%), psychotic disorder and mood disorder with psychotic features (4%) and generalized anxiety disorder (4%) and in chronic urticaria group, most common psychiatric co-morbidity was depression (30%) followed by suicidality (12%), panic disorder (4%), obsessive compulsive disorder (2%), alcohol abuse and dependence (2%) and psychotic disorder and mood disorder with psychotic features (2%). **Conclusion:** A significant number of patients of both psoriasis and chronic urticaria had psychiatric co-morbidity. In addition, these two diseases contributed to a significant amount of mortality due to suicidal ideation. These findings suggest that awareness of the potential for such problems, involvement of trained nursing staff and the availability of accessible psychiatric services should increase identification of those at risk and reduce morbidity and mortality (German J Psychiatry 2007; 10: 104-110).

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Introduction

Psoriasis is relatively common, chronic, inflammatory and hyperproliferative skin disease that affects 1.4 % to 2.0 % of the population and comprises 2.6% of skin related visits to primary care physicians, or between 0.3% and 1.6% of all visits to family physicians (Julian, 1999). Urticaria is a common condition that affects 15% to 24% of the population at some time in their life (Cooper and Arbor, 1991) and one quarter of these patients experience an episode of chronic urticaria (Greaves, 1995). Psoriasis is equally common in males and females whereas chronic urticaria is approximately twice as common in women as in men (Hernandez, 1999).

Presence of itching, chronic recurrent course of disease and incomplete cure may contribute to great deal of psychiatric co-morbidity in these patients. Psychiatric and psychosocial factors play an important role in at least 30% of the derma-

tologic patients and prevalence of psychiatric co-morbidity varies from 40-70% (Hughes et al., 1983; Wessely and Lewis, 1989; Johnson and Mostaghimi, 1995). Consideration of these factors is essential for the effective management of skin disorder because psychiatric co-morbidity is often one of the most important indices of the overall disability associated with the skin condition.

We investigated the prevalence of psychiatric co-morbidity in both psoriasis vulgaris and chronic urticaria by using easily administered tool (Mini International Psychiatric Interview (Sheehan et al., 1998)). We also evaluated the relationship between severity of psoriasis vulgaris as measured by Psoriasis Area Severity Index (PASI) and presence of psychiatric co-morbidity and relationship between duration of disease and psychiatric co-morbidity.

Table 1. Demographic Features. Mann-Whitney U test

Demographic Features	Psoriasis Vulgaris		Chronic Urticaria		U (p)
	%	N	%	N	
Gender					721(<0.05)
Male	86	43	44	22	
Female	14	7	56	28	
Place currently living					1175 (N.S.)
Urban	36	18	30	15	
Rural	64	32	70	35	
Marital Status					986 (<0.05)
Unmarried	14	7	26	13	
Married	86	43	66	33	
Widow/ Widower	0	0	8	4	
Occupation					857 (<0.05)
Professional / Semiprofessional	10	5	4	2	
Clerk, Shopkeeper, Farmer, Skilled Worker	60	30	38	19	
Semi/ Unskilled Worker	8	4	16	8	
Retired	0	0	0	0	
Unemployed	8	4	6	3	
Student	4	2	10	5	
Housewife	10	5	26	13	
Education Levels					701 (<0.05)
Illiterate	26	13	30	15	
Primary	8	4	12	6	
High School	56	28	48	24	
College Level	10	5	10	5	

scores of 0-3 indicate light psoriasis, > 3-15 indicates moderate degrees of psoriasis and >15-72 indicate severe levels of psoriasis (Fliescher et al., 1996).

Mini International Neuro-Psychiatric Interview (MINI)

All the patients were administered MINI after obtaining informed consent. It was designed by Sheehan et al, 1998. The M.I.N.I is designed as a brief structured interview for the major Axis 1 psychiatric disorders in DSM-IV and ICD-10 for multicenter clinical trials and epidemiology studies as well as first step in outcome tracking in non-research clinical settings. MINI is a relatively brief instrument that is divided into modules corresponding to diagnostic categories such as major depressive episode, dysthymia, mania/hypomania, panic disorders, social phobia, post traumatic stress disorder, alcohol and other psychoactive substance disorders, psychotic disorders, anorexia nervosa, and generalized anxiety disorder. Validation and reliability studies have been done comparing the M.I.N.I to SCID-p for DSM-III-R and CIDI (a structured interview developed by the World Health Organisation for lay interviewers for ICD-10). The results of these studies show that the M.I.N.I. has acceptably high validation and reliability scores and can be administered in a much shorter time (mean 18.7±11.6 minutes, median 15 minutes) than the above referenced instruments. It can be used by clinicians, after a brief training session.

