"CROSS SECTIONAL STUDY OF DLQI SCORE IN VITILIGO PATIENTS ATTENDING A TERTIARY CARE HOSPITAL"

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Endorsement

This is to certify that the dissertation entitled **"CROSS SECTIONAL STUDY OF DLQI SCORE IN VITILIGO PATIENTS ATTENDING A TERTIARY CARE HOSPITAL"**is a bonafide research work done by **(REG NO. BT0118003).**

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ABBREVIATIONS

Sr. No.	Abbreviation	Expansion
1.	HLA	Human leucocyte antigen
2.	DQB1	DQ beta 1
3.	Anti- TPO	Thyroperoxidase antibodies
4.	CD	Cluster of differentiation
5.	MHC	Major histocompatibility complex
6.	H_2O_2	Hydrogen peroxide
7.	DLQI	Dermatology Life Quality Index
8.	VASI	Vitiligo area severity index
8.	PUVA	Psoralen and UVA
9.	SF	Short form
10.	UL	Upper limb
11.	LL	Lower limb

ABSTRACT

A cross sectional study of DLQI score in vitiligo patients

Background: Vitiligo is an acquired, idiopathic depigmentary disease with progressive loss of the skin color.It is a major cause of social stigma having a very large impact on the patient's quality of life. Hence, this study was undertaken to have a clearer understanding of the patient's psyche obtained through DLQI which would eventually help in the treatment outcome.

Study aim: To evaluate the quality of life in vitiligo patients through DLQI.

Material and methods: Patients diagnosed with vitiligo of either sex and age group 18-60 years presenting over a period of one year were included. Patients suffering from other cutaneous diseases, pregnant and breast feeding females were excluded. Each patient was asked to fill in the 10 item dermatology life quality index (DLQI) questionnaire after obtaining their informed consent**.**

Results: In our study, (54%) were males and (49%) were females. Sex ratio (M:F) was 1.7:1. The most common age group affected was 21-30 years (28%). Onset of vitiligo was seen between 21-40 years in 55%. 35% were students and among the females, housewives were the most commonly affected (29%). First-degree family history of vitiligo was present in 5%. 8% had disease associations with hypothyroidism (6%) and diabetes mellitus(2%). Trunk(55%) was the most common site involved. Vitiligo vulgaris (72%) was the most common type observed. Mean of DLQI score observed was 12. 53% had DLQI score between 11-20. Higher score was observed among the unmarried female patients (15) , students (13) and patients with lesions on the exposed areas(13).

Conclusion: Vitiligo has a profound effect on the quality of life of patients. Thus, from this study, we infer that DLQI is a reliable and valid measure of quality of life in vitiligo patients.

Keywords- DLQI , score, vitiligo

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INTRODUCTION

Vitiligo is an acquired, progressive, multifactorial disorder presenting as well-demarcated, ivory white or chalky white macules and patches due to melanocyte loss from the affected areas.[1]

It affects both genders equally.

Vitiligo is a difficult disease to treat and despite all the treatment modalities, it is recalcitrant to treatment and it is frustrating for both the doctors and patients.

Vitiligo significantly affects the psychological well being of the patient and is a major cause of stigma which can cause low self esteem, low confidence and anxiety.[2]

In 1994, Finlay AY and khan had developed Dermatology Life Quality Index (DLQI), a questionnaire for assessment of quality of life in patients with cutaneous diseases.[2]

Quality of life tools help in giving a clear picture of how patients live with their disease thereby improving the physician-patient relationship.

Thus we undertook this study to have a better understanding of the patient's psyche, obtained through DLQI which would improve physician-patient relationship therefore leading to better compliance and improvement in the treatment outcome.[2]

AIM AND OBJECTIVE OF THE STUDY

- To evaluate the quality of life in patients suffering from vitiligo through Dermatology Life Quality Index.

REVIEW OF LITERATURE

DEFINITION

Vitiligo is an asymptomatic, acquired depigmentary disorder, slowly progressive, affecting the skin and mucous membrane presenting as white macules and patches.[1] It is often associated with leukotrichia.It affects both the sexes equally.

The various synonymsof vitiligo are kilas, phubhari, bars, switra, sufaid bagh, palita, sweta kushta, dhawal, phuleri, kodha, bahak and kustha.[3]

HISTORY

The origin of the term vitiligo is uncertain.The word vitiligo derives its origin from the Latin word "vitelius"[4] meaning vale i.e. pale pink flesh of calf.In Rig Veda, it is referred to as "Kilas" which means a white spotted deer.[5,6,7] In 1500 BC Atharva veda referred vitiligo as "Sweta Kushtha" (white leprosy).[8]Patients suffering from vitiligo have low self-confidence and anxiety issues.[9]

EPIDEMIOLOGY

Vitiligo's prevalence estimated globally is around 1 %.[10] However, as mentioned in the literature, it is 0.1-0.6 % in China [11], 2-5-4% in Mexico [12], 0.15-3.0% in Western Europe [13],0.7% in Africa [14], 0.1-8.8% in India[15,16] and 1 % in the United States.[17]

INHERITANCE AND GENETIC FACTORS

The familial incidence of vitiligo is between 20-30%.[18, 19] It is inherited as an autosomal dominant pattern with incomplete inheritance.[20,21] There are about 36 loci

known which increases a person's susceptibility to vitiligo.[22] There can be a genetic intolerance of melanocytes to tolerate oxidative stress leading to occupational or contact vitiligo.[23] Genetic factors have a very important role to play in determining one's susceptibility to generalized vitiligo.[24,25]

HLA ASSOCIATION IN VITILIGO

HLA-A2, DR4, DR7 DQB1*0303 are the halotypes known to increase a patient's susceptibility to vitiligo.[26-28]

PATHOGENESIS

The various theories involved in its pathogenesis are:

1) AUTOIMMUNE THEORY

Both cell mediated and humoral immunity have a role to play in vitiligo. [29,30] Perilesional skin melanocytes from unstable vitiligo have greater caspase 3 and low adhesion to collage type IV.[31] Free radical damage is the initial event responsible for melanocyte degeneration.[32] Mucosal vitiligo has an association with thyroid autoimmunity.[33,34] Anti-TPO levels are commonly higher in vitiligo patients.[35,36]The main cells responsible for immune mediated destruction are the CD8+ cytotoxic cells.[37] Elevated CD25 and MHC II leads to increase secretion of interferon gamma which causes apoptosis of melanocytes.[38,39,40]

2) NEURAL HYPOTHESIS

Emotional factors, trauma and stress is an initiating or a precipitating factor in vitiligo[41,42] which is mediated by the neuropeptides.[43]

3) **AUTOTOXIC SELF DESTRUCTIVE HYPOTHESIS**

Quinones, produced as a metabolite in the pathway of synthesis of melanin are toxic to melanocytes.[44]

4) **IMPAIRED REDOX STATUS THEORY**

Increased catecholamine and nitric oxide synthetase activity along with abnormalities in the tetrabiopterin metabolism leads to increased level of epidermal H_2O_2 with reduced catalase levels in both affected and unaffected skin.[45]

5) **MELANOCYTE INHIBITION OR DEFECTIVE ADHESION**

Due to repeated friction and trauma[4] , there is loss of melanocytes owing to defective adhesion leading to new lesions (Koebner's phenomenon).[46]

6) **MELANOCYTORRHAGY HYPOTHESIS**

Tenascin results in loss of melanocytes as reported in the literature.[47]

7) **CONVERGENCE OR INTEGRATED THEORY**

Owing to the genetic defective adhesion, attachment of melanocyte gets weakened.[48]

CLINICAL FEATURES

The most typical lesion is an asymptomatic depigmented macule or patch measuring few mm to many cm in diameter.[43]It is insidious, progressive in nature and associated with many remissions and exacerbations.[42]Extensor aspect of extremities and around the orifices are frequently involved.[49,50] Leukotrichia is usually seen in

vitiligo lesions especially in hairy areas. Segmental vitiligo with leukotrichia has a poor prognosis. The lesions can develop due to repeated trauma and friction in areas like ankles, elbows, knees, this is known as Koebner's phenomenon.[51]

Classification of vitiligo[52]

TYPE OF VITILIGO	**SUBTYPE**	**DESCRIPTION**
1)Localized vitiligo	a)Focal	≥ 1 macules in one area
	b)Segmental	≥1 macules in one area in a segmental distribution
	c)Mucosal	Macules only in mucous membrane
2)Generalized vitiligo	a)Acrofacial	Macules on distal part of extremities and the face
	b)Vulgaris	There are scattered macules with symmetrical distribution all over
	c)Mixed	Mixed forms can occur
3)Universal vitiligo		There is complete or almost complete depigmentation

Other morphological types include: vitiligo ponctue, trichrome, quadichrome, pentachrome vitiligo, blue vitiligo and inflammatory vitiligo.[53] There are 3 zones in trichrome vitiligo: vitiligo patch, intermediate zone and the surrounding normal skin.[43] In quadichrome, there is perifollicular or marginal repigmentation.[54] In pentachrome, five colours are seen namely white, tan, brown, blue-gray hyperpigmentation and normal skin.[55]

DISEASE ASSOCIATIONS WITH VITILIGO

Commonly associated diseases with vitiligo include alopecia areata, pernicious anemia and diabetes mellitus.[56]

Syndromes associated with vitiligo include:

a) Alezzandrini's syndrome[56]:- presents during adolescence with segmental vitiligo, poliosis, ipsilateral uveitis, same side partial hearing loss

b) Vogt- Koyanagi-Harada syndrome[56]:- uveitis, alopecia, dysacusia, poliosis, aseptic meningitis, vitiligo

DIAGNOSIS

1. It is mostly clinical
2. Wood's lamp examination- accentuation of margins and milky white fluorescence
3. In case of a diagnostic difficulty, skin biopsy is helpful.
4. Screening for auto antibodies- to rule out any associated autoimmune disease.

DIFFERENTIAL DIAGNOSIS [35]

It includes:

- Pityriasis alba- more common in the childhood
- Post kala azar dermal leishmaniasis- more commonly encountered in the endemic areas and the early stages (hypopigmented macules) resemble vitiligo

- Pityriasis versicolor- It can closely resemble vitiligo but chip sign is positive here and on doing potassium hydroxide wet mount preparation, presence of yeast in classical spaghetti meatballs appearance is seen.
- Post inflammatory hypopigmentation
- Chemical leukoderma- it has a site specificity occurring due to exposure of skin to specific chemicals. For e.g. it is seen over the feet due to footwear.
- Piebaldism- congenital condition with presence of white forelock, typical sparing of hands, feet and periorifical areas.
- Nevus depigmentosus- congenital condition, remains stable throughout life
- Albinism- due to enzymatic defect in melanocytes, clinically present as partial and total pigment loss and ocular features such as photophobia, myopia can be present.
- Syphilis and yaws- leucoderma syphiliticum that is seen during the secondary stage of syphilis can resemble vitiligo so, in these cases, a proper history and tests have to be carried out to rule out syphilitic etiology.
- Incontinentia pigmenti- It primarily occurs in females and lesions develop along the Blaschko's lines.

