

Assessment of Psycho-Social Effects of Vitiligo in a Tertiary Health Care Centre of Central IndiaFarah Khan¹, Saurabh Sarda², Prasanjeet Dash³, Ransingh Tanwar^{4*}¹Senior Resident, Department of Dermatology, Venereology and Leprosy, AIIMS, Bhopal, Madhya Pradesh, India²Senior Resident, Department of Dermatology, Venereology and Leprosy, Dr. Ulhas Patil Medical College, Jalgaon, Maharashtra, India³Senior Resident, Department of Dermatology, Venereology and Leprosy, Government Medical College, Ratlam, Madhya Pradesh, India⁴Senior Resident, Department of Dermatology, Venereology and Leprosy, Gandhi Medical College, Bhopal, Madhya Pradesh, India

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Abstract:**Background and Objectives:** To study the socio-demographic profile and the effect of Vitiligo on quality of life of these patients. Screening of psychiatric Morbidity in patients with vitiligo.**Material and Methods:** A hospital based, single observer, cross-sectional study was conducted over a period of three months involving 115 patients of vitiligo attending the dermatology OPD of a tertiary health care centre of Madhya Pradesh, India. All the patients between 18 to 65 years of age group, of both the gender with at least 3 months of duration of illness and willing to informed consent were included in the study.**Results:** Highest DLQI score, lowest RSES and highest BRPS was observed amongst 18 to 30 years of age group. Patients with vitiligo had significant reduction in quality of life, self-esteem and psychiatric stress/burden and severity of affliction varied based on various demographic, patient and disease factors.**Conclusion:** Vitiligo although non-life threatening, still continues to be a common cosmetically disfiguring disease. All genders, age groups, races are equally effected with the severity of infliction being significantly more if BSA involved is more or if exposed sites are involved and also the stress and quality of life become worse as the duration of disease increases.**Keywords:** Vitiligo, Psychological, Social, Assessment, QoL.

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Introduction

Skin is said to be the mirror of internal milieu, skin diseases are not just skin deep, instead many of them have internal components associated, some may be associated with underlying metabolic disturbances like psoriasis may be associated with metabolic syndrome, Acanthosis nigricans with underlying insulin resistance and many more, While others may have associated psychological affects. Skin is undoubtedly the most visible organ that determines to a great extent our appearance and plays a major function in social and sexual communication. Appearance is important in our society and it influences the way we are perceived by others [1], thus the effects of skin disorders are not limited to epidermis and dermis, instead they also affect the social, psychological and mental health aspects of lives of affected individuals. Apart from causing physical discomfort and inconvenience, it has been demonstrated that they influence the patient's

personal and social life, daily functioning and psychological status. [2,3,4,5] Skin disorders may lead to negative emotions such as shame or embarrassment, anxiety, lack of confidence [6], low self-esteem with profoundly depressed self image. [7,8] Patient may experience difficulty in personal, sexual and work relationship with difficulty in finding job and carrying out day to day activities. Affected individuals may feel discriminated and stigmatized all this may even lead to psychiatric diseases like depression, unusual thoughts and suicidal tendency [9]. Thus, the skin condition may have a considerable impact on the patient's well-being [10]. Vitiligo is no exception to above observation, with an incidence of 1-4% [11] affecting all the races all over the world; it continues to be one of the most common disfiguring skin disorders. [12] Vitiligo is an acquired pigmentary disorder characterized by depigmented macules

and/or patches [13], although it is more of a cosmetic disease with no threat to life but its psycho-social effects are well established and cannot be ignored. [14] The World Health Organization defines QoL as the "individual's perception of their position in the context of culture and value system in which they live and in relation to their goals, expectations, standards and concerns [15]." Vitiligo not only affects quality of life but also results in reduced self-esteem and impaired psychiatric status of patients. The most commonly used questionnaire to assess the QoL is DLQI questionnaire developed by Finlay et al in 1994 [16], which is the dermatology specific QoL questionnaire, to assess self-esteem Rosenberg Self-Esteem Scale and Brief Psychiatric Rating Scale to assess psychiatric burden imparted to due disease.

