

## Cognitive Emotional Regulation, Perceived Stress and Psychological General Well-Being In Patients With Skin Diseases: A Comparative Study

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### ABSTRACT

Skin has long been recognised as “organ of expression”, according to Sack, as cited in (Walker & Papadopoulos, 2005) and serves as the boundary between ourselves and outside world. While the skin and central nervous system are ectodermal derivatives, a good part of an individual’s perception takes place through skin. Psychopathological factors can play a significant role in development of skin disorders, can exacerbate pre-existing skin disorders, or dermatology patients may suffer the psychosocial consequences of disfigurement.

The purpose of the study was to compare patients with acne, psoriasis, and melanosis on perceived stress, cognitive emotional regulation and psychological general well-being and also to compare patients with skin disease with non-disease group. The study included 30 skin patients (acne =10, melanosis=10, psoriasis= 10) ages ranging from 20 to 40 years and 30 non disease individuals of same age group. Perceived stress scale, cognitive emotional regulation questionnaire, psychological general well-being inventory were administered to the patients. Analytical evaluation was done by independent t test and ANOVA.

The results of the present study revealed that there is significant difference for perceived stress and psychological general well-being among skin patients and non-disease group. There is significant difference between psoriasis, melanosis and acne with respect to perceived stress and positive wellbeing. Psoriasis patients have comparatively higher perceived stress and acne patients have comparatively higher positive well-being. The study is to stimulate professionals working in the field of dermatology and mental health to explore their supportive communication and increased awareness regarding the difficulties that patients with skin diseases face.

**Keywords:** *Perceived Stress, Cognitive Emotion Regulation, Psychodermatology*

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## Cognitive Emotional Regulation, Perceived Stress and Psychological General Well Being In Patients With Skin Diseases: A Comparative Study

Skin has long been recognised as “organ of expression”, according to Sack, as cited in (Walker & Papadopoulos, 2005) and serves as the boundary between ourselves and the outside world, a first point of contact when strangers meet us. Dealing with and treating skin diseases involves special features. While the skin and central nervous system are ectodermal derivatives, a good part of an individual’s perception takes place through the skin. This experience is expressed in characteristic patient quotes and expressions such as “He’s thin-skinned” or “My scaly shell protects me,” or, increasingly, “I’m ugly and can’t stand myself.” In recent years, psychosomatic medicine has developed, out of the limited corner of collections of personal experiences and individual case reports, into evidence based medicine. Cluster analyses and current psychosomatic research demonstrate that in addition to Para infectious, paraneoplastic, and allergic causes, psychosocial trigger factors can also cause disease in subgroups of multifactorial skin diseases. In the present atlas, the psychosomatic subgroup will receive equal consideration and systematic presentation with the biomedical focal points, in order to facilitate diagnostics with clear diagnosis criteria for the somatization patient and to point out the good possibilities and rich experiences that exist today with adequate psychotherapy and psychopharmaceutical therapy. (Wolfgang Harth et al, 2008) Approximately 30-40% patients seeking treatment for skin disorders have an underlying psychiatric or a psychological problem that either causes or exacerbates a skin complaint. Ample evidence in literature suggests that the course of many skin disorders is affected by stress and psychological events. Disfiguring dermatological conditions often run a chronic course, resulting in profound psychological morbidity, leading to secondary psychiatric disorders (SPD). These patients need to be addressed with a special approach assisting their psychological need, pharmacotherapy for their psychiatric morbidity, and skin disease; hence, complete holistic treatments approach for the patient. The importance of psychological interventions in the treatment of dermatology patients draws our attention to an emerging field of psychology called psychodermatology or psycho cutaneous medicine. Psychodermatology describes an interaction between dermatology and psychiatry and psychology. The incidence of psychiatric disorders among dermatological patients is estimated at about 30 to 60%. Psychiatry is more focused on the ‘internal’ non-visible disease, and dermatology is focused on the ‘external’ visible disease. Connecting the two disciplines is a complex interplay between neuroendocrine and immune systems that has been described as the NICS, or the neuro-immuno-cutaneous system. (*Indian J Psychiatry*. 2010 Jul-Sep; 52(3): 270–27) K. H. Basavaraj, M. A Navya, and R. Rashmi in 2010, has conducted a study on the “relevance of psychiatry” and they proposed the need for psychiatric consultation in general, and psychological factors may be of particular concern in chronic intractable dermatologic conditions, such as eczema, prurigo and psoriasis. In their study it was found that Patients with psychocutaneous disorders frequently resist psychiatric referral, and the liaison among primary care physicians, psychiatrists and dermatologists can prove very useful in the management of these conditions. Regardless of psychiatric morbidity, skin diseases can greatly affect patients’ quality of life. The drugs used in the treatment of dermatological diseases such as steroid and retinoid may lead to psychiatric symptoms. Not surprisingly, a relationship between psychological factors and skin diseases has long been