PROGNOSIS [57,58,59]

Factors related to poor outcome:

1. Lesions present over the bony prominences
2. Genetic factors
3. Leukotrichia
4. Old age
5. Other associated systemic diseases

TREATMENT MODALITIES

With no definitive cure, it is always challenging for the clinicians.[60,61]

Treatment depends on various factors:

1) Age of the patient- young patients respond well to treatment whereas old patients require more aggressive treatment.
2) Site of the lesions- Treatment is chosen according to the site where lesion is present.
3) Extent of involvement-If it is localized, topical treatment is given and for extensive involvement, systemic therapy and phototherapy has to be given.
4) Stability of lesions-If the lesions are stable, outcome is better

Various treatment modalities to treat this condition are as follows:-

1) MEDICAL

Limited skin lesion can be treated with topical modalities and target phototherapy.

a) TOPICAL

- Corticosteroids
- Calcipotriol
- 5-fluorouracil
- Calcineurin inhibitors

b) SYSTEMIC

Extended skin lesions require systemic immunomodulators, phototherapy or depigmentation of residual normal skin.

- Cyclophosphamide
- Azathioprine
- Corticosteroids

2) PHOTOTHERAPY

- Oral PUVA
- PUVA sol
- Topical PUVA
- Narrow band UVB phototherapy

3)SURGERY

Autologous skin grafting techniques include mini punch grafting, suction blister grafting and split thickness skin.[62]

4) DEPIGMENTATION

- It is done using monobenzylether of hydroquinone cream.

5) ALTERNATIVE THERAPIES

- Eczimer laser
- Cosmetic camouflage
- Broad spectrum sunscreens

ASSESSMENT OF VITILIGO SEVERITY[63]

Vitiligo area scoring index (VASI) was developed by Hamzavi [63] to assess the severity. Five different sites: upper extremities, lower extremities, trunk, hands and the feet are taken into consideration. The involvement is denoted in hand units (%).

- 100%- complete depigmentation
- 90%- specks of pigment present
- 75%-more depigmented area in comparison to pigmented area
- 50%- equal pigmented and depigmented areas
- 25%- more pigmented areas as compared to depigmented area
- 10%- only few depigmented areas

Total body VASI= S All body sites [Hand units] x [residual depigmentation]

QUALITY OF LIFEis severely affected by many diseases which have an impact on cosmesis or lead to social or financial disabilities, therefore the patients need to accept and fight the disease without worrying about the cultural beliefs and other psychological problems.[64,65]

Psychiatry morbidity is raised in the affected individuals and necessary intervention is required.[66,67] For a holistic approach towards treatment in this condition, physicians need to consider quality of life in these patients.[68,69] The psychological impact needs to be assessed regardless of depigmentation extent.[70,71]

The main principle is to know the health state of a person by an appropriate questionnaire.[9,72] It helps to measure needs discerned by the patients themselves and not by their doctors.[73,74] General health surveys that can be used are SF-36, Rosenberg's self esteem scale.[75,76,77]

Out of the different scoring systems available, DLQI (Dermatology Life quality index) questionnaire is superior for being short, simple, easy to complete and the most reliable.[2] It was devised by Finlay and khan in 1994 to assess the quality of

life in patients with cutaneous diseases.[2] It includes ten questions and each question is scored from 0-3.

	SCORE 0-3
Very much	3
A lot	2
A little	1
Not at all	0
Not relevant	0

10 questions which are a part of the questionairre
Q1 and 2-symptoms and signs
Q 3/4-daily activity
Q5 and 6- leisure
Q7-work and school
Q 8/ 9-personal relationship
Q 10-treatments

QUALITY OF LIFE IN VITILIGO

Vitiligo considerably affects the psychological well being leading to low self-confidence, embarrassment.[78,79] Psychiatric issues are frequently seen with a prevalence of 25-35% in Europe and in India.[80,81,82] It has a considerable influence on the patient's lives in India (10.7)[83,84] Many vitiligo patients get depressed due to the stigma associated with it.[85,86] Therefore, evaluation of psychological and social factors associated with vitiligo becomes a chief priority.[87,88] Hence, we decided to study the DLQI in patients of vitiligo attending our dermatology department.

METHODOLOGY

STUDY SOURCE: This study was conducted on the vitiligo patients in the Department of Dermatology, Venereology and Leprosy, in a tertiary care hospital as a part of MD academic curriculum.

STUDY DURATION: It was conducted between 1st January 2019 to 31st December 2019

ETHICAL CLEARANCE: It was taken from Institutional Ethical Committee of Human Subjects Research.

STUDY DESIGN: Cross sectional study

SAMPLE SIZE: Universal sampling technique was used.

INCLUSION CRITERIA

- Subjects of either sex of age group 18-60, with a diagnosis of vitiligo confirmed by a dermatologist.
- Subjects willing to give informed consent.

EXCLUSION CRITERIA

- Patients suffering from other cutaneous diseases
- Pregnant and breast feeding females

After obtaining their informed consent, each patient was asked to fill in the 10 item dermatology life quality index (DLQI) questionnaire.[2]

A prior permission for the use of DLQI questionnaire was obtained (License ID CUQoL2252).

STATISTICAL ANALYSIS

- Data analysis was done using R software version 3.6.3 and Excel. Categorical variables are given in the form of frequency table. Continuous variable age is represented by mean ± SD form. Chi-square test was used to analyze categorical data. Mean/distributions were compared using t-test/Mann-Whitney test. P-value less than or equal to 0.05 indicates statistical significance. Results were graphically represented where deemed necessary.

OBSERVATIONS AND RESULTS

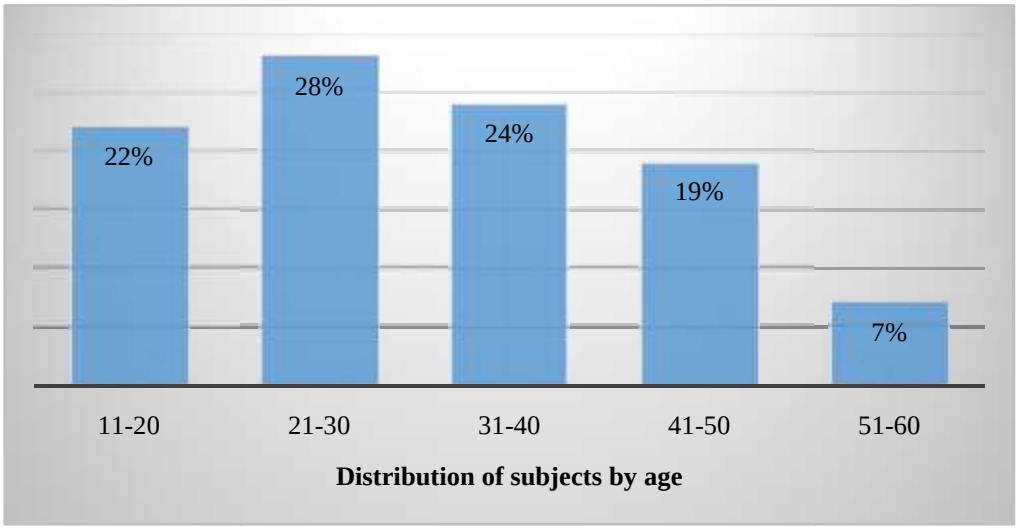
1. AGE DISTRIBUTION

28% were between 21-30 years followed by 24% in 31-40 in our study. The mean age was 32.6±11.39 (18, 60)

TABLE 1. Shows distribution of subjects according to age

Age (in years)	Number of cases (%)
11-20	22 (22%)
21-30	28 (28%)
31-40	24 (24%)
41-50	19 (19%)
51-60	7 (7%)
Mean± SD (Min, Max)	32.6±11.39 (18, 60)

CHART 1.Bar graph denoting no. of cases in different age groups



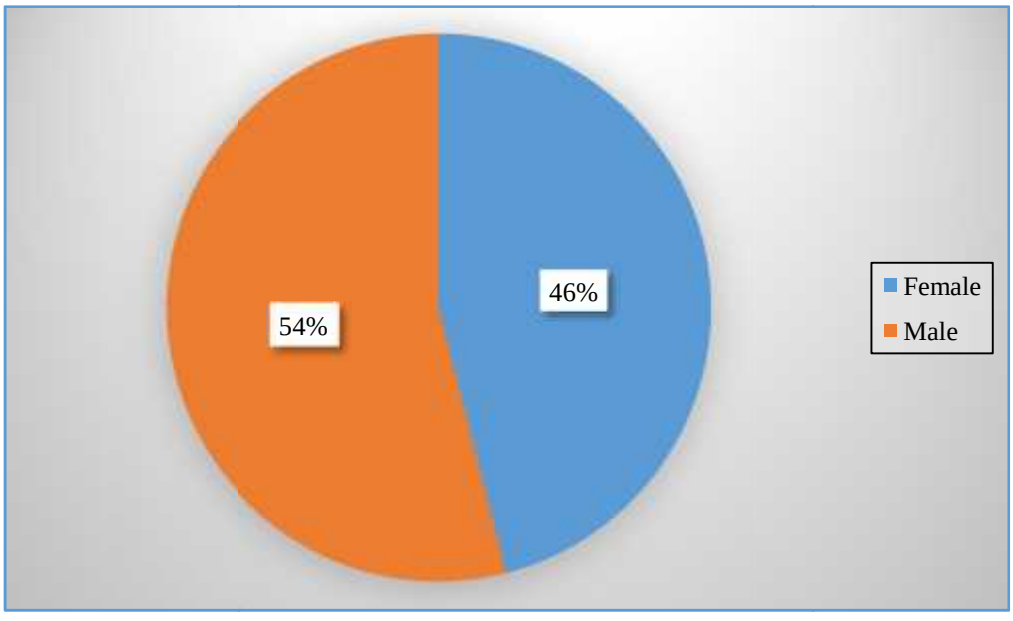
2. GENDER DISTRIBUTION

Males 54 (54%) and females 46 (46%) were present in our study. M:F was 1.17:1

TABLE 2.shows gender distribution

Gender	Number of subjects (%)
Male	54(54%)
Female	46(46%)
Total	100 (100%)