Material and Methods

Subjects

This study comprised 50 consecutive patients of psoriasis and chronic urticaria aged between 14-65 years suffering from disease for at least 6 months attending the out-patient department of Dermatology, Venereology and Leprosy at G.G.S Medical College, Faridkot, Punjab, India. All the patients were subjected to detailed examination including the elicitation of dermatological and psychiatric complaints.

Methodology

All the patients were asked to provide socio-demographic data, medical history, and family histories. Other questions included the duration of disease, age of onset of the disease, any treatment taken and use of psychotropic drugs. Permission was obtained from all the subjects for dermatological examination. Hairs, mucosal involvement and nail changes were recorded. PASI scores were recorded in psoriasis patients. PASI score ranges from 0 to a maximum of 72. PASI

Statistical analysis

For the categorical data, Mann Whitney Test was done to determine the difference among the two groups. Spearman's rho-A bivariate correlations procedure was used to measure how variables or rank orders were related.

Results

Psoriasis vulgaris and chronic urticaria groups were compared for socio-demographic features (Table 1). There were 50 subjects in psoriasis vulgaris group and 50 subjects in chronic urticaria group.

Both the groups were compared for average age. The average age of subjects in the psoriasis group was 37.98 ±12.840 years and 36.30 ±13.248 years in subjects of chronic urticaria group.

Age of onset and duration of disease were also compared between the two groups. Average age of onset in psoriasis vulgaris group was 31.11±12.724 years and average age of onset in chronic urticaria group was 33.01±13.756 years. Average duration of disease in psoriasis vulgaris subjects was

Table 2 Distribution of Psoriasis Vulgaris Probands According to PASI (Psoriasis Area Severity Index) Scores (n=50)

PASI Scores	N	%
0-3 (Mild)	14	28
>3-15 (Moderate)	29	58
>15-72 (Severe)	7	14
Total	50	100

6.674±5.714 years and average duration of disease in chronic urticaria subjects was 3.256±3.834 years.

Table 2 summarizes the distribution of psoriasis vulgaris subjects according to PASI scores. Mean PASI score seen in psoriasis patients was 9.91±10.80. 28% of the patients had mild psoriasis (PASI scores 0-3), 58% of the patients had moderate psoriasis (PASI scores >3-15) and 14 % of the patients had severe psoriasis (PASI scores >15-72).

Fig 1 shows prevalence of psychiatric co-morbidity as measured by MINI in the two groups. Psychiatric co-morbidity was present in 34% of patients in both psoriasis vulgaris and chronic urticaria groups. Mann Whitney Test showed no statistical difference between the two groups (Mann-Whitney U= 1225.00, Z= -.209, P>.05, not significant).

Psychiatric diagnoses were also determined using MINI in two groups (Fig 2). It was seen that most common psychiatric co-morbidity in psoriasis vulgaris group was depression (28%) followed by suicidality (6%), alcohol abuse and dependence (6%), psychotic disorder and mood disorder with psychotic features (4%) and generalized anxiety disorder (4%). In chronic urticaria group, most common psychiatric co-morbidity was depression (30%) followed by suicidality (12%), panic disorder (4%), obsessive compulsive disorder (2%), alcohol abuse and dependence (2%) and psychotic disorder and mood disorder with psychotic features (2%).

Depression was further assessed (Table 3) and it was seen that in psoriasis vulgaris group, major depression was present in 22% of the patients and major depression with melancholic features in 6% of the patients. In chronic urticaria group, major depression was present in 24% of the patients and major depression with melancholic features in 6% of the patients. Mann Whitney Test showed that depression in psoriasis vulgaris group was not found to be statistically different from chronic urticaria (Mann-Whitney U= 1225.000, Z= -.219, p>.05; not significant).

Correlation was done between PASI scores and psychiatric co-morbidity using Spearman's rank order correlation. Correlation between PASI scores and psychiatric co-morbidity revealed rho= .156, p>.01. It was concluded that there was no correlation between PASI scores and psychiatric co-morbidity.

Correlation was also done between PASI scores and individual items of MINI using Spearman's rank order correlation.