Rationale of Study: There have been many studies establishing the psycho-social effects and assessing the reduced QoL in vitiligo patients but not many studies have been reported to assess the reduced self-worth and psychiatric burden in vitiligo patients using standard scales, especially from central India. Thus our study assess the QoL, Self-Esteem and Psychiatric burden using DLQI, Rosenberg Self-Esteem Scale and Brief Psychiatric Rating Scale in vitiligo patients attending dermatology OPD in one of the tertiary health care centre of central India.

Aim: To study the Quality of Life, Self-esteem and Psychiatric morbidities in patients of Vitiligo.

Objectives:

- To study the socio-demographic profile.
- To study the effect of Vitiligo on of quality of life of these patients.
- To screen Psychiatric Morbidity in patients with vitiligo.

Material & Methods

A hospital based, single observer, cross-sectional study, after obtaining clearance from institutional ethical board was conducted over a period of 3 months involving 115 patients of vitiligo attending the dermatology OPD of a tertiary health care centre of Madhya Pradesh, India. All the patients between 18 to 65 years of age group, of both the gender with at least 3 months of duration of illness and willing to informed consent were included in the study. Demographic profile i.e. age, gender, religion, domicile, marital status, occupation, education and any past/family medical history clinical diagnosis with sites and percentage of body surface area affected were noted in case record sheet. The QoL, effect on self-worth and psychiatric morbidity were assessed using DLQI index, Rosenberg Self-Esteem Scale and Brief Psychiatric Rating Scale respectively.

Observation & Results

Effect of vitiligo on:

Table 1: DLQI (Quality of life assessment)

Score	Mean	SD	Very Small	Moderate	Very Large	Extremely Large
DLQI	12.38	4.5	12 (10.4%)	34 (29.6%)	67 (58.3%)	2 (1.7%)

Table 2: RSES (Self-esteem assessment)

Score	Mean	SD	Low Self- Esteem	Noramal Self-Esteem	High Self-Esteem
RSES	16.4	2.9	29(25.2%)	86(74.8%)	0(0%)

Table 3: BPRS (Psychiatric burden assessment)

Score	Mean	SD	Very Mild Ill	Mild Ill	Moderately Ill	Markedly Ill
BRPS	28.47	4.8	73 (63.5%)	42 (36.5%)	0	0

Table 4: Dermatology Life Quality Index Scores According to the Demographic and Clinical Features of Patients with Vitiligo

S.No	Demographic Variable	Subgroups	Mean	SD	P Value
1	Age	18-30 years	12.39	4.8	0.03
		30-40 years	12.65	4.5	
		40-50 years	11.07	4.0	
		50-60 years	10.17	3.2	
		>60 years	10.02	3.0	
2	Gender	Male	12.20	3.5	0.60
		Female	12.70	4.7	
3	Domicile	Rural	14.0	2.4	0.20
		Urban	12.0	2.4	
4	Marital Status	Married	12.60	4.6	0.50
		Unmarried	12.07	3.4	
5	Education	Educated	12.16	4.12	0.28
		Uneducated	13.32	6.02	
6	Occupation	Employed	12.69	4.5	

		Unemployed	11.60	4.1	
7	Duration Of Disease	<3 months	6.7	2.1	0.001
		3-9 months	12.0	3.2	
		>9 months	16.0	4.2	
8	Sites Involved	Exposed	14.67	4.1	0.001
		Unexposed	9.89	3.7	
9	Bsa Affected	<10%	7.7	3.4	0.001
		10-30%	13.0	3.3	
		>30%	17.0	4.6	
10	Skin Type	FAIR	12.0	2.4	0.20
		DARK	14.0	2.4	

Table 5: Rosenberg Self-Esteem Scores According to the Demographic and Clinical Features of Patients with Vitiligo