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hypothesized. There is a common opinion that many cases of skin disease are caused by psychological stress, or are related to certain personality traits, or represent a complication of a psychiatric disorder. Although the dermatologist's awareness of the problem is increasing, co-occurring mental disorders go often unrecognized and are believed to be less frequent than they actually are in many skin conditions. There is a need for a bio psychosocial approach to patients with skin disease. Liaison therapy enables multidisciplinary approach with the cooperation of psychiatric and dermatologic terms and simultaneous diagnostic procedures and treatment of patients with psychodermatology disorder. In a study conducted by Shrutakirthi D Sheno, Smitha Prabhu, B Nirmal, Shailee Petrolwala in 2013 at Department of Dermatology Kasturba Medical College Manipal, importance of a liaison clinic was established. They examined 175 patients with chronic dermatoses such as psoriasis, eczema as well as those with primary psychiatric conditions. It was found that more than one-fourth of patients had stressors and majority of patients were non-compliant with psychological interventions. Probably they did not realize the benefit or were not keen on attending the clinical psychology department. Quite often patients express displeasure when a psychiatric referral is made and this may be due to the stigma associated with referral to psychiatry, since liaison clinics functions in an informal manner, without any inhibitions patients can meet a mental health professional as there are no boards mentioning the designations of the liaison specialists.

The debut, progression and maintenance of skin disease are related to stress (Manolache L, 2015). The state of stress could be influenced by external and individual factors. Environmental, socio-professional factors or different life situations are some of external factors. Major life events that appear in the list of Holmes and Rahe provoke important reactions to people. Serious illness of the patient or of beloved ones, death of family members or friends, separations or divorces is expected to induce anxious-depressive states with different psychosomatic appearances. Personal needs or previous experiences, personality and attitude facing different situations, family models represent individual factors that can also change the state of stress. The state of stress could be influenced by external and individual factors. Environmental, socio-professional factors or different life situations are some of external factor (Liana Manolache2015). In a study conducted by Misery et al. 2008, on out patients with dermatosis it was found that women have higher perceived stress. The perceived stress was higher in patients with psoriasis and acne than in tumours and was correlated to mental quality of life. Given the potential social and physical consequences, raised levels of psychological distress have been reported, with some studies indicating as many as 30% of patients having clinically significant levels of distress (Gupta &Gupta 2003). Psychological difficulties most commonly found have included: anxiety, particularly social anxiety; depression, including risk of suicide; lowered self-esteem; feelings of shame; and concerns with body image (Benrud-Larson et al. 2003; Salzer & Schallreuter 1995).

When analysing literature regarding psychological factors involved in skin diseases it is possible to individuate two different kinds of studies: some are focused on “internal aspects”

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and others are focused on “external” aspects. (Chiara Vari et al, 2013). Cognitive emotion regulation construct seems to unify internal and external elements, including various processes that reside both within individuals (e.g., internal regulation of emotion) and external to the individual (Gross & Thompson, 2007; Spinrad, Stifter, Donelan-McCall, & Turner, 2004). For example, a recent study within a cognitive framework points out that early maladaptive schemas (EMS) – which are cognitive as well as emotional patterns related to personal childhood – are strongly related to psychological distress in dermatology patients (Mizara, Papadopoulos, & McBride, 2011). *Emotion regulation* refers to the “conscious and non-conscious strategies [people] use to increase, maintain, or decrease one or more components of an emotional response” (Gross, 2001). Thus, *emotion regulation* is a multi-componential process that unfolds over time and specific strategies can be differentiated along the timeline of the unfolding emotional response regarding dermatology patients who, for example, suffer from stigma (Roosta, Black, Peng, & Riley, 2010), emotion regulation might be one mechanism underlying the relationship between stigma and psychopathology. In fact, current research on coping with stigma has examined emotion regulation strategies, such as *cognitive reappraisal*, as moderators of the association between stigma and health (Miller & Kaiser, 2001).

Hence we can infer that *emotion regulation* can be a more comprehensive framework for understanding the diverse meanings and different ways dermatology patients suffer psychologically.

In a study conducted by Gupta MA, Gupta AK in Department of Psychiatry, University of Western Ontario, it was found that prevalence of active suicidal ideation among the psoriasis and acne patients is 5.6-7.2% and this is higher than the 2.4-3.3% prevalence reported among general medical patients. These findings highlight the importance of recognizing psychiatric co-morbidity, especially depression, among dermatology patients and indicate that in some instances even clinically mild to moderate disease such as non-cystic.

It is not surprising that due to their visibility and appearance-altering quality, skin disorders have important emotional, psychological and social implications for the sufferer, making the long-established link between psychological factors and dermatology even stronger. Yet, little attention has been paid to them or to the ways in which to address them.

The present study aims at focusing on the psychological aspects of skin diseases by comparing them on perceived stress, cognitive emotional regulation, and psychological general well-being. The Study is an attempt to stimulate professionals working in the field of dermatology and mental health to explore their supportive communication and increase awareness regarding the difficulties that patients with skin diseases can face.