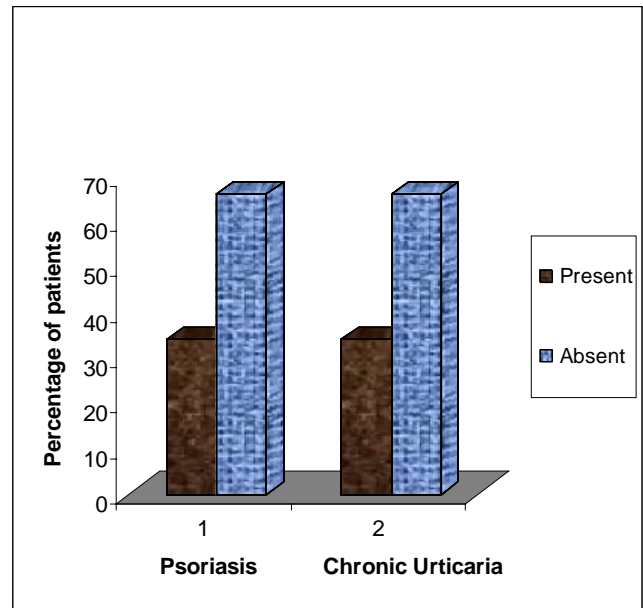


Figure 1. Prevalence of Psychiatric Comorbidity in Psoriasis and Chronic Groups

Correlation between PASI scores and depression revealed rho= .069, p>.01. It was concluded that there was no correlation between PASI scores and presence of depression. Correlation between PASI scores and suicidality revealed rho= -.239, p>.01. It was concluded that there was no correlation between PASI scores and presence of suicidality. Correlation between PASI scores and alcohol abuse and dependence revealed rho= .067, p>.01. It was concluded that there was no correlation between PASI scores and presence of alcohol abuse and dependence. Correlation between PASI scores and generalised anxiety disorder revealed rho= .052, p>.01. It was concluded that there was no correlation between PASI scores and presence of generalised anxiety disorder. Correlation between PASI scores and social phobia revealed rho= .054, p>.01. It was concluded that there was no correlation between PASI scores and presence of social phobia. Correlation between PASI scores and dysthymia revealed rho= .074, p>.01. It was concluded that there was no correlation between PASI scores and presence of dysthymia. Correlation between PASI scores and psychotic disorder and mood disorder with psychotic features revealed rho= -.237, p>.01. It was concluded that there was no correlation between PASI scores and presence of psychotic disorder and mood disorder with psychotic features.

Duration of disease in two groups was also correlated with psychiatric co-morbidity. Spearman's rank order correlation of duration with psychiatric co-morbidity in psoriasis vulgaris patients revealed rho= -.019, p>.01 and in chronic urticaria patients revealed rho= .214, p>.01. It was concluded that there was no correlation between duration and psychiatric co-morbidity in psoriasis Vulgaris patients and chronic urticaria patients.