S. No	Demographic Variable	Subgroups	Mean	SD	P Value
1	Age	18-30 years	14.30	2.4	0.13
		30-40 years	16.50	2.5	
		40-50 years	16.00	2.6	
		50-60 years	17.50	2.8	
		>60 years	17.56	3.0	
2	Gender	Male	15.20	3.0	0.40
		Female	14.70	2.7	
3	Domicile	Rural	13.0	2.4	0.20
		Urban	15.0	2.4	
4	Marital Status	Married	15.73	2.6	0.28
		Unmarried	15.07	2.4	
5	Education	Educated	16.15	2.8	0.33
		Uneducated	15.82	3.5	
6	Occupation	Employed	15.11	2.5	0.15
		Unemployed	15.60	2.5	
7	Duration Of Disease	<3 months	14.7	2.1	0.001
		3-9 months	13.0	2.1	
		>9 months	12.0	2.2	
8	Sites Involved	Exposed	12.03	1.1	0.001
		Unexposed	15.08	2.1	
9	Bsa Affected	<10%	19.0	2.4	0.001
		10-30%	14.0	2.2	
		>30%	12.0	1.8	
10	Skin Type	FAIR	15.0	2.4	0.20
		DARK	13.0	2.0	

Table 6: Brief Psychiatric Rating Scale Scores According to the Demographic and Clinical Features of Patients with Vitiligo

S.No	Demographic Variable	Subgroups	Mean	SD	P Value
1	Age	18-30 years	30.73	3.5	0.04
		30-40 years	29.55	4.5	
		40-50 years	28.90	4.6	
		50-60 years	27.68	4.4	
		>60 years	28.65	4.2	
2	Gender	Male	28.05	3.5	0.09
		Female	29.73	5.1	
3	Domicile	Rural	29.06	2.4	0.15
		Urban	27.65	2.4	
4	Marital Status	Married	27.56	4.7	0.10
		Unmarried	29.06	4.7	
5	Education	Educated	28.22	4.6	0.24
		Uneducated	29.56	5.5	
6	Occupation	Employed	29.16	4.6	0.15
		Unemployed	28.19	4.8	

7	Duration Of Disease	<3 months	25.7	2.1	0.001
		3-9 months	28.0	2.1	
		>9 months	32.0	2.2	
8	Sites Involved	Exposed	30.62	3.9	0.001
		Unexposed	26.13	4.6	
9	Bsa Affected	<10%	24.54	4.7	0.001
		10-30%	29.01	4.1	
		>30%	32.38	3.8	
10	Skin Type	FAIR	27.56	4.7	0.10
		DARK	29.06	4.7	

Comparison of:

- Scale Score According to Age Group:** - Highest DLQI score, lowest RSES and highest BRPS was observed amongst 18 to 30 years of age group but the difference in scores among various age groups was **not significant**. The relation between age and DLQI, RSES & BPRS was not statistically significant. [17,18,19] This effect may be because of more social interaction and high consciousness for social appearance among young age people.
- Scale Score Difference Between Gender-** . Although women were affected more as compared to men but the relation between DLQI, RSES and BPRS with gender was not significant similar findings were reported by *Ongenaes et al* [20] in his study of 119 vitiligo patients, with female patients reporting much more self-consciousness and embarrassment. But the difference was **insignificant** [21,22,23,24] due to increasing cosmetic awareness amongst males as well.
- Scale Score According to Marital Status:** - The relation between various scores and marital status was found to be non-significant. [25,26,27,28,29] Unmarried individuals and married people were equally inflicted by the disease but the reasons were different. Married study population reported about peer pressure, sexual dysfunction, emotional disturbance, fear of transmitting the disease to future generations and in some cases even divorce was reported whereas single patients reported difficulty in getting married.
- Scale Score Based on Occupation:-**
 Similar to Wong and Baba *et al* employed study group had greater impact on their lives as they had to go out for work thereby facing social embarrassment and isolation [30], they also reported increased leave taking behavior to attend treatment session [31,32] whereas unemployed groups including housewives suffered lesser impairment. The relation between scores and occupation was **not significant**.
- Scale Score According to Education Status:-**

Uneducated individuals suffered more than educated people but the difference in scores was **not statistically significant**, similar findings have been reported by Doshi *et al* [33] in his study on vitiligo.