CHART 2. No. of male and female subjects in the study



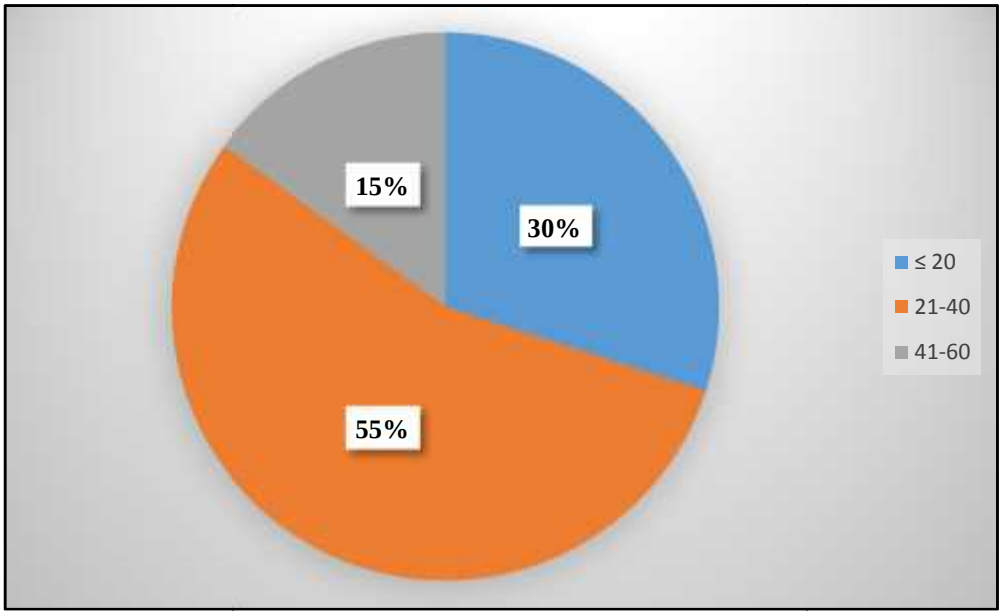
3. AGE (ONSET) DISTRIBUTION

Onset between 21-40 years was seen in 55%, ≤ 20 years in 30%. The mean age of onset was 27.91±11.89

TABLE 3.shows distribution according to age(onset)

Onset Age (in years)	Number of cases (%)
≤ 20 years	30 (30%)
21-40 years	55 (55%)
41-60 years	15 (15%)
Mean± SD (Min, Max)	27.91±11.89 (7, 60)

CHART 3. Shows the age when disease had begun in different cases



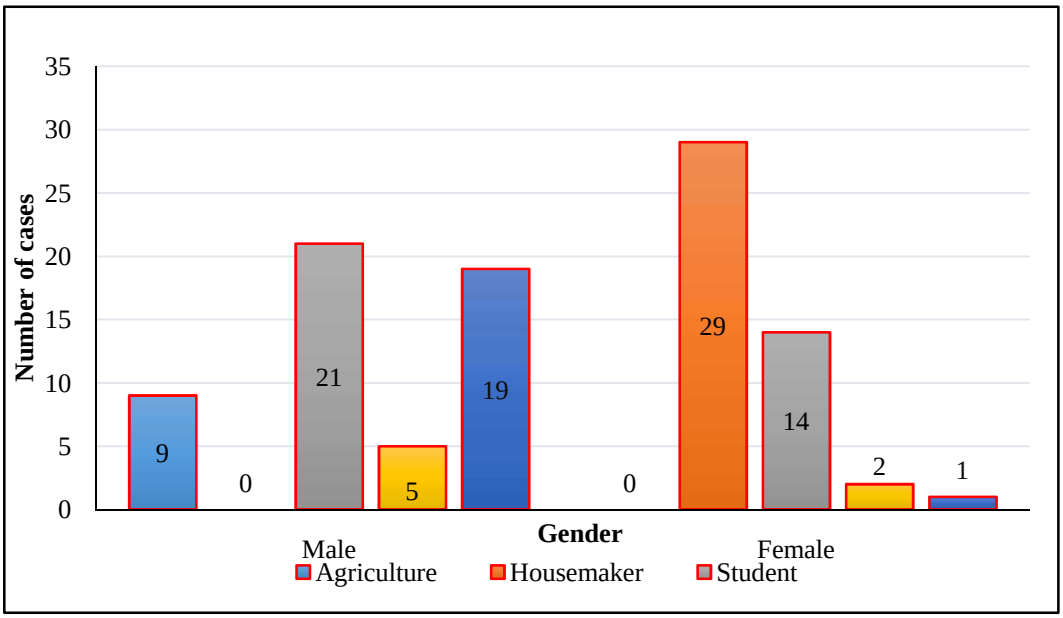
4. DISTRIBUTION BY OCCUPATION

35% were students. Among male subjects, 21% were students whereas in females, 29% were housewives.

TABLE 4. Distribution according to occupation

Occupation	Male	Female	Total
Agriculture	9(16.67%)	0	9(16.67%)
Homemaker	0	29(53.7%)	29(53.7%)
Student	21(38.89%)	14(25.93%)	35(64.81%)
Clerical	5(9.26%)	2(3.7%)	7(12.96%)
Others	19(35.19%)	1(1.85%)	20(37.04%)

CHART 4. Bar graph depicting occupation



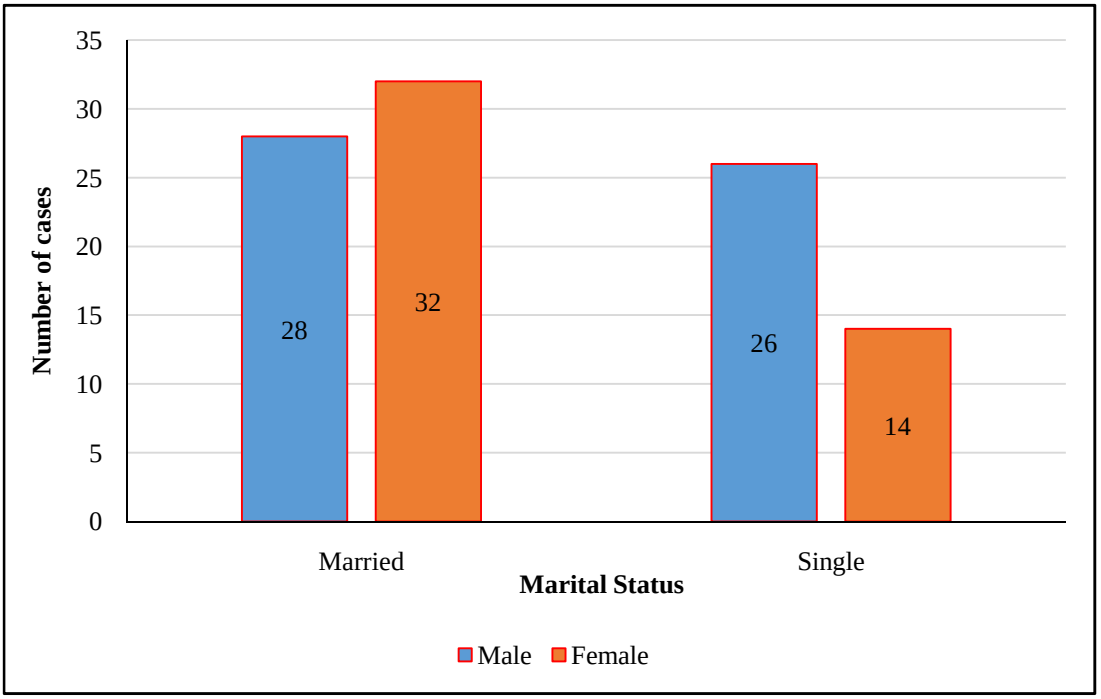
5. DISTRIBUTION BY MARITAL STATUS

60 subjects were married (out of which male-28 and female-32) and 40 subjects were unmarried (out of which, male-26 and female-14).

TABLE 5.shows married and unmarried male and female cases

Marital status	Male	Female	Total
Married	28 (51.85%)	32 (69.57%)	60 (60%)
Unmarried	26 (48.15%)	14 (30.43%)	40 (40%)
Total	54 (54%)	46 (46%)	100 (100%)

CHART 5. Depicts married and unmarried cases



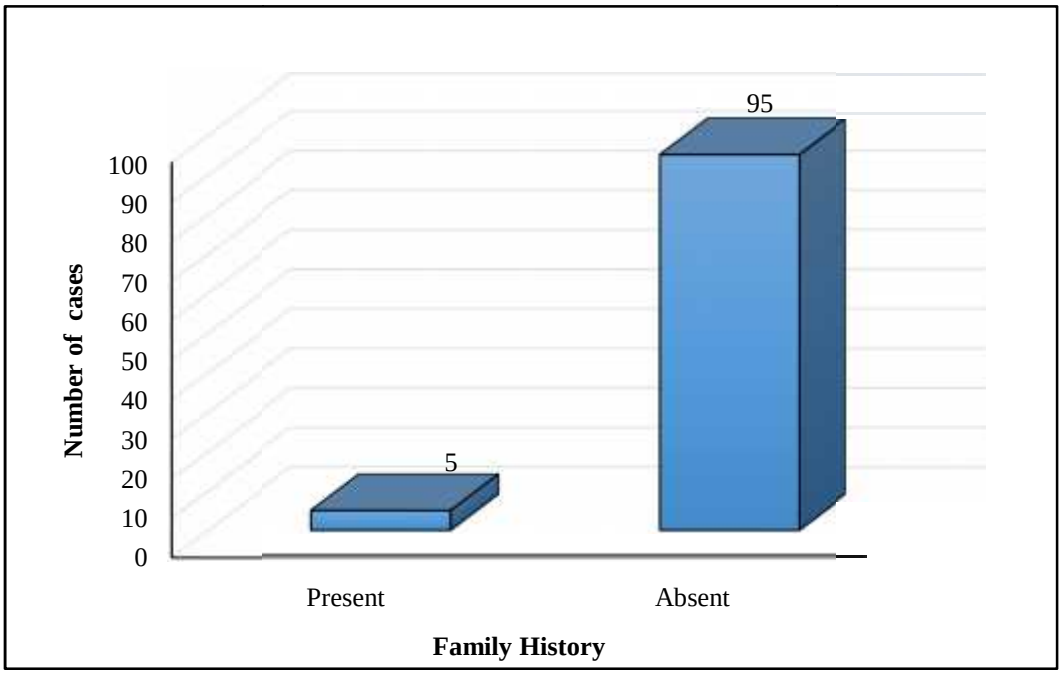
6. FAMILY HISTORY

In 5 patients, there was a first degree family history.

TABLE 6.shows cases with and without a history of vitiligo in family

Family History	Count (%)
Present	5
Absent	95

CHART 6. Bar chart depicting family history



7. DISEASE DURATION

20 years was the maximum and 15 days was the minimum duration of the disease observed.