## MATERIALS AND METHODS

### *Source of data:*

Data was obtained from dermatology inpatients and out patients attending OP in Jubilee Mission Medical College, Thrissur.

### *Sample size:*

Sample consists of 30 skin patients (10 psoriasis, 10 melanosis and 10 acne) of age group 20 to 40 out of which 15 are male and 15 are female. 30 non disease people were included from age group 20 to 40 out of which 15 are male and 15 females.

### *Sampling procedure:*

All patients attending OPD and full filling inclusion criteria were included in the study. Sample was selected on the basis of stratified random sampling. Patients with psoriasis, melanosis and acne formed the three strata for the study.

Name of Skin Disease	Number of Patients		Total
	Male	Female	
Psoriasis	5	5	10
Acne	5	5	10
Melanosis	5	5	10

### *Tools used:*

**1. The Cognitive Emotion Regulation Questionnaire (CERQ)** was the first instrument developed to explicitly measure cognitive strategies for emotion regulation that individuals may use in response to threatening or stressful life events. The 36-item CERQ contains nine conceptually distinct subscales: five for adaptive strategies (acceptance, positive refocusing, refocusing on planning, positive reappraisal, and putting into perspective) and four for maladaptive strategies (self-blame, rumination, catastrophizing, and blaming others). Item responses are structured by a five-point Likert scale ranging from 1 [(almost) never] to 5 [(almost) always]. Subscale scores are obtained by summing component item scores (range, 4–20), with higher scores indicating greater use of a specific cognitive strategy. The CERQ can be used to measure general coping style (trait) or response to a specific event (state). The CERQ and the Chinese version of this instrument (CERQ-C) have shown good reliability and validity.

**2. Perceived stress scale** developed by Sheldon Cohen and his colleagues (1983) for measuring the degree to which situations in one's life are appraised as stressful. Psychological stress has been defined as the extent to which persons perceive (appraise) that their demands exceed their ability to cope. Coefficient alpha ranges have been shown to range from 0.67 to 0.86.

**3. The Psychological General Well-Being Index (PGWBI)** developed by Harold Dupuy in 1970-71. It measures how individual feels about inner personal state rather than external conditions such as income, work environment etc. PGWB index show a very high internal consistency reliability (0.94)

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### **Inclusion criteria:**

- Patients between age group 20 to 40
- Patients under treatment for more than 6 months

### **Exclusion criteria:**

- Patients with physical disabilities and neurological deficits
- New patient consultations were excluded.

### **Inclusion criteria for non disease population**

- Individuals between age group 20 to 40
- Individuals with low socio economic status and low level of education.
- Individuals without any prior history of skin disease.

### **Exclusion criteria for non disease population**

- Individuals with high socio economic status and high level of education.
- Individuals with physical disabilities and neurological deficits.

### ***Problem***

To compare perceived stress, cognitive emotion regulation strategies and psychological general well-being among skin patients and non-disease population.

### ***Objective***

- To find out the significant difference between dermatology patients and non-disease population in perceived stress, cognitive emotion regulation and psychological general well-being.
- To find out significant difference between psoriasis, melanosis and acne patients with respect to perceived stress, cognitive emotion regulation and psychological general well being

### ***Hypotheses***

Ho1: there is no significant difference in perceived stress between skin patients and non disease population.

Ho2: there is no significant difference in cognitive emotion regulation strategies between skin patients and non disease population.

Ho3: there is no significant difference in perceived stress between skin patients and non disease population.

Ho4: there is no significant difference between melanosis, psoriasis and acne patients with respect to perceived stress.

Ho5: there is no significant difference between melanosis, psoriasis and acne patients with respect to cognitive emotion regulation strategies

Ho6: there is no significant difference between melanosis, psoriasis and acne patients with respect to psychological general well being

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**Procedure**

All the respondents who consented to participate in the study were briefed about purpose of the study. Then all the participants were given 1) cognitive emotion regulation questionnaire 2) perceived stress scale 3) psychological general well-being inventory. Respondents were rendered help by the interviewer in filling the questionnaires.

Patients with skin disease and non-disease group were compared to find out if there is any significant difference between perceived stress, cognitive emotion regulation and psychological general well-being. A disease wise comparison was carried to find out if there is any significant difference among psoriasis, acne and melanosis patients with respect to perceived stress, cognitive emotion regulation and psychological general well-being.

**Statistical analysis:**

Data were tabulated using statistical manual for social sciences and were subjected to independent t test and ANOVA.