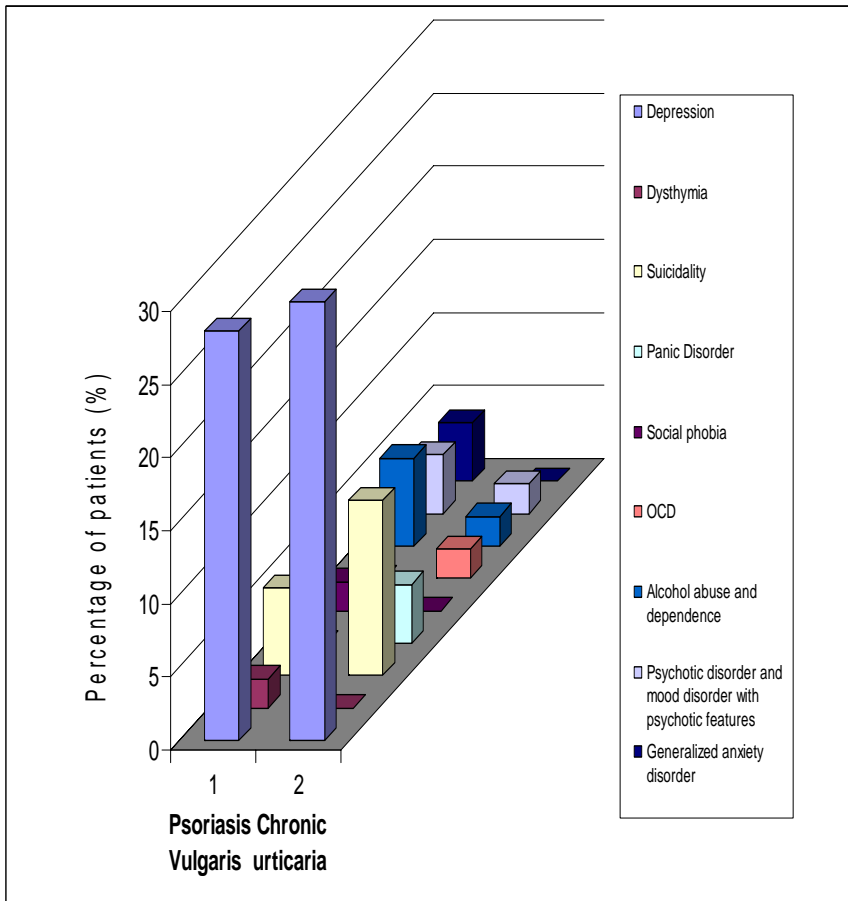


Figure 2. Type of Psychiatric Comorbidity in Psoriasis and Chronic Urticaria Groups

Discussion

Psoriasis is a chronic relapsing disease of the skin with 1-2% prevalence in the general population. Both the genetic and environmental factors are believed to play an important part in the pathogenesis of this disorder (Christophers and Sterry, 1993). Urticaria is a common condition that affects 15% to 24% of the population at some time in their life (Cooper and Arbor, 1991) and one quarter of these patients experience an episode of chronic urticaria (Greaves, 1995). Allergies to a wide variety of agents have been reported, as well as hyper-reactivity to food additives or drugs (Juhlin, 1981; Mathews

Table 3. Depression in Psoriasis and Chronic Urticaria groups (MD, major depression)

Depression	Psoriasis Vulgaris (n=50)		Chronic Urticaria (n=50)	
	N	%	N	%
MD	11	22	12	24
MD with melancholic features	3	6	3	6
No MD	36	72	35	70
Total	50	100	50	100

1983; Malanin and Kalimo, 1989; Kaeser et al.,1994), hidden or overt infections (Cooper and Arbor, 1991; Kolibasova et al., 1994; Tebbe et al., 1996, Rebora et al., 1995; Edward and Nolph, 1991), abdominal disorders (Juhlin, 1981; Kolibasova et al., 1994; Tebbe et al., 1996, Rebora et al., 1995; Edward and Nolph, 1991; Von Gloor et al.,1972) , and in some cases, mental strain has also been regarded as possible etiologic factors in urticaria.

The subjects in two groups (psoriasis vulgaris and chronic urticaria) in this study had similar ages. Psoriasis is reported to have equal prevalence in both genders (Camp, 1999; Christophers and Mnowietz, 1999) whereas in our study male/female ratio was 6.1:1 which corresponded with the study by Akay et al, 2002 in which male/female ratio was 3:2. Chronic urticaria is approximately twice as common in women as in men (Hernandez, 1999) which is consistent with our study in which female/male ratio was 1.27:1.

The average age of subjects in the psoriasis group was 38.0 ±12.8 years and 36.3 ±13.2 years in subjects of chronic urticaria group. The average age corresponded with the studies done by other authors (Akay et al., 2002; Al'Abadie et al., 1994) in which Psoriasis occurred in third decade of life. In study by Sperber et

al., 1989 average age in chronic urticaria patients was 35.3 years which is consistent with our finding.

Our study indicates that average duration of disease in psoriasis vulgaris subjects was 6.7±5.7 years and average duration of disease in chronic urticaria subjects was 3.3±3.8 years. Average duration of disease in psoriasis vulgaris subjects did not correspond with the study by Gupta et al., 1988 in which average duration was 2.7 years and study by Fortune et al., 1997 in which average duration was 18.7 years. Average duration in chronic urticaria patients corresponded with the study by other authors (Sperber et al., 1989).

Average age of onset in psoriasis vulgaris group was 31.1±12.7 years and average age of onset in chronic urticaria group was 33.0±13.8 years. Average age of onset in psoriasis vulgaris group in our study coincides with the study by Gupta et al., 1988 and Sampogna et al., 2004. Average age of onset in chronic urticaria group corresponds with the study by Green et al., 1965 in which average of onset was 35 years.

Distribution of psoriasis vulgaris subjects according to PASI Scores was studied. Our study revealed that 28% of the patients had mild psoriasis (PASI scores 0-3), 58% of the patients had moderate psoriasis (PASI scores >3-15) and 14 % of the patients had severe psoriasis (PASI scores >15-72). Mean PASI score seen in psoriasis patients was 9.9±10.8 which is consistent with the study by Fortune et al.,2002 and Sampogna et al., 2004.