TABLE 7.shows disease duration

Duration of disease	
4.68±4.67	
Range	(15 days, 20years)

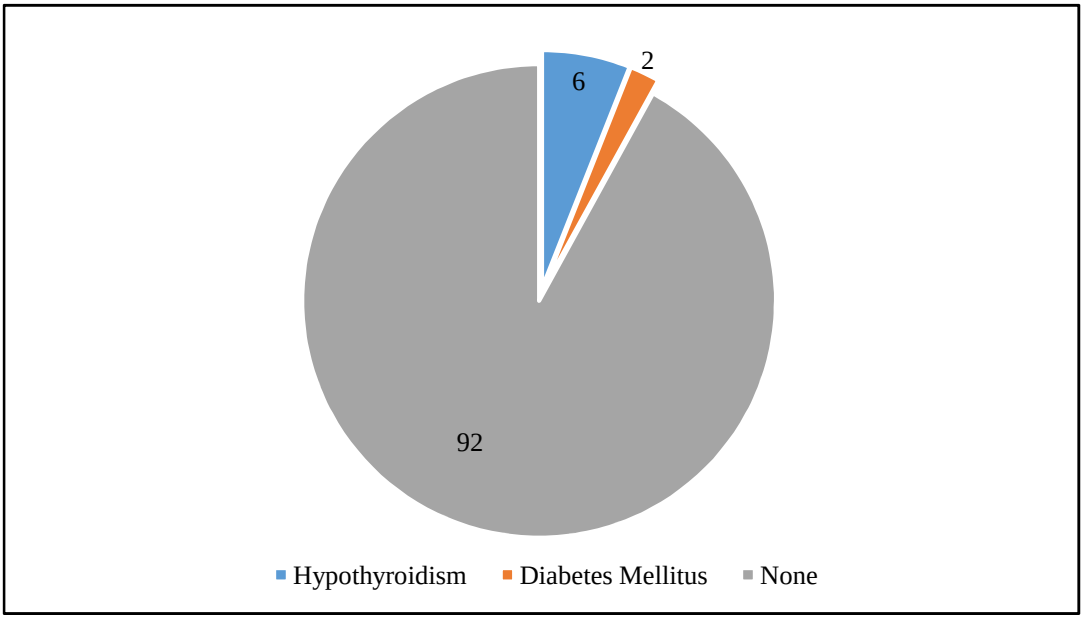
8. ASSOCIATED DISEASES

Out of 100 subjects, 8 had associated diseases out of which 6 had thyroid abnormality (hypothyroidism) and 2 had diabetes mellitus.

TABLE 8. Associated diseases with vitiligo

Associated diseases	Count (%)
Hypothyroidism	6
Diabetes Mellitus	2
None	92

CHART 7. Shows disease associations with vitiligo



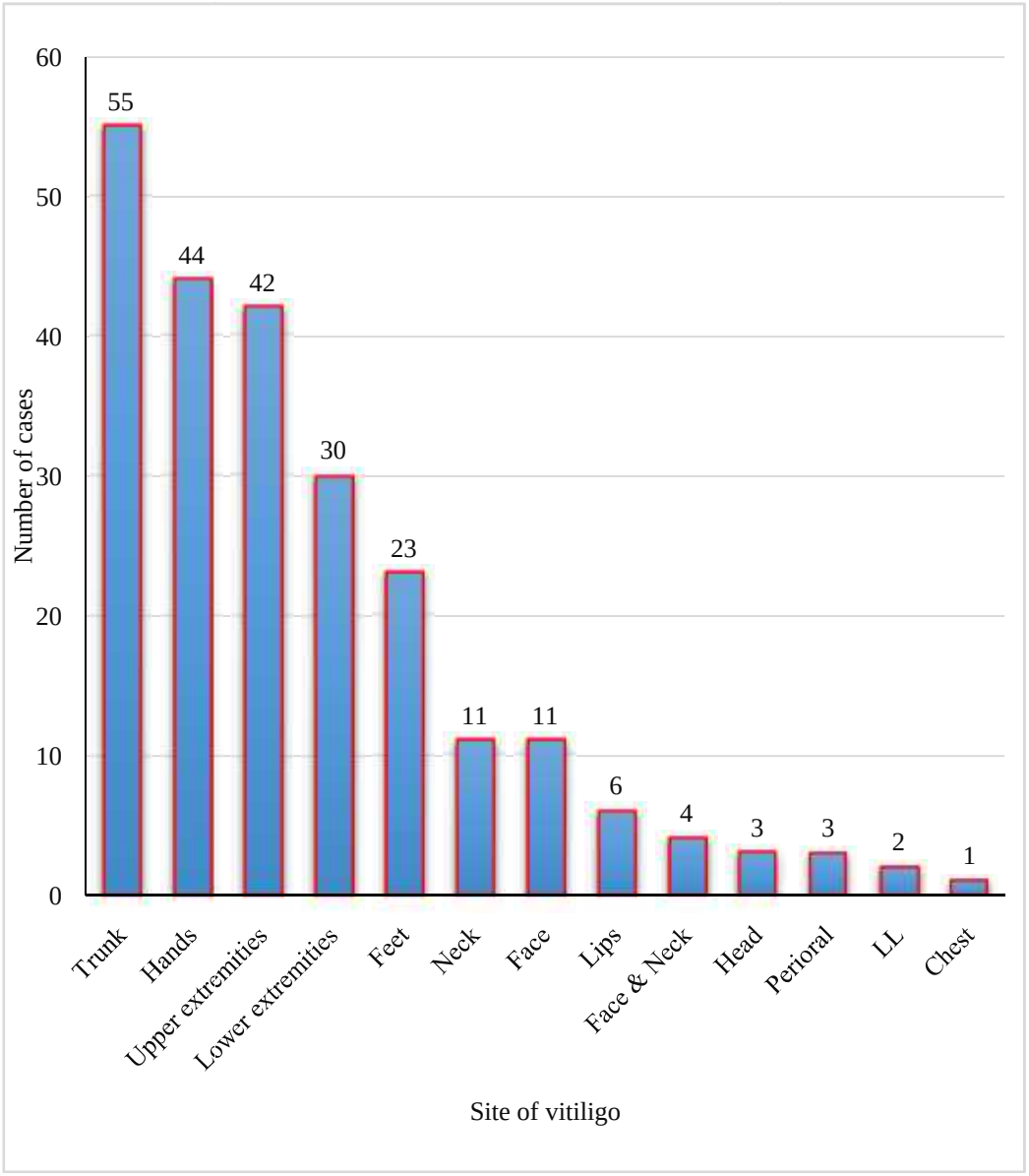
9. SITE OF LESIONS

(55%) had trunk involvement.

TABLE 9. Shows site involvement in the patients

Site of lesion	Count (%)
Trunk	55
Hands	44
Upper extremities	42
Lower extremities	30
Feet	23
Neck	11
Face	11
Lips	6
Face & Neck	4
Head	3
Perioral	3
LL	2
Chest	1

CHART 8. Bar graph showing site involvement in the subjects



10. VITILIGO TYPE

Most common type of vitiligo observed in our study was vitiligo vulgaris (72%)

TABLE 10. Distribution according to vitiligo type

Type of Vitiligo	Number of subjects (%)
Arcal	3 (3%)
Focal	3 (3%)
Generalised	2 (2%)
Liptip	3 (3%)
Localised	5 (5%)
Mixed	2 (2%)
Mucosal	2 (2%)
Segmental	8 (8%)
Vulgaris	72 (72%)

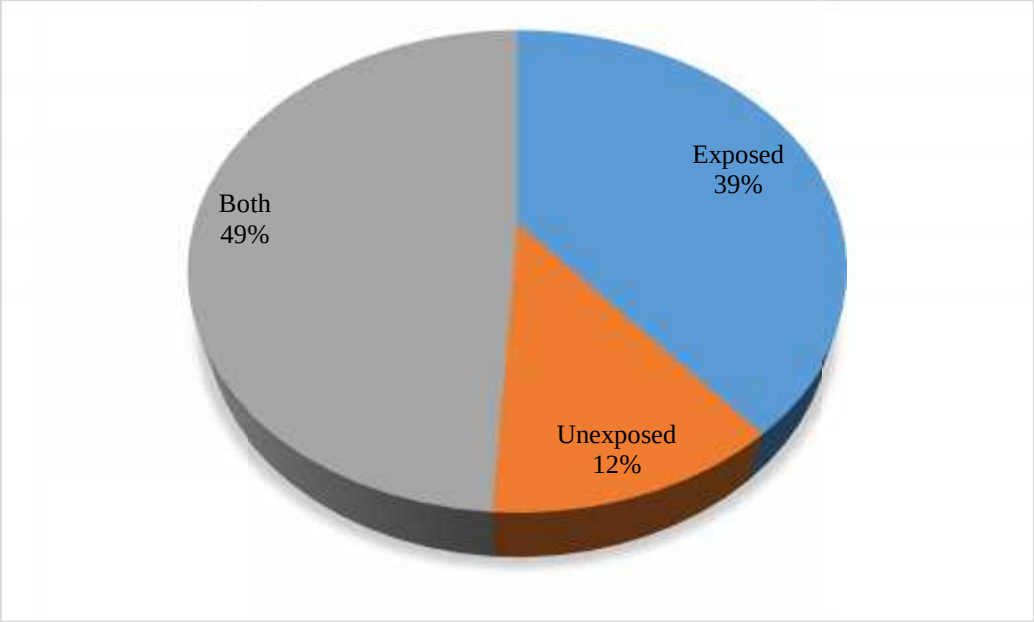
11. VISIBILITY OF LESIONS

39% had lesions on exposed areas, 12% had lesions only on unexposed areas whereas 49% had lesions on both exposed and unexposed areas.

TABLE 11.Shows percentage of subjects with lesions with location of lesions

Visibility of lesions	Number of subjects (%)
Exposed	39 (39%)
Unexposed	12 (12%)
Both	49 (49%)

CHART 9. Showing lesions on covered and un-covered areas



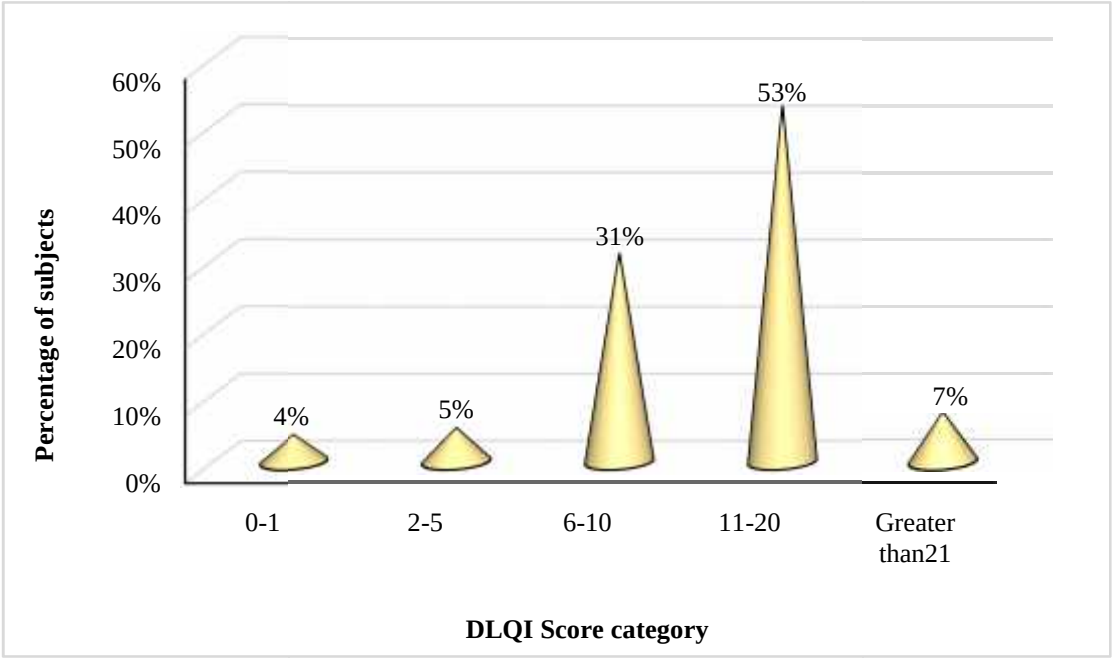
12. DISTRIBUTION BY DLQI SCORE

Median of score observed was 12. 53% had scores between 11-20

TABLE 12. DLQ scoring in the subjects

DLQI score	Number of subjects (%)
0-1 (No effect)	4 (4%)
2-5 (Small effect)	5 (5%)
6-10 (Moderate effect)	31 (31%)
11-20 (Large effect)	53 (53%)
≥ 21 (Very large effect)	7 (7%)
12 (0,22)	