**RESULT AND DISCUSSION**

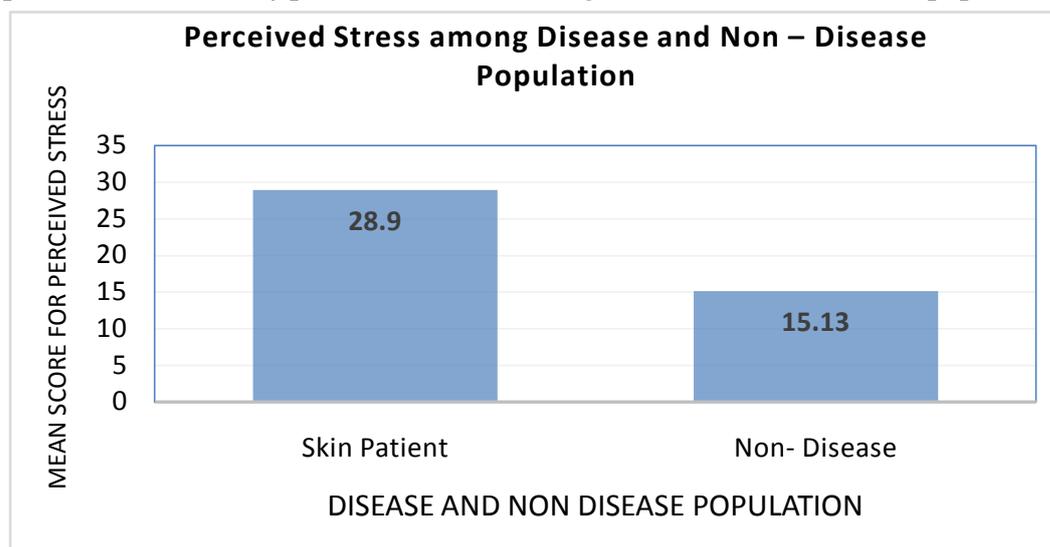
Mean age of participants with skin disorder is 31.86 and the mean age of participants in non-disease group is 29.8. Mean age of patients with psoriasis, acne and melanosis are 37.9, 22.7 and 35 respectively.

**Table 1: Mean Standard Deviation and t – value for perceived stress among skin patients and non-disease groups.**

Variable	Skin Patients (N=30)		Non – Disease Group		t – value
	Mean	SD	Mean	SD	
Perceived Stress	28.932	6.42	15.133	4.666	9.517*

\* Level of Significance at 0.01

**Graph 1: Mean scores of perceived stress among disease and non disease population**



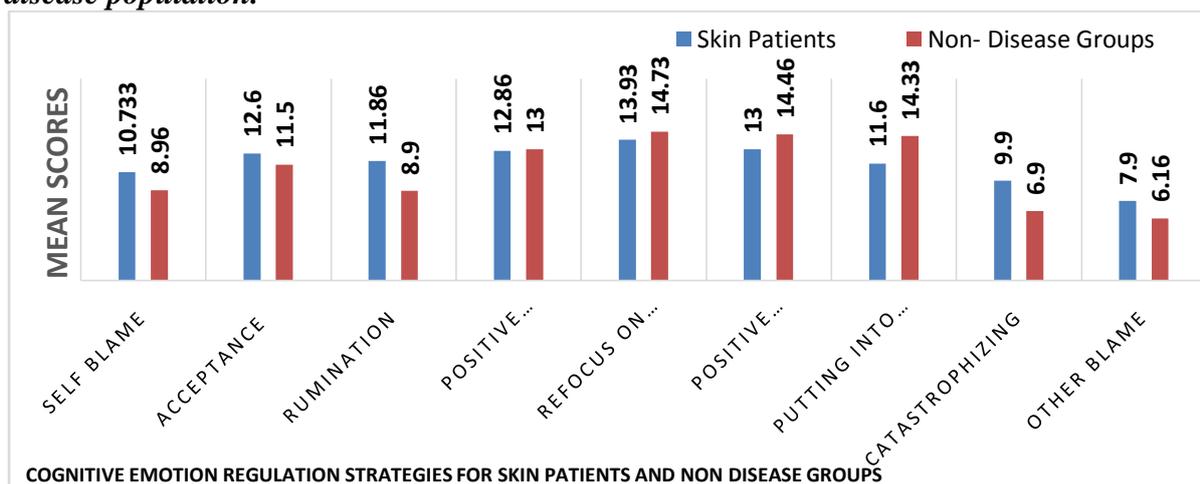
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Table 1 shows that skin disease patients and non-disease group shows significant difference in perceived stress ( $p < 0.01$ ) and  $t$  value is 9.517 which means we reject  $H_0$ . Mean value for perceived stress of skin patients is 28.932 and for non-disease group is 15.133 and it shows that skin patients have more perceived stress than non-disease group. Graph 1 shows mean scores for perceived stress among skin patients and non disease population and indicates skin patients have more perceived stress than non disease population. Since the disease population in the included in the study are suffering from skin diseases that has high disfigurement, visible lesions and are associated with chronic relapsing condition and treatment related side effects, the nature of diseases itself can cause considerable degree of perceived stress. Garg A, Chren MM, et al. 2001, in their study revealed a link between stress and cutaneous function in human establishing a new pathophysiological paradigm; i.e., stress induced derangements in epidermal function as precipitators of inflammatory dermatosis. Their finding was that subjects who showed greater perceived stress also displayed greater abnormality in barrier recovery rates. Thus we can confirm that the degree of perceived stress is higher in skin patients in comparison to the non-disease group.