- Scale Score Based on Domicile:-**

There was **no significant** correlation between DLQI, RSES & BRPS and domicile. Rural population suffered stigmatization and isolation because of vitiligo being confused with leprosy and inheritable disease whereas urban population suffered more due to cosmetic embarrassment.

- Scale Scores on the Basis of Skin Color:-**

Dark skin individuals experienced more embarrassment, self-consciousness and psychiatric burden as compared to fair skinned individuals, but the difference was **not statistically significant**. Doshi *et al* [34] found higher the skin phototype more is DLQI whereas Porter *et al* [35] found no significant correlation between skin complexion and effect of vitiligo.

- Scale Score Based on Duration Of Disease:-**

Duration of disease had a significant correlation with scores.

As the duration of disease increases, the quality of life and self-esteem decreases and psychological burden increases. The long term feeling of embarrassment and shame of appearance cause patients of vitiligo to socially isolate themselves, thereby impairing the QoL, similar finding have been reported by Parsad *et al* [36], Radtke *et al* [37], Ghajarzadeh *et al* [38]

- Scale Score Based on Sites Involved:-**

There was **significant correlation** between the site affected and the scale score, individuals with exposed sites affected had significantly reduced quality of life, self-esteem and high psychiatric burden when compared to individuals with unexposed sites being affected. Similar findings have been reported by Wong and Baba *et al* [39], Radtke *et al* [40] and Wang *et al* [41].

- Scale Score on the Basis Of Bsa:-**

There was a **significant correlation** between the %BSA affected with the impairment in quality of

life, low self-esteem and psychiatric burden. Kiprono et al [42], Karelson et al [43], Radtke et al [44], Silverberg and Silverberg [45], Wong and Baba et al [46] and Belhadjali et al [47] also found a positive correlation between BSA and DLQI.

Discussion:

Vitiligo is a common cosmetically disfiguring condition encountered by dermatologist in their routine OPDS, although the disease is not life-threatening but it has a social stigma, psychological stress, embarrassment and low self-esteem associated with it. Earlier vitiligo was confused with leprosy, thus it was also known as sweta kusth meaning white leprosy which gave rise to theory of it being infectious and contagious [48], as a result vitiligo patient suffered similar mental abuse, isolation and segregation like leprosy. [49] Even today such misconception of vitiligo being contagious, curse and inheritable continue to persist particularly in rural areas, in addition to above myths, in urban areas increasing cosmetic awareness and concern continues to make it one of the most disfiguring and psychologically disturbing dermatological disease. Apart from cosmetic disfigurement, it leads to social isolation, stigmatization and embarrassment which lead to poor quality of life of patients, low self esteem and anxiety, stress and even depression and suicidal thoughts in extreme cases [50]. The degree of effects it produces depends on various demographic factors. There have been many studies all around the world to assess the effect of vitiligo with demographic factors on quality of lives of patients [51]. Our study on patients from central India and assess above parameters with standard scales. Patients with vitiligo had significant reduction in quality of life, self-esteem and psychiatric stress/burden and severity of affliction varied based on various demographic, patient and disease factors. Women as compared to men, [52,53,54,55,56] age group of 18-30 years, unmarried in comparison to married, patients from rural areas than urban population, less educated, employed in comparison to unemployed, dark complexioned than fair skinned patients, experienced lower quality of life, low self image and high psychiatric burden due to the disease, but the difference was not statistically significant. The factors that significantly affected the life of patients were body surface area involved, duration of disease, sites involved i.e. individuals with exposed sites affected experienced much more poor quality of life, low self image and psychiatric burden.

Conclusion:

Vitiligo although non-life threatening, still continues to be a common cosmetically disfiguring disease. All genders, age groups, races are equally effected with the severity of infliction being significantly more if BSA involved is more or if

exposed sites are involved and also the stress and quality of life become worse as the duration of disease increases. Thus treatment alone is not effective in these patients, we need to identify and address the psychological and social issues associated with the disease.

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