CHART 10. Bar graph showing DLQI scoring in subjects



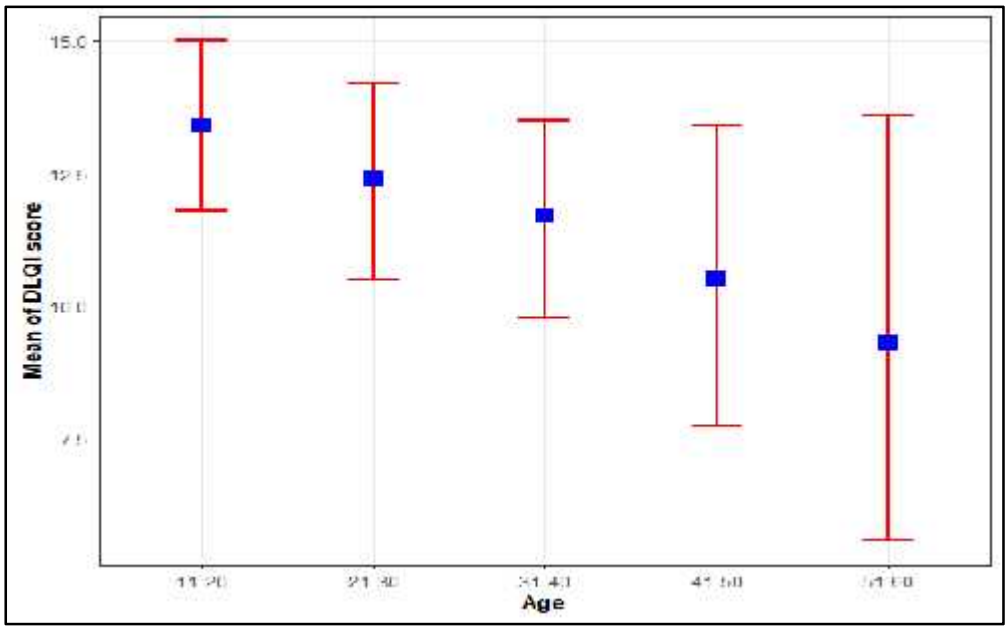
13. DLQI SCORE AND AGE

By One-way ANOVA, DLQI score and age (P=0.264) had no statistical significance.

TABLE 13. Scoring in different age groups

Age (in years)	DLQI score	p-value
11-20	13.36±3.91	0.264
21-30	12.39±5.04	
31-40	11.67±4.82	
41-50	10.53±6.39	
51-60	9.29±5.79	

CHART 11. Shows plot of DLQI with regard to subjects in different age groups



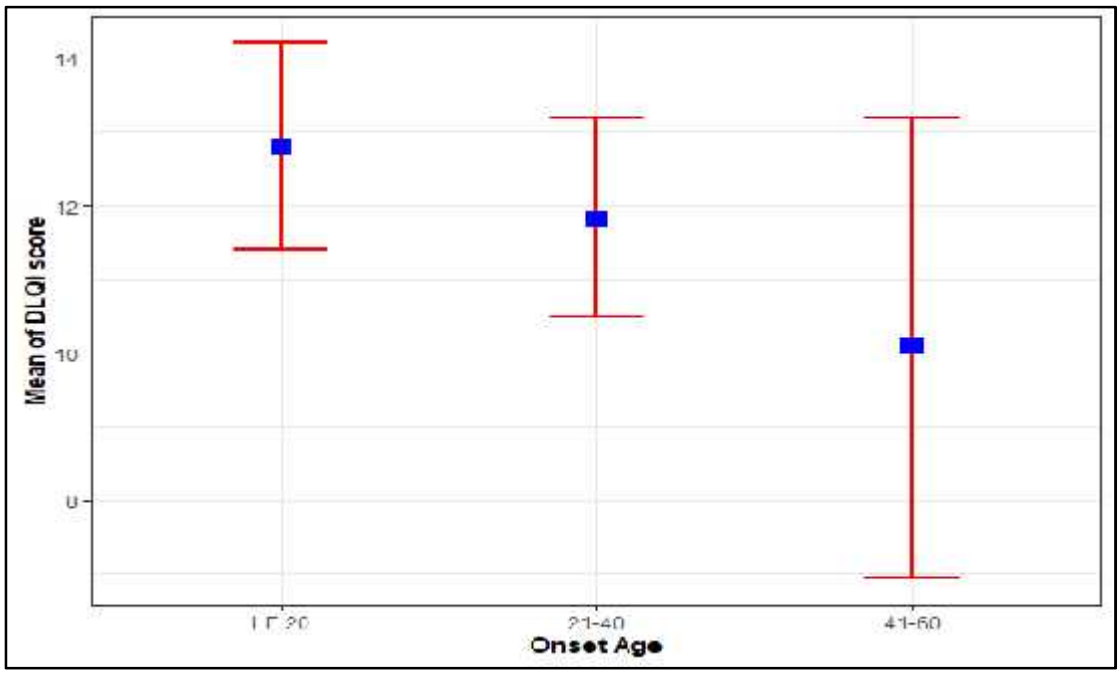
14. CORRELATION BETWEEN DLQI SCORE AND AGE OF ONSET

By One-way ANOVA, there was no significant difference in the mean of DLQI score over onset age category.

TABLE 14. Correlation between DLQI score and age of onset of vitiligo

Onset age (in years)	DLQI score	p-value
≤ 20	12.8±3.96	0.245
21-40	11.84±5.29	
41-60	10.07±6.42	

CHART 12. Correlation of DLQI score with age (onset)



15. CORRELATION BETWEEN DLQI SCORE, GENDER AND MARITAL STATUS

Higher score (15) was observed in unmarried female patients. (p=0.0043)

TABLE 15. Correlation of DLQI score with gender and marital status

Marital status	Male	P-value	Female	P-value	Overall
Married	10.36±5.56	0.0459	11.13±5.25	0.0095	10.77±5.38
unmarried	12.69±4.30		15±4.19		13.5±4.35
Overall	11.48±5.08		12.3±5.23		11.86±5.14

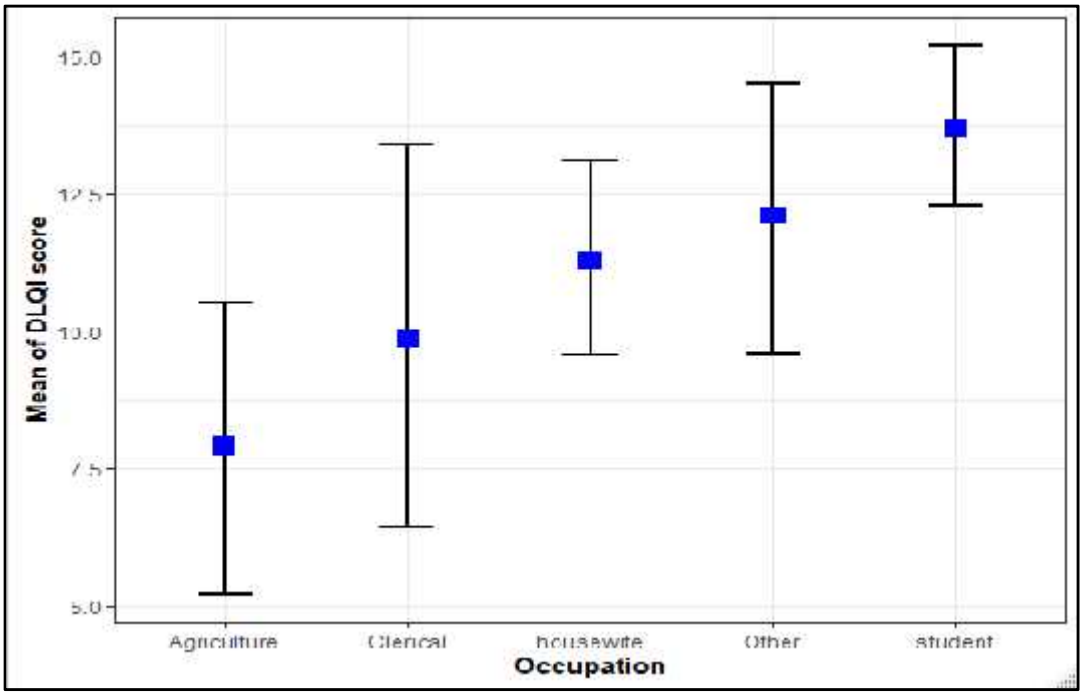
16. DLQI SCORE AND OCCUPATION

DLQI score and occupation had a statistical significance. The mean difference was observed between occupation status -student and agriculture (p-value: 0.01185)

TABLE 16- shows score with regard to individual's occupation

Occupation	DLQI score	p-value
Agriculture	7.9±4.38	0.0155*
Housewife	11.34±5.19	
Student	13.71±4.34	
Clerical	9.86±5.24	
Other	12.05±5.62	