**Table 2: Mean Standard Deviation and  $t$  – value for Cognitive Emotion Regulation among skin patients and non-disease groups.**

Variables	Skin Patients (N=30)		Non disease group(N=30)		t-value
	Mean	S.D	Mean	S.D	
Self-blame	10.733	3.25	8.96	3.52	2.021
Acceptance	12.6	3.25	11.5	3.28	1.302
Rumination	11.86	4.04	8.9	3.25	3.129
Positive Refocusing	12.86	3.22	13	3.26	0.159
Refocus on Planning	13.93	2.935	14.73	3.94	0.891
Positive Reappraisal	13	4.21	14.46	4.15	1.35
Putting into Perspective	11.6	3.54	14.33	4.05	2.77
Catastrophizing	9.9	2.122	6.9	3.26	4.221
Other blame	7.9	2.74	6.16	1.94	2.819

**Graph 2 Mean score for cognitive emotion regulation between skin patients and non disease population.**



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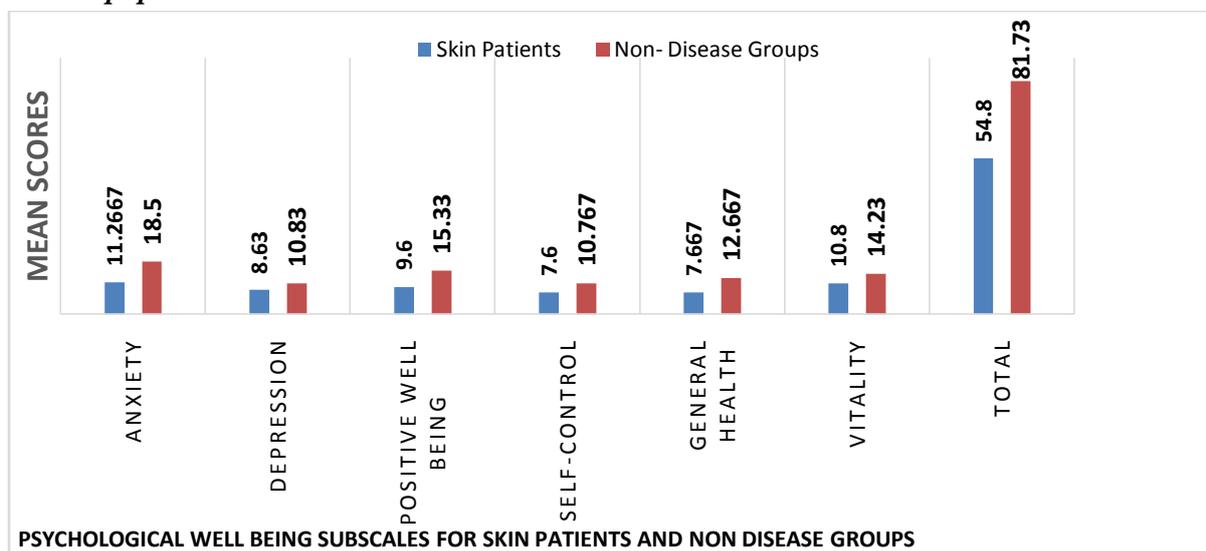
Table 2 indicates that there is no significant difference for cognitive emotion regulation dimensions among skin patients group and non-disease group which means that we accept Ho2. Graph 2 shows mean scores for cognitive emotion regulation strategies among skin patients and non disease population. Mean values shows that it was those skin patients included in the study that comparatively uses more of maladaptive strategies like self-blame, rumination, catastrophizing and other blame. It was found that only the adaptive strategy that skin patients use more than non-disease population is acceptance. Literature suggest that skin patients are more inclined to use cognitive reappraisal as a strategy to reduce unpleasant emotional arousal caused by stressful life events like chronic skin disease (Vari C Et al.,2013). In a study conducted by Lingyan et al in 2015, found that compared with healthy women, women newly diagnosed with breast cancer use catastrophizing and acceptance more frequently, and positive reappraisal, self-blame, rumination, positive refocusing, refocusing on planning, and blaming others less frequently.