Many studies support the view that dermatological conditions carry a high degree of psychiatric morbidity. Prevalence of psychiatric co-morbidity varies from 10-90 % in all these studies. A study of 149 patients referred to liaison psychiatrist from a dermatology clinic reported that 95% warranted psychiatric diagnosis (Woodruff et al., 1997). The most common diagnosed conditions were depressive disorders (44%) and anxiety disorders (55%). Other less common general psychiatric illnesses encountered included social phobia, alcohol dependence, obsessive compulsive disorder, post traumatic stress disorder, anorexia nervosa and schizophrenia. A similar study conducted by Pulimood et al., 1996 in dermatological in-patients showed that 9% were having psychiatric illness.

In our study, psychiatric co-morbidity was present in 34% of patients in both psoriasis vulgaris and chronic urticaria groups. There was no statistical difference between the two groups. Psychiatric co-morbidity in two groups is comparable to that of prevalence of 40% in cancer patients (Alexander et al., 1993), 50% in SLE patients (Purandare et al., 1999) and 20 % in general medical in-patients (Chakrit et al., 1995). Our findings are consistent with the results of previous studies of prevalence of psychiatric co-morbidity in all the two diseases. These studies, carried out in various geographical areas, have found even higher prevalence rates. Mattoo et al., 2005 identified psychiatric co-morbidity in 24.27% of the patients of psoriasis Vulgaris and Bharath et al., 1997 identified psychiatric co-morbidity in 47.6% of the patients of psoriasis Vulgaris. Pulimood et al., 1996 found that 75 % of patients with chronic urticaria were having psychiatric co-morbidity and 11% of psoriasis patients were found to have psychiatric co-morbidity.

Type of psychiatric co-morbidity was also studied using MINI (Fig 2) and it was found that most common psychiatric co-morbidity in psoriasis vulgaris group was depression (28%) followed by suicidality (6%), alcohol abuse and dependence (6%), psychotic disorder and mood disorder with psychotic features (4%), generalized anxiety disorder (4%), social phobia (2%) and dysthymia (2%). In chronic urticaria group, most common psychiatric co-morbidity was depression (30%) followed by suicidality (12%), panic disorder (4%), obsessive compulsive disorder (2%), alcohol abuse and dependence (2%) and psychotic disorder and mood disorder with psychotic features (2%).

Prevalence of depression in psoriasis vulgaris patients and chronic urticaria patients as detected by our study is higher than the general population (3-5%) (Myers et al., 1984) and 5-13% in patients seen by primary care physicians (Schulberg et al., 1985; Coyne et al., 1994; Von Korff et al., 1987; Barrett et al., 1988; Coulehan et al., 1990).

Our findings are consistent with the results of previous studies of prevalence of depression in psoriasis and chronic urticaria patients which show even higher prevalence of depression. Study by Akay et al., 2002 revealed that 58 % of psoriasis patients were found to have depression. Bharath et al., 1997 found prevalence of depression in 47.6% of subjects with psoriasis and Sharma et al., 2001 found prevalence of depression in 23.3 % and 10% in psoriasis and vitiligo respectively and anxiety was observed in 3.3% of each group.

Preston, 1969 in a study of patients with variety of skin diseases reported 'obvious' or 'masked' depression in 94% of 17 patients with chronic urticaria. Sperber et al., 1989 performed psychological assessment of 19 patients with chronic urticaria and found that the urticaria patients had significantly higher scores on the scales of somatisation, obsessive-compulsive, interpersonal sensitivity, depression and anxiety and in study by Sheehan-Dare et al., 1990, 14.7 % of the patients were found to have depression.

Depression was studied further in all the three groups and it was seen that melancholic features were present in 6% out of 28% depressed patients in psoriasis vulgaris group and in 6% out of 30% depressed patients in chronic urticaria group.

Our study showed high prevalence of suicidal ideation in both groups as compared to the general population (0.7-1.2%) reported from the USA by Callahan et al., 1996. Prevalence of suicidal ideation in the psoriasis group was comparable to that of 7.3% in patients with acute medical illness (traumatic brain injury, myocardial infarction, or spinal cord injury) (Kishi et al., 2001) and 6.3 % among older adults in a general practice setting (Pfaff and Almeida., 2004). Prevalence of suicidal ideation was high in chronic urticaria group (12%).

Offord et al., 1996 conducted a study to determine one-year prevalence of 14 psychiatric disorders in a community sample of Ontarians aged 15 to 64 years using Composite International Diagnostic Interview (UM-CIDI). In this study prevalence of alcohol abuse and dependence was found to be 4.4% in general population. In our study, prevalence of alcohol abuse and dependence was found to be higher in psoriasis group (6%) and less in chronic urticaria group (2%). In the same study, prevalence of dysthymia was 0.2 % in general population which was comparable to that found in chronic urticaria group (0%) and it was higher in the psoriasis vulgaris group (2%).