CHART 13. Shows score in different occupations



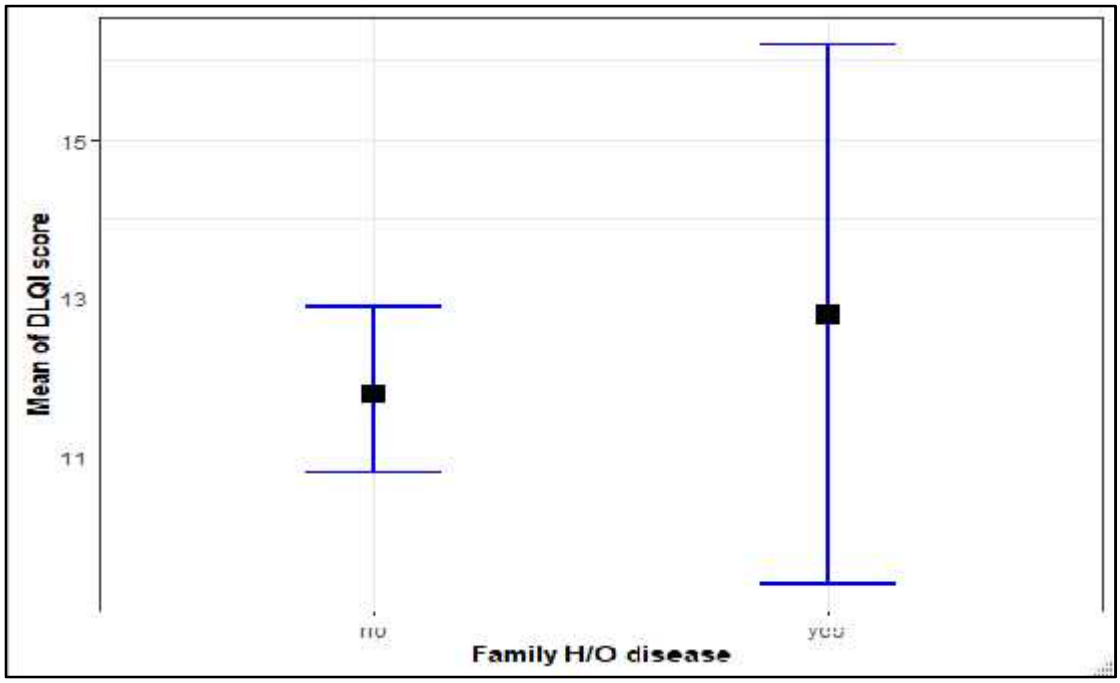
17. DLQI SCORE AND FAMILY HISTORY

It was not statistically significant. (P=0.677)

TABLE 17.shows scores in subjects with a history of disease in the family

Family H/O disease	DLQI score	p-value
Yes	12.8±4.32	0.677
No	11.81±5.19	

CHART 14. Denotes score with relation to family history



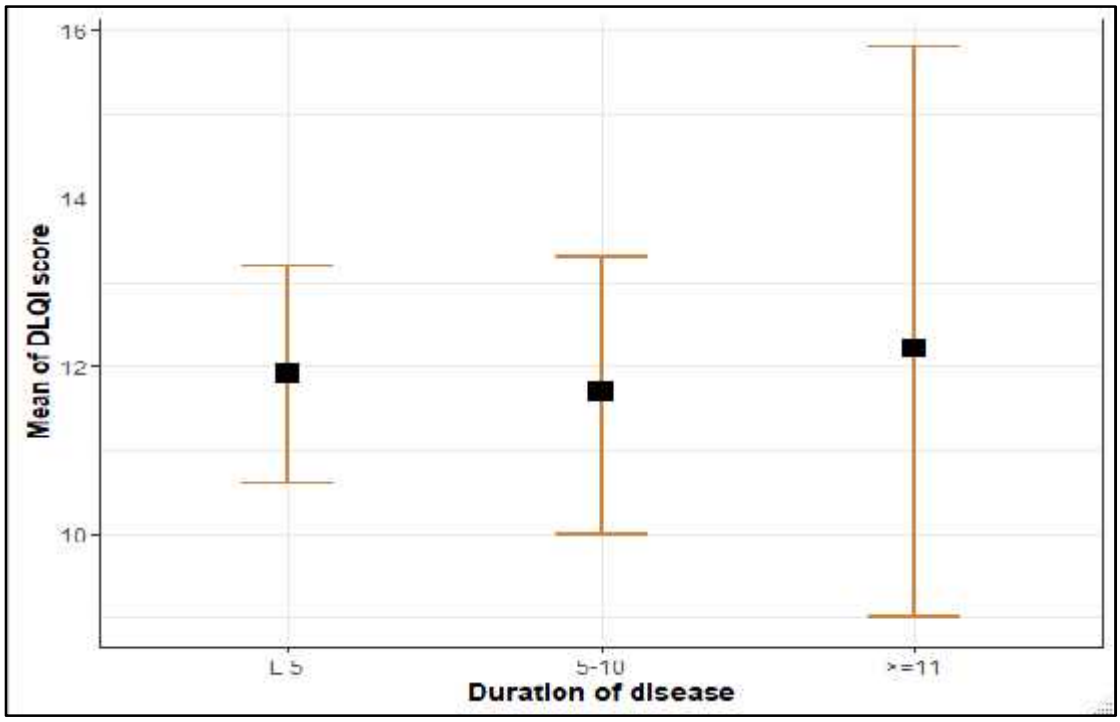
18. DLQI AND DISEASE DURATION

There was no statistical significance. (P=0.956)

TABLE 18.shows how the disease duration affects DLQI score

Duration of disease(years)	DLQI score	p-value
< 5 years	11.9±5.33	0.956
5-10years	11.67±4.8	
≥ 11years	12.22±5.49	

CHART 15. Depicts relation of DLQI score and disease duration



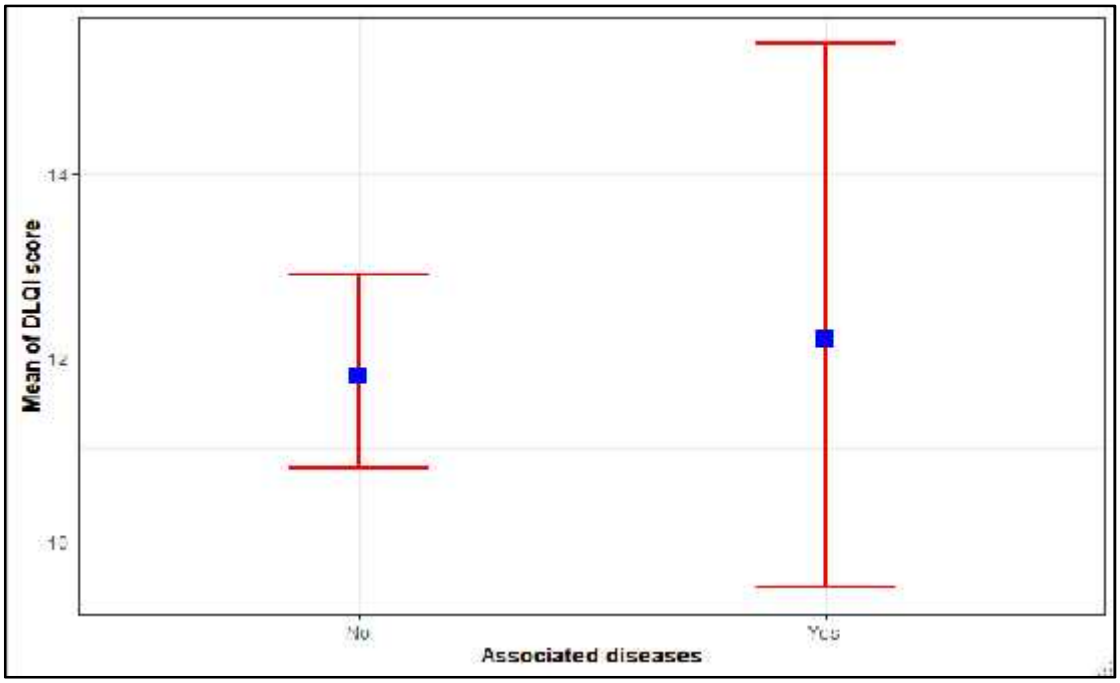
19. DLQI SCORE WITH ASSOCIATED DISEASES

It was not significant with P=0.8243.

TABLE 19.shows associated diseases and DLQI score

Associated diseases	DLQI score	p-value
Yes	12.25±4.46	0.8243
No	11.83±5.22	

CHART 16.Depicts the relation between disease associations and the score



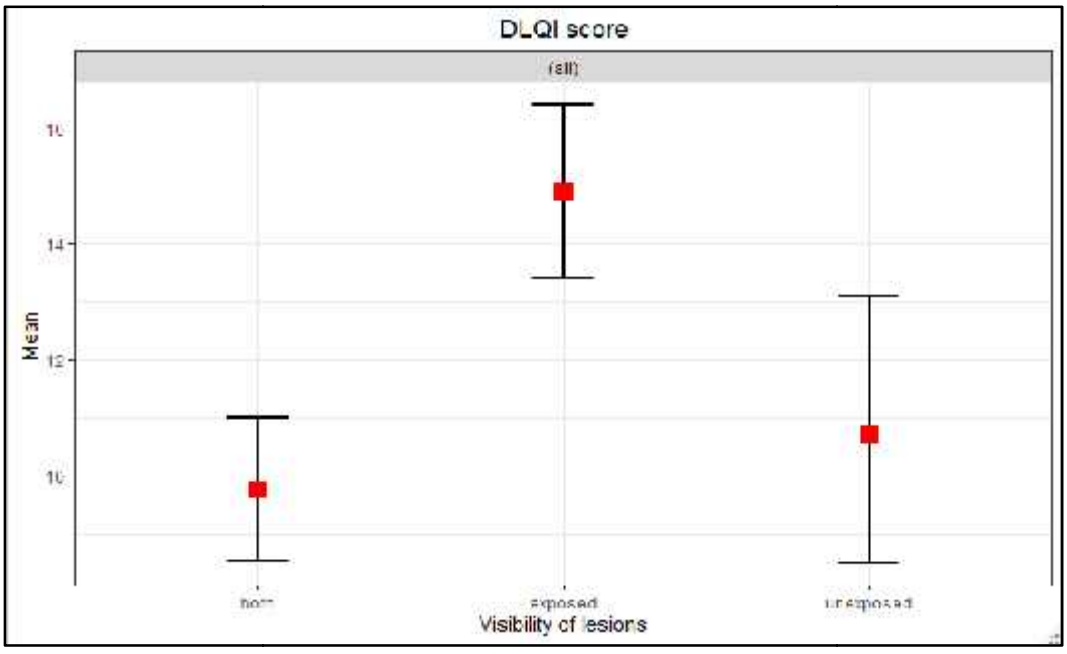
20. DLQI SCORE AND VISIBILITY OF LESIONS

DLQI and visibility of lesions had a significant difference with mean of DLQI between (exposed and unexposed) (p-value: 0.0179) and (exposed and on both sites) (p-value: 0.0000031).

TABLE 20.shows visibility of lesions affecting the DLQI score

Visibility of lesions	DLQI score	p-value
Exposed	14.87±4.88	<0.0001*
Unexposed	10.67±4.25	
Both	9.76±4.39	

CHART 17. Depicts varying DLQI score due to lesions on exposed and unexposed parts



21. DLQI SCORE AND VASI SCORE

By two sample t-test, DLQI score and VASI score had no statistical significance (P=0.6814)

TABLE 21. Relation between DLQI and VASI score

		DLQI score	**p-value**
VASI score	Minimally worse	11.96±5.23	0.6814
	Worse	11.42±4.86	

DISCUSSION

Vitiligo is an acquired, multifactorial, progressive disorder of melanin production with a prevalence of 0.46-8.8% in India.[15]

The results obtained after compiling the data were compared with past similar studies and are discussed below:

Mean age (years) involved in our study was 32.6. However, it was 37.14 years in the study done by Nunes DH et al[89], Legakis et al[90](39.11)and Gopal et al[36](23).28% were between 21-30 years in our study.