**Table 3: Mean Standard Deviation and t – value for Psychological Well - being among skin patients and non-disease groups.**

Variable	Skin Patients(n=30)		Non Disease Group(n=30)		t- value
	Mean	S.D	Mean	S.D	
Anxiety	11.2667	5.6321	18.5	3.5	5.96*
Depression	8.63	2.17	10.83	2.035	4.047*
Positive well being	9.6	2.69	15.33	3.11	7.625*
Self-control	7.60	2.415	10.767	3.10	4.410*
General health	7.667	2.27	12.667	2.132	7.721*
Vitality	10.8	3.06	14.23	3.380	4.120*
<b>Total</b>	<b>54.8</b>	<b>10.61</b>	<b>81.73</b>	<b>10.50</b>	<b>9.876*</b>

\* Level of Significance at 0.01

**Graph 3 mean scores for psychological general well being among skin patients and non disease population.**



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Table 3 shows that skin patients and non-disease group shows significant difference ( $p < 0.01$ ) and t value is 9.876 in psychological general well-being which means that we reject  $H_0$ . It is evident that there is significant difference in health related quality of life among skin disease group and non-disease group. Graph 3 shows mean scores for psychological general well-being among skin patients and non-disease population. Extensive research has been conducted on health related quality of life (HRQoL). Literature suggest that skin diseases have a negative impact on health related quality of life of patients and cosmetic disfigurement can also cause patients to experience a different level of stigmatization, which can lead to psychosocial stress and the impairment of emotional functioning. Common dermatological disorders, such as vitiligo and psoriasis, can result in psychosocial effects and a low QoL. More than a cosmetic nuisance, skin diseases can produce anxiety, depression (Sheng Fang et al, 2015). Mean of global score of psychological general well-being (total score) shows that non disease group has better quality of life than disease group.

**Table 4: Analysis of variance of perceived stress among psoriasis, acne and melanosis patients.**

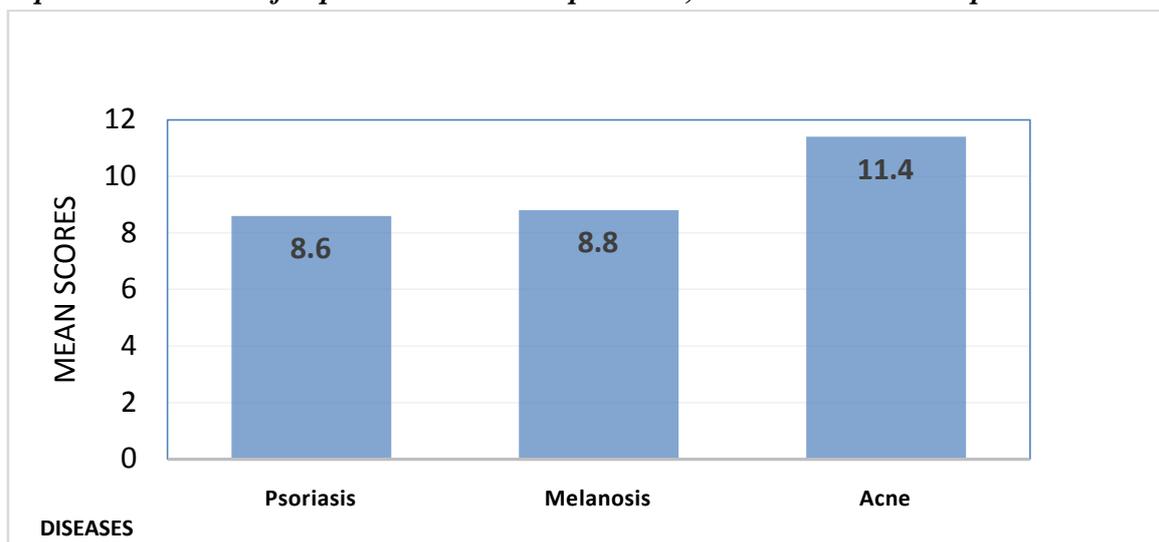
Variable	Between Groups		Within Groups		F Value
	Sum of Squares	Mean Squares	Sum of Squares	Mean Squares	
Perceived Stress	316.867	158.433	881	32.63	4.856*

**Table 4 (i): Result of Duncan's multiple range for perceived stress among Psoriasis, Melanosis and Acne patients.**

Variable	Groups: Psoriasis(N=10)		Melanosis(N=10)		Acne(N=10)	
	Mean	SD	Mean	SD	Mean	SD
Perceived Stress	33.5 <sup>b</sup>	5.7	27.1 <sup>a</sup>	6.22	26.2 <sup>a</sup>	5.15

Means with same superscript are homogeneous

**Graph 4 mean scores for perceived stress in psoriasis, melanosis and acne patients**



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Table 4 shows that there is significant difference ( $p < 0.05$ ) in perceived stress F value is 4.85 which means we reject  $H_0$ . mean value for psoriasis patients is 33.5, for melanosis patients is 27.1, for acne patients is 26.2. graph 4 shows mean scores for perceived stress among melanosis, psoriasis and acne patients. It was found that psoriasis patients have comparatively higher perceived stress than patients with melanosis and acne. Present study falls in line with findings of Laurent Misery, Luc Thomas in 2008. In their study, they concluded that patients with psoriasis had a very high level of perceived stress and a deeply altered quality of life. The increased levels of perceived stress in psoriasis patients may be due to the burdens they face in life. Literature suggests that psoriasis patients are subjected to social psychological and economic burdens. Evidences for psychological and social and economic burdens can be cited from numerous studies. Prevalence of depression and anxiety among patients with psoriasis ranges between 10% and 48% based on the data from several studies (Raho, Koleva, Garattini, & Naldi, 2012).