Psychosis as defined by the MINI refers to the presence of delusions, hallucinations and thought disorder, permitting a DSM-IV diagnosis of schizophrenia and mood disorder with psychotic features. The lifetime prevalence of psychosis in the Montpellier study (Ritchie et al., 2004) was 4.7%, and 1.7% of the study sample currently suffered from this disorder. In our study, the life time prevalence of psychosis was 4% in psoriasis patients and 2 % in chronic urticaria patients. 2% of psoriasis patients currently suffered from the disorder.

Kadri et al., 2007 found out prevalence of anxiety disorders in general population using MINI. Prevalence of panic disorder in chronic urticaria patients was found to be more than that of general population (2%). Prevalence of social phobia in psoriasis patients and chronic urticaria patients was found to be less than that of general population (3.4%). Similarly prevalence of obsessive compulsive disorder was found to be less in both diseases as compared to the general population (6.1%). Prevalence of generalised anxiety disorder in general population (4.3%) was found to be comparable to that found in psoriasis vulgaris patients and was absent in the chronic urticaria group.

Correlation was done between PASI scores and psychiatric co-morbidity using Spearman's rank order correlation. It was seen that there was no correlation between PASI scores and

psychiatric co-morbidity. Similar findings were suggested in study by Sharma et al., 2001 in which psychiatric co-morbidity did not correlate well with the severity of skin disease.

Correlation was also done between PASI scores and individual items of MINI using Spearman's rank order correlation. It was seen that there was no correlation between PASI scores and presence of individual items of MINI.

Duration of disease in two groups was also correlated with psychiatric co-morbidity. It was seen that there was no correlation between duration and psychiatric co-morbidity in psoriasis vulgaris patients and chronic urticaria patients.

All the patients diagnosed to have psychiatric disease were referred for consultation with psychiatrist in Department of Psychiatry and were given antidepressants and other psychiatric medication according to the need of the patients and were regularly followed up by psychiatrist.

The mechanism of the causal relationship between skin diseases namely psoriasis vulgaris and chronic urticaria, major depression, and suicidal ideation is not known. It may be that the chronic nature of the diseases or the prospects of a more limited lifestyle associated with the skin disease is severe enough that this leads to thoughts that life is not worth living. It could also be that suicidal ideation is associated with an increased likelihood that one will have exacerbated, or poorer control over skin disease leading to more frequent physician visits. Furthermore, future studies that investigate whether and to what degree the treatment of depression is associated with improvement in skin disease, as well as the reverse, and the extent to which mental health care affects the risk of suicide behaviour also merit attention.

In conclusion, the two diseases, namely psoriasis vulgaris and chronic urticaria contribute to great deal of psychiatric co-morbidity. Clinicians need to be aware of the emotional and psychological aspect of these two diseases and to treat them aggressively. If there is evidence of marked psychological morbidity, treatment-refractory depression or suicidality, the patient should be seen by psychiatrist. For clinician seeing large number of patients with the two diseases, MINI is a simple and easily administered tool which can unmask invisible burden of these diseases. Awareness of the potential for such problems, involvement of trained nursing staff and the availability of accessible psychiatric services should increase identification of those at risk and reduce morbidity and mortality.