Male to female ratio in our study was 1.17:1 which was similar to the studies done by Gopal et al[36] (1.17:1), Handa and Kaur[1] (M:F=1.19:1). However, female preponderance is seen in studies by Moradi S et al[91] (1:1.86) and Shajil et al [92] (1:1.6).

30% in our study developed this disease before 20 years of age. However, in the study done by Liu JB et al[93] (>60% with age of onset<20 years).

Minimum duration of vitiligo in our study was 15 days and maximum duration observed was 20 years. However, the duration of vitiligo ranged from 15 days to 31 years in the study done by Gopal et al[36] and 15 days to 60 years in the one done by Shankar et al.[94]

In our study, 5% had a family history of vitiligo contrary to the one done by Singh S et al[18] who reported it in 20% of the cases. Probably, this discrepancy can be attributable to the ethnicity of the population and the gene penetrance.

(72%) had vitiligo vulgaris in our study which was also seen in the study done by Dash R et al[33] (71%). However, it was higher when compared to other studies done in the Indian sub continent by Shah H et al.[95] (64.9%) and Krupa Shankar et al[94] (31%).

8% had segmental vitiligo in our study. Contrary to this, Gopal et al[36] found it in (13%)and Shah H et al[95] in (1.4%). 3% had acrofacial vitiligo in our study which was not similar to the one done by Gopal et al[36] (22.67%) and Shah H et al [95](0.8%). 2% had mucosal vitiligo in our study which did not match to the study conducted by Shah H et al[95](14.8%). It becomes topmost priority to be aware about the clinical subtype as it reflects upon the disease activity and has a major role in choosing a treatment modality.

Trunk was the most common site involved (55%), however it was (32 %) in the study done by Zamanian et al[96].

8 patients had disease associations with hypothyroidism (6%) and diabetes mellitus(2%). However, in the study done by Zamanian A et al [96] in vitiligo patients, no higher risk for autoimmune and functional thyroid disorders was found.[96]

49% of patients had lesions on both sites (exposed and non exposed), 39% on exposed and 12% on non-exposed sites whereas in the study done by Mashayekhi et al [97], 4.8% had lesions on exposed sites, 31.3% on non-exposed sites and 63.8% on both the sites.

Since this condition causes disfigurement and psychological distress, it is frequently associated with psychiatric issues.[84]

The various studies assessing the quality of life in vitiligo are based on indices like Dermatology Life Quality Index (DLQI), Skindex-26 and SF-36.[80,84,98,99]

DLQI score (mean) was 12 which was higher when compared to study done by Prasad et al.[84] (10.67), Wang KY et al[98] (8.4)

In our study, DLQI score in females was (12.3) which was higher when compared to males (11.48), similar to the study done by Mashayekhiet al.[97] (Females-8.6 and males-5.8)

In our study, unmarried male patients had DLQI score (mean) (12.69), married males (10.36), married female patients (11.13) and unmarried females (15). However, in the study done by Dolatshahi M et al [65], it was 7.79 for unmarried males and 7.24 for married males and among female patients, it was 0 and 6.30 for unmarried and married females respectively.

Vitiligo is worrisome in unmarried patients, more so in unmarried females in terms of marriage proposals due to the cultural beliefs and lack of awareness amongst people.

Patients having lesions on the exposed parts had a higher mean DLQI score (14.87). However, in a study done by Soodabeh Z et al[100](11.48) and Dolatshahi M et al[65] (8), it was lower.

DLQI score and age had no significant relationship (P=0.26) similar to the studies done by Ongenae K et al.[101] (P=0.21) and Dolatshahi M et al.[65] (P=0.35)

DLQI and occupation had a statistical significance and mean difference was observed between occupation status (student and agriculture) (P= 0.01185). There are

no other reports confirming relationship between occupation of vitiligo patients and quality of life.

DLQI score and duration of disease (P=0.95) had no statistical difference similar to the study done by Dolatshahi M et al.[65] (P=0.066).

Our study showed that the patient's psyche is severely affected with patients having higher DLQI scores. Therefore it becomes very important to optimize our treatment to improve quality in these patients.

CONCLUSION

Vitiligo has a major effect on the quality of life of patients especially in the women who feel distressed due to their condition.

In the unmarried males and females, DLQI scores are higher signifying that it has a profound effect on their lives due to their fear of getting rejected for marriage.

Lesions on the exposed parts of the body leads to an increased impairment of quality of life when compared to patients having lesions on non-exposed sites.

In managing patients of vitiligo, apart from the counselling and assurance, it is necessary to look into the psychological component to reduce their stress.

Thus, understanding of the patient's psyche, obtained through DLQI improves physician-patient relationship therefore leading to better compliance and improved treatment outcome.

Thus, from this study, we infer that DLQI is a reliable and valid measure of quality of life in vitiligo patients.

SUMMARY

The current study was done to evaluate the quality of life in patients suffering from vitiligo through Dermatology Life Quality Index (DLQI).

It was conducted from January 2019 to December 2019 in 100 patients of vitiligo attending our dermatology department.

- Our study showed male preponderance with 54 males and 49 females.
- Male to Female ratio was 1.17:1
- Mean age of subjects in our study-32.6 with 28% in (21-30).
- 35% were students and 29% were homemakers
- In our study population, 60% were married, 40 % unmarried
- Minimum duration of the disease observed was 15 days and maximum duration observed was 20 years.
- Most common involved site in our study was trunk (55%) followed by hands (44%), upper extremities (42%), lower extremities(30%) ,feet (23%), lips(6%) and perioral (3%).
- (72%) patients had vitiligo vulgaris
- 49% had vitiligo on both sites, 39% on exposed and 12% on non- exposed sites.
- Association with diabetes mellitus was present in 2 cases and hypothyroidism in 6 cases.
- Family history was positive in first-degree relatives of 5 patients of our study population.
- Type of vitilgo and duration of disease (P=0.49) had no statistical significance.
- Associated diseases and type of vitiligo (P=0.69) had no significance.

DLQI

- The overall DLQI score (mean) was 12, higher in females (12.3±5.23) than the males (11.48±5.08).
- DLQI was increased in all patients with very large, large, moderate effect in 7%, 53% and 31% cases respectively.
- Age and DLQI score had no significant correlation (p=0.264).
- Occupation and DLQI score had a statistical significance (P=0.01185).
- Higher DLQI score (13.5±4.35) was seen in unmarried cases as compared to married (10.77±5.38). Amongst them, unmarried women had significantly higher DLQI score (15±4.19) than married women (12.69±4.30).

  Unmarried men showed significant difference in DLQI score (12.69±4.30) than married men (10.36±5.56).
- Duration of vitiligo and the DLQI score (p=0.95) had no statistical significance.
- DLQI score and visibility of lesions had a statistical significance with higher score seen in subjects with lesions over the exposed areas. (P= 0.001)
- DLQI score and associated diseases had no statistical significance. (P=0.824)
- Onset age and type of vitiligo had no significant correlation (P=0.245)
- DLQI score and VASI score had no statistical significance (P=0.64).

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ANNEXURE I – CONSENT FORM

INFORMED CONSENT FORM

I.D. NO.

Title of the study: Cross sectional study of DLQI score in vitiligo patients attending a tertiary care hospital.

The study is conducted by _____, Post Graduate (M.D) student in Dermatology under the guidance of _____ and Head, Department of Dermatology,Venereology and Leprosy, JNMC, BELAGAVI.

Respected Sir/Madam,

We invite you to participate in our study as, you are eligible for the same. During the study you will be asked some questions in detail regarding your present complaints.

Purpose of the study:

Vitiligo may affect the quality of life. Hence this study intends to find whether Vitiligo has psychosocial impact on quality of life of patients. You are being requested to participate in this research because you have been diagnosed to have vitiligo.

Procedure and treatment:

Should you choose to participate, you will be asked to give a detailed history of your disease, undergo a physical examination and to fill out a questionnaire.

Risks and benefits:

There are no risks associated with this study. The result of you taking part in this research would help health care providers towards better understanding of this disease and thus we will be able to provide improved patient care.

Alternatives:

If you decide not to participate in this study, you will still be receiving the usual standard care for your disease.

Privacy and confidentiality:

Your privacy will be respected and all information collected about you during the course of this study will be kept confidential. Your identity will remain undisclosed.

Relations with the Institutional policy:

The J N Medical College will provide, within the limitations of the laws of the State of Karnataka, facilities and medical attention to patients who suffer injuries as a result of participating in this project.

Financial incentives:

You shall not be receiving any payment or any financial incentives for participating in this study.

Authorization to publish results:

The results of this study may be published for scientific purpose or presented to a scientific group. Your identity, however, will be maintained confidential at all times.

Voluntary participation:

Your participation in this study is voluntary. Your decision whether or not to participate will neither affect the care of your current disease, nor your future relations with the doctor or the hospital. In the event if you suffer any physical injury as the result of your participation in this study, you may contact

If you have any queries about your rights as a study subject, you may call Dr. RoopaBellad, Professor, Department of Paediatrics, Chairman of J.N. Medical College Institutional Ethical Committee of Human Subjects Research, Ph No- 9448113403, at J.N. Medical College, Belagavi

STATEMENT OF CONSENT

I.D.NO: | | | |

I Mr/Ms/Mrs ---------- volunteer and consent to participate in this study. I have read the consent document or it has been read to me in my vernacular language. I accept to participate in the study. All the information regarding this study is provided to me and I have understood the same. I have been given the opportunity to ask questions and obtain appropriate answers.