Public have been found to react with disinterest and stigmatization rather than empathy and understanding to skin diseases (Jobling & Naldi, 2006). This emotional scarring often leads to embarrassment and lack of self-confidence. Those affected in such a way tries to stay away from public places or situations where their skin would have to be exposed. This retraction from the society affects relationships, social health and often even one's employment (Raho, et al., 2012). A study based on data from the National Psoriasis Foundation database showed that the probability of low income was significantly greater among patients with severe psoriasis than those with mild psoriasis (Horn, et al., 2007). Perceived stress in psoriasis patients may be due these burdens that these people have to confront in their day to day life.

**Table 5: Analysis of variance of cognitive emotion regulation dimensions for psoriasis melanosis and acne patients.**

Variable	Between Groups		Within Groups		F Value
	Sum of Squares	Mean Squares	Sum of Squares	Mean Squares	
Self-Blame	8.867	4.43	295	10.926	0.406
Acceptance	16.8	8.4	290.4	10.756	0.781
Rumination	6.687	3.43	468.6	17.356	0.198
Positive Refocussing	44.86	22.433	256.6	9.504	2.36
Refocus on Planning	10.46	5.233	39.4	8.86	0.59
Positive Reappraisal	4.2	2.1	509.8	18.881	0.111
Putting into Perspective	7.4	3.7	357.8	13.257	0.279
Catastrophizing	7.4	3.7	123.3	4.567	0.81
Other Blame	32.6	16.3	186.6	6.84	2.36

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*Table 5(i) result of Duncan’s multiple range for cognitive emotion dimensions among psoriasis, melanosis and acne patients.*

Variable	Groups: Psoriasis(N=10)		Melanosis(N=10)		Acne(N=10)	
	Mean	SD	Mean	SD	Mean	SD
Self-Blame	11.5 <sup>a</sup>	3.2	10.4 <sup>a</sup>	4.41	10.3 <sup>a</sup>	2.31
Acceptance	13.4 <sup>a</sup>	1.9	12.8 <sup>a</sup>	3.64	11.6 <sup>a</sup>	3.8
Rumination	12.1 <sup>a</sup>	4.5	12.3 <sup>a</sup>	4.57	11.2 <sup>a</sup>	3.22
Positive Refocusing	14.1 <sup>a</sup>	4.22	13.3 <sup>a</sup>	2.98	11.2 <sup>a</sup>	1.31
Refocus on Planning	14.4 <sup>a</sup>	2.59	14.3 <sup>a</sup>	3.16	13.1 <sup>a</sup>	3.142
Positive Reappraisal	13.5 <sup>a</sup>	3.7	12.6 <sup>a</sup>	4.77	12.6 <sup>a</sup>	4.27
Putting into perspective	11.3 <sup>a</sup>	2.75	11.2 <sup>a</sup>	3.45	12.3 <sup>a</sup>	4.49
Catastrophizing	10.3 <sup>a</sup>	1.56	10.2 <sup>a</sup>	2.29	9.2 <sup>a</sup>	2.44
Other-blame	9 <sup>a</sup>	2.16	6.5 <sup>a</sup>	2.5	8.2 <sup>a</sup>	3.11

Means with same superscript are homogenous.

Table 5 shows that there is no significant difference between psoriasis, acne, and melanosis patients with respect to cognitive emotion regulation strategies which means we accept Ho5 this may be due to their awareness of physiological basis of their disease and they tend to accept the situation more and are less likely to attribute to external reasons. Literature suggests that patients affected by psoriasis could have difficulties not only in understanding their emotions but also in regulating their emotions (Picardi et al, 2007).

*Table 6: Analysis of variance of psychological general well being for psoriasis melanosis and acne patients.*

Variable	Between Groups		Within Groups		F Value
	Sum of Squares	Mean Squares	Sum of Squares	Mean Squares	
Anxiety	73.26	36.633	846.6	31.356	1.168
Depression	20.867	10.433	116.1	4.3	2.426
Positive well being	48.8	24.4	162.4	6.015	4.057*
Self-control	5.6	2.8	163.4	6.059	0.462
General health	23.262	11.633	127.4	4.719	2.462
Vitality	11.4	5.7	261.4	9.681	0.589
<b>Total</b>	<b>368.86</b>	<b>184.3</b>	<b>2900.2</b>	<b>107.415</b>	<b>1.716</b>

*Table 6(i): Result of Duncan’s multiple range for psychological general well-being among skin patients.*