References

- Akay A, Pekcanler A, Bozdog KE. Assessment of depression in subjects with psoriasis and lichen planus. *J Eur Acad Dermatol Venerol* 2002; 16:347-352.
- Al'Abadie MS, Kent GG, Gawkrödger DJ. The relationship between stress and the onset and exacerbation of psoriasis and other skin conditions. *Br J Dermatol* 1994; 130:199-203.
- Alexander PJ, Dinesh N, Vidyasagar MS. Psychiatric morbidity among cancer patients and its relationship with awareness of illness and expectations about treatment outcome. *Acta Oncol* 1993; 32(6):623-626.
- Barrett JE, Barrett JA, Oxman TE, Gerber PD. The prevalence of psychiatric disorders in a primary care practice. *Arch Gen Psychiatry* 1988; 45:1100-1106.
- Bharath S, Shamasundar C, Raghuram R, Subbakrishna DK. Psychiatric morbidity in leprosy and psoriasis-a comparative study. *Indian J Lepr* 1997; 69(4): 341-346.
- Callahan CM, Hendrie HC, Nienaber NA. Suicidal ideation among older primary care patients. *J American Geriatrics Soc* 1996; 44: 1205 -1209.
- Camp RDR. Psoriasis. In: Champion RH, Burton JI, Burns DA, editors. *Dermatology*, 6th revised edn. Blackwell Science, Oxford, 1999; 1589-1649.
- Chakrit S, Thana N, Chatchawal S. One-month prevalence of psychiatric illness in Nongchok district, Bangkok. *Ramathibodi Med J* 1995; 18(4): 253-260.
- Christophers E, Mnowietz U. Psoriasis. In: Freedberg IM, Eisen AZ, Wolff K, editors. *Dermatology in General Medicine*, 5th revised edn. McGraw Hill, New York, 1999: 495-522.
- Christophers E, Sterry W. Psoriasis. In: Fitzpatrick TB, Eisen A, Wolff K, Freedberg IM, Austin KF, editors. *Dermatology in General Medicine*, 4th edn. Mc Graw Hill, New York, 1993, 489-514.
- Cooper KD, Arbor A. Urticaria and angioedema: diagnosis and evaluation. *J Am Acad Dermatol* 1991; 25: 166-174.
- Coulehan JL, Schulberg HC, Block MR, Janosky JE, Arena VC. Medical co-morbidity of major depressive disorder in a primary medical practice. *Arch Intern Med* 1990; 150: 2363- 2367.
- Coyne JC, Fechner-Bates S, Schwenk TL. Prevalence, nature, and co-morbidity of depressive disorders in primary care. *Gen Hosp Psychiatry* 1994; 16: 267-276.
- Edward A, Nolph K. Streptococcus peritonitis with urticaria. *Perit Dial Int* 1991; 12: 214-215.
- Fliescher AB, Feldman SR, Rapp SR, Reboussin DM, Exum ML, Clark AR, Rajashekhar VI. Disease severity measures in population of psoriasis patients: symptoms of psoriasis correlate with self administered psoriasis area severity index. *J Invest Dermatol* 1996; 107: 26-29.
- Fortune DG, Main CJ, O'Sullivan TM, Griffiths CE. Quality of life in patients with psoriasis: the contribution of clinical variables and psoriasis-specific stress. *Br J Dermatol* 1997; 137(5): 755-760.
- Fortune DG, Richards HL, Griffiths CE, Main CJ. Psychological stress, distress and disability in patients with psoriasis: Consensus and variation in the contribution of illness perceptions, coping and alexithymia. *Br J Clin Psychol* 2002; 41: 157-174.
- Greaves MW. Chronic urticaria. *N Engl J Med* 1995; 332: 1767-1772.
- Green GR, Koelsche GA, Kierland RA. Etiology and pathogenesis of chronic urticaria. *Ann Allergy* 1965; 23: 30-36.
- Gupta MA, Gupta AK, Kirkby S, Weiner HK, Mace TM, Schork NJ, Johnson EH, Ellis CN, Voorhees JJ. Pruritus in psoriasis- a prospective study of some Psychi-