Participant's name:

Signature or left thumb print of participant:

Witness name:

Signature of witness:

Signature of the investigator:

Date:

ANNEXURE-II-ETHICAL CLEARANCE LETTER

K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed – to- be- University)
Accredited 'A' Grade by NAAC (2nd Cycle) Placed in Category 'A' by MHRD (GoI)
JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)
Website: http//www.jnmc.edu
E-Mail : dome@jnmc.edu
Phone: (+ 91-(0)831 Office : 2472550
Principal: 2471701
Fax No. +91 (0)831 – 2470759

Ref: MDC/DOME/ **Date: 24/11/2018**

To,

REG NO. BT0118003

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled **"CROSS SECTIONAL STUDY OF DLQI SCORE IN VITILIGO PATIENTS ATTENDING KAHER'S DR PRABHAKAR KORE HOSPITAL & MEDICAL RESEARCH, BELAGAVI"**, is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr. Arathi Darshan)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

(Dr. Roopa M Bellad)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

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ANNEXURE III: PROFORMA

Case no – OP no-

- Date- IP no-
- Name-
- Age-
- Diagnosis-
- Gender-
- Occupation-
- Address with phone number-

I. PRESENTING COMPLAINTS (with duration)

White patch: Yes / No

II.HISTORY OF PRESENT ILLNESS

- Type of lesion: Patches / spots/ marks/ other
- Onset of lesion: Birth / Infancy / Childhood/ Adolescence / Adulthood
- Duration of Lesions (indicate number): Days / Months/ Years
- Associated symptoms: Yes/ No
- If (c) Yes, mention the symptoms
- Lesions increasing in size: Yes / No
- Lesions increasing in number: Yes / No
- Location of lesions: Head / Trunk / UL/ LL
- Any relation to sun exposure : Yes / No

- Any relation to drug intake : Yes/ No
- Any relation to occupation : Yes/ No
- Constitutional symptoms: Yes / No
- H/o of itching/ redness/ burning: Yes/ No
- H/O of white hair in the lesion: Yes/ No

III.PAST HISTORY

- Diabetes Mellitus: Yes / No
- Thyroid: Yes/ No
- Hypertension: Yes/ No
- Asthma: Yes/ No
- Other: Yes/ No

IV.FAMILY HISTORY

- Married/ Single
- Similar complaints in family members: Yes/ No
- If (b) yes then mention relationship with the patient
- Has taken treatment for condition: Yes/ No
- Has phototherapy been taken: Yes/ No
- If a & b, yes mention details:
- Any other treatment taken: Yes/ No

V.PERSONAL HISTORY

- Diet: Mixed/ Vegetarian
- Appetite: Normal / Decreased/ Increased
- Sleep: Adequate/ Inadequate
- Bowel and Bladder habits: Regular/ Irregular

- Other habits: Smoking/ Alcohol/ Tobacco/ None
- If female patients then obstetric and menstrual history

VI.GENERAL PHYSICAL EXAMINATION

- Build: Poor/ Moderate/ Well
- Nourishment: Poor/ Moderate/ Well
- Pallor/ Icterus/ Cyanosis/ Clubbing/ Lymphadenopathy/ oedema
- Pulse
- BP
- Weight
- Temperature

VII MUSCULOCUTANEOUS EXAMINATION

- Primary lesions: macule/ patch/ other
- Colour of lesions: hypopigmented/ depigmented/ hyperpigmented/ erythematous/ other
- Distribution of lesions: Localized/ Generalized/ Segmental
- Sites of distribution: Head/ Trunk/ UL/LL
- Shape of Lesions: Round/ Irregular
- Size of lesions: Tiny spots/ small Medium Large
- Borders of the lesions: well defined/ ill defined
- Sensation over lesions: Present/ Impaired/ Absent
- Hair over the lesions: Pigmented/ Non Pigmented
- Hair Involvement: Yes/ No
- Nail Involvement: Yes/ No
- Mucosal Involvement: Yes/ No

- If mucosal involved then: Genital/ Oral/ Anal/ Conjunctiva
- Percentage of BSA
- VASI score

VIII SYSTEMIC EXAMINATION

- CVS: Normal/ Abnormal
- RS: Normal/ Abnormal
- PA: Normal/ Abnormal
- CNS: Normal / Abnormal
- If a, b, c or d abnormal, specify?

IX.PROVISIONAL DIAGNOSIS

- GENERALIZED (VULGARIS/ ACROFACIAL/MIXED)
- LOCALIZED (FOCAL/SEGMENTAL/MUCOSAL)
- LIP TIP VITILIGO

X. INVESTIGATIONS

- Lab
- Thyroid Profile
- Free T_3
- Free T_4
- Serum TSH
- RBS

XI. DLQI Questionnaire enclosed (English/Kannada/ Marathi/ Hindi).

SIGNATURE

ANNEXURE IV – DLQI QUESTIONNAIRE

DERMATOLOGY LIFE QUALITY INDEX

DLQI

Hospital No: Date:
Name: Score:
Address: Diagnosis:

The aim of this questionnaire is to measure how much your skin problem has affected your life OVER THE LAST WEEK. Please tick ⇒ one box for each question.

1.	Over the last week, how **itchy**, **sore**, **painful** or **stinging** has your skin been?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	
2.	Over the last week, how **embarrassed** or **self conscious** have you been because of your skin?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	
3.	Over the last week, how much has your skin interfered with you going **shopping** or looking after your **home** or **garden**?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒
4.	Over the last week, how much has your skin influenced the **clothes** you wear?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒
5.	Over the last week, how much has your skin affected any **social** or **leisure** activities?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒
6.	Over the last week, how much has your skin made it difficult for you to do any **sport**?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒
7.	Over the last week, has your skin prevented you from **working** or **studying**?	Yes No	❒ ❒	Not relevant ❒
	If "No", over the last week how much has your skin been a problem at **work** or **studying**?	A lot A little Not at all	❒ ❒ ❒	
8.	Over the last week, how much has your skin created problems with your **partner** or any of your **close friends** or **relatives**?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒
9.	Over the last week, how much has your skin caused any **sexual difficulties**?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒
10.	Over the last week, how much of a problem has the **treatment** for your skin been, for example by making your home messy, or by taking up time?	Very much A lot A little Not at all	❒ ❒ ❒ ❒	Not relevant ❒

Please check you have answered EVERY question. Thank you.

त्वचारोग जीवन गुणवत्ता सूची

डीएलक्यूअ

अस्पताल क्रमांक : दिनांक : स्कोर :

नाम : रोग निदान :

पता :

इस प्रश्नोत्तरी का उद्देश्य यह नापना है कि आपकी त्वचा की परेशानी ने गत सप्ताह में आपके जीवन पर कितना प्रभाव डाला है. कृपया हर प्रश्न के लिए एक बाक्स में टिक करें.

१.	गत् सप्ताह, आपकी त्वचा में कितनी **खुजली, पीड़ा, दर्द** या **चुभन** लग रहा था?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	
२.	गत् सप्ताह, अपनी त्वचा के कारण आप कितने **शर्मसार** या **स्व चैतन्य** हुए?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	
३.	गत् सप्ताह, आपकी त्वचा ने आपकी **खरीदारी, घर या गार्डन** की देखभाल के काम पर कितना प्रभाव डाला?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐
४.	गत् सप्ताह, आपकी त्वचा ने आपके **कपड़े** पहनने पर कितना प्रभाव डाला?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐
५.	गत् सप्ताह, आपकी त्वचा ने आपके **सामाजिक जीवन** या **फुर्सत के समय** की गतिविधियों पर कितना प्रभाव डाला?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐
६.	गत् सप्ताह, आपकी त्वचा ने आपके **खेलकूद** के लिए कितनी मुश्किलें खड़ी कीं?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐
७.	गत् सप्ताह, आपकी त्वचा ने आपके **काम** या **पढ़ाई** में कोई रुकावट डाली?	हां नहीं	☐ ☐	लागू नहीं ☐
	इसका उत्तर अगर नहीं है, तो गत् सप्ताह आपकी त्वचा ने आपके **काम** या **पढ़ाई** में कितनी परेशानी खड़ी की ?	बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐	
८.	गत सप्ताह, आपकी त्वचा ने आपके **पार्टनर** या किसी भी **करीबी मित्र** या **रिश्तेदार** के लिए कितनी परेशानी खड़ी की	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐
९.	गत् सप्ताह, आपकी त्वचा के कारण कितनी **सेक्सुअल मुश्किलें** आईं?	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐
१०.	गत सप्ताह, आपकी त्वचा के **उपचार** ने आपके लिए कितनी मुश्किलें बढ़ाई, उदाहरण के लिए घर को अस्त–व्यस्त बनाना, या समय का नुकसान करना.	बहुत ज्यादा बहुत थोड़ा बिलकुल नहीं	☐ ☐ ☐ ☐	लागू नहीं ☐

क़पया देख लें कि आपने हर प्रश्न का उत्तर दे दिया है. धन्यवाद.

ËÌM{dkZrZ Ord Z ñVagÀy

डीएलक्यूआय

रूग्णालय क्र: तारीख: गुण:

नाव: रोग परिक्षण :

पत्ता:

ह्या प्रश्नावलीचा मुख्यउद्देश हा आपल्या त्वचेच्या त्रासामुळे आपल्या जीवनावर मागील आठवड्यात झालेला परिणाम मोजणे. कृपया प्रत्येक प्रश्नासाठी एका चौकोनात बरोबरची खुण करा.

1	मागच्या आठवड्यात, तुमची त्वचा किती **खाज येणारी,सोवर(hi d), दुखणारी** किंवा **दंश करणारी** होती?	खूपच बराच थोडासा काहीही नाही		
2	मागच्या आठवड्यात, तुम्ही त्वचेमुळे किती **शरमिंदे** किंवा **स्वतःची जाणीव** ठेवून वागत होतात?	खूपच बराच थोडासा काहीही नाही		
3	मागच्या आठवड्यात, तुमच्या त्वचेने तुमच्या **खरेदीला जाण्यात** किंवा,आपल्या **घराची** किंवा **बागेची** देखभाल करण्यात किती अडचण आणली?	खूपच बराच थोडासा काहीही नाही		संबंध नाही
4	मागच्या आठवड्यात, तुमच्या त्वचेने तुमच्या कोणते **कपडे** घालावेत ह्या निर्णयावर प्रभाव टाकला?	खूपच बराच थोडासा काहीही नाही		संबंध नाही
5	मागच्या आठवड्यात, तुमच्या त्वचेमुळे तुमच्या **सामाजीक** किंवा फुरसतीच्या कामांवरती किती परीणाम झाला?	खूपच बराच थोडासा काहीही नाही		संबंध नाही
6	मागच्या आठवड्यात, तुमच्या त्वचेने तुम्हाला कोणताही **खेळ खेळायला** किती कठीण केले?	खूपच बराच थोडासा काहीही नाही		संबंध नाही
7	मागच्या आठवड्यात, तुमच्या त्वचेने तुम्हाला **काम करण्यात** किंवा **अभ्यासात** अडथळा आणला का?	होय नाही		संबंध नाही
	जर "नाही" तर मागच्या आठवड्यात तुमच्या त्वचेने **कामात** अथवा **अभ्यासात** किती त्रास दिला?	बराच थोडासा काहीही नाही		
8	मागच्या आठवड्यात, तुमच्या त्वचेमुळे तुमच्या **साथीदारसोबत** किंवा **जवळच्या मित्रांसोबत** किंवा **नातेवाईकांसोबत** काही त्रास निर्माण झाला का?	खूपच बराच थोडासा काहीही नाही		संबंध नाही
9	मागच्या आठवड्यात, तुमच्या त्वचेमुळे तुम्हाला काही **लैंगिक अडचणी** आल्या का?	खूपच बराच थोडासा काहीही नाही		संबंध नाही
10	मागच्या आठवड्यात, तुमच्या त्वचेच्या **उपचारांमुळे** तुम्हाला काय त्रास झाला, उदाहरणार्थ आपले घर अस्ताव्यस्त