Variable	Groups: Psoriasis(N=10)		Melanosis(N=10)		Acne(N=10)	
	Mean	SD	Mean	SD	Mean	SD
Anxiety	9.5 <sup>a</sup>	6	11	5.8 <sup>a</sup>	13.3 <sup>a</sup>	4.9
Depression	8.2 <sup>a</sup>	2.2	9.8 <sup>a</sup>	1.4	7.9 <sup>a</sup>	2.3
Positive Well Being	8.6 <sup>a</sup>	1.7	8.8 <sup>a</sup>	2.4	11.4 <sup>b</sup>	2.9
Self-Control	7.2 <sup>a</sup>	3.01	8.2 <sup>a</sup>	2.6	7.4 <sup>a</sup>	1.5
General Health	6.9 <sup>a</sup>	1.66	7.2 <sup>a</sup>	2.3	8.9 <sup>a</sup>	2.4

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Variable	Groups: Psoriasis(N=10)		Melanosis(N=10)		Acne(N=10)	
	Mean	SD	Mean	SD	Mean	SD
Vitality	10 <sup>a</sup>	2.6	11.6 <sup>a</sup>	2.9	10.7 <sup>a</sup>	3.6
Total	499 <sup>a</sup>	6.4	56.6 <sup>a</sup>	12.04	57.9 <sup>a</sup>	11.6

Means with same superscript are homogenous

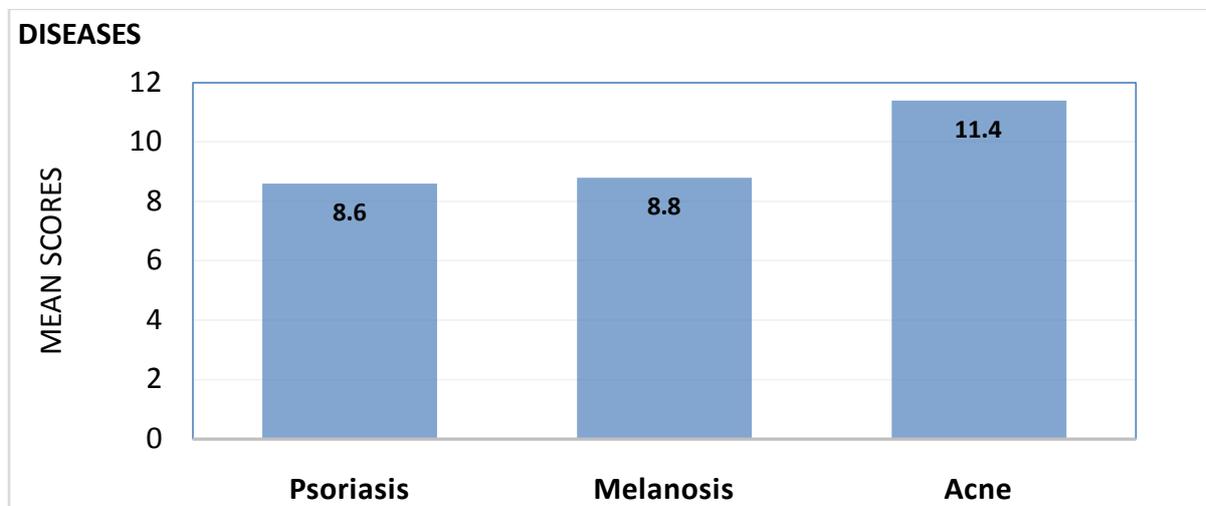


Table 6 indicates that there is significant difference between psoriasis, acne and melanosis patients with respect to positive well-being which means we reject Ho6. Graph 5 shows mean scores for positive well being melanosis, acne and psoriasis patients. It was found that patients with acne have comparatively higher positive well-being. Literature suggests that severity of acne worsens as age advances affecting quality of life (Priya Cinna T, Dhanya G, 2008). Mean age of acne patients included in the study was 22.7. Since they belong to younger age group, severity of disease may be less and their quality of life will be better.

## CONCLUSION

On the basis of above study it can be said that there is significant difference skin patients and non-disease group for perceived stress and psychological general well-being. We also infer that there is significant difference between psoriasis, acne and melanosis patients with respect to perceived stress and positive well-being.

It has become evident that psychological factors play in the development and at times pathogenesis of skin disorders. This emphasises the importance of psychological interventions that must be provided for dermatology patients. So we may conclude that psychodermatology is an emerging and essential field of psychology and psychiatry-psychology professionals should pay attention towards this field and carry out more researches and must come up with more innovative psychological interventions to be provided for dermatology patients and hence help to enhance quality of life and overall well-being among dermatology patients.

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### *Limitations*

One of the main limitations of this study was the small sample size for each of the three skin diseases, which limited the generalizability of conclusions. Another limitation was that the samples were selected from patients attending the dermatology clinic implying that they were probably evaluated during the chronic stage of their condition; therefore, the results cannot be generalized at all stages of the skin condition.

### *Suggestions*

The inclusion of control group as well as clinical group in future studies would assist with the comparison of groups and may provide a better indication of the impact of a diagnosis of skin diseases in terms of various psychological factors. However, this study aims at a more holistic approach towards the treatment of skin disorders with the inclusion of psychotherapy along with medical treatment thereby reducing the probability of relapse in skin patients and thereby reflects the seriousness of the problem which needs to be attended to in a more comprehensive manner.

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