- atric and Dermatologic correlates. *Arch Dermatol* 1988; 124:1052-1057.
- Hernandez GJ. Urticaria y angioedema. En: *Alergologica en Aten Primaria*. Jarpio 1999; 47-65.
- Hughes JE, Barraclough BM, Hamblis LG, White JE. Psychiatric symptoms in dermatology patients. *Br J Psychiatry* 1983; 143: 51-54.
- Johnson FA, Mostaghimi H. Co-morbidity between dermatologic diseases and psychiatric disorders in Papua New Guinea. *Int J Dermatol* 1995; 34: 244-248.
- Juhlin L. Recurrent urticaria: clinical investigation of 330 patients. *Br J Dermatol* 1981; 104: 369-381.
- Julian CG. Dermatology in general practice. *Br J Dermatol* 1999; 141:518- 520.
- Kadri N, Agoub M , Gnaoui SE , Berrada S, Moussaoui D. Prevalence of anxiety disorders: a population-based epidemiological study in metropolitan area of Casablanca, Morocco. *Ann General Psychiatry* 2007; 6:6.
- Kaeser P, Revely ML, Frie PC. Prevalence of IgE antibodies specific for food allergens in patients with chronic urticaria of unexplained etiology. *Allergy* 1994; 49: 626-629.
- Kishi Y, Robinson RG, Kosier JT. Suicidal ideation among patients with acute life-threatening physical illness: patients with stroke, traumatic brain injury, myocardial infarction, and spinal cord injury. *Psychosomatics*. 2001;42(5):382-390.
- Mathews KP. Urticaria and angioedema. *J Aller Clin Immunol* 1983; 72: 1-14.
- Malanin G, Kalimo K. The results of skin testing with food additives and the effect of an elimination diet in chronic and recurrent angioedema. *Clin Exp Aller* 1989; 19: 539-543.
- Mattoo SK, Handa S, Kaur I, Gupta N, Malhotra R. Psychiatric morbidity in psoriasis: prevalence and correlates in India. *German J Psychiatry* 2005; 8: 17-22.
- Myers JK, Weissman MM, Tischler GE, Holzer CE, Leaf PJ, Orvaschel H, Anthony JC, Boyd JH, Burke JD, Kramer M et al. Six-month prevalence of psychiatric disorders in three communities. *Arch Gen Psychiatry* 1984; 41:959-970.
- Offord DR, Boyle MH, Campbell D, Goering P, Lin E, Wong M, Racine YA. One-Year Prevalence of psychiatric disorder in Ontarians 15 to 64 years of Age. *Can J Psychiatry* 1996; 41:559-564.
- Pfaff JJ, Almeida OP. Identifying suicidal ideation among older adults in a general practice setting. *J Affect Disord* 2004 15; 83(1):73-77.
- Preston K. Depression and skin diseases. *Med J Aust* 1969; 1:326-329.
- Pulimood S, Rajgopalan B, Rajgopalan M, Jacob M, Kohn JK. Psychiatric co-morbidity among dermatology inpatients. *Nat Med J India* 1996; 9:208-210.
- Purandare KN, Wagle AC, Parker SR. Psychiatric morbidity in patients with systemic lupus erythematosus. *Q J Med* 1999; 92: 283-286.
- Rebora A, Drago F, Parodi A. May *Helicobacter pylori* be important for dermatologists? *Dermatology* 1995; 191: 6-8.
- Ritchie K, Artero S, Beluche I, Ancelin ML. Prevalence of DSM-IV psychiatric disorders in the French elderly population. *British J Psychiatry* 2004; 184: 147-152.
- Sampogna F, Sera F, Abeni D. Measures of clinical severity, quality of life, and psychological distress in patients with psoriasis: A cluster analysis. *J Invest Dermatol* 2004; 122: 602-607.
- Schulberg HC, Saul M, McClelland M, Ganguli M, Christy W, Frank R. Assessing depression in primary medical and psychiatric practices. *Arch Gen Psychiatry* 1985; 42: 1164- 1170.
- Sharma N, Koranne RV, Singh RK. Psychiatric co-morbidity in psoriasis and vitiligo: A comparative study. *J Dermatol* 2001; 28: 419-423.
- Sheehan-Dare RA, Henderson MJ, Coterill JA. Anxiety and depression in patients with chronic urticaria and generalized pruritis. *Br J Dermatol* 1990; 123:769-774.
- Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, Hergueta T, Baker R, Dunbar GC. "The Mini International Neuropsychiatric Interview (MINI). The Development and validation of a Structured Diagnostic Interview for DSM-IV and ICD-10." *J Clin Psychiatry* 1998; 59 (Suppl 20):22-23.
- Sperber J, Shaw J, Bruce S. Psychological components and the role of adjunct interventions in chronic idiopathic urticaria. *Psychother Psychosom* 1989; 51(3):135-141.
- Tebbe B, Geilen CC, Schulzke JD, Bojarski C, Radenhausen M, Orfanos CE. *Helicobacter Pylori* infection and chronic urticaria. *J Am Acad Dermatol* 1996; 34 (4): 685-686.
- von Kolibassova K, Cervencova D, Hegyi E, et al. *Helicobacter pylori* – ein möglicher ätiologischer Faktor der chronischen Urticaria. *Dermatosen* 1994; 42: 235-236.
- von Korff M, Shapiro S, Burke JD. Anxiety and depression in a primary care clinic. *Arch Gen Psychiatry* 1987; 44:152-156.
- von Gloor M, Heinkel K, Schulz U. Zur pathogenetischen Bedeutung von Magenfunktionsstörungen bei allergisch bedingter, chronischer Urticaria. *Dermatol Monats* 1972; 158: 96-102.
- Wessely SC, Lewis GH. The classification of psychiatric co-morbidity in attenders at a Dermatology clinic. *Br J Psychiatry* 1989; 155:686-691.
- Woodruff PW, Higgins EM, Du Vivier AW, Wessely S. Psychiatric illness in patients referred to a dermatology-psychiatric clinic. *Gen Hosp Psychiatry* 1997; 19(1):29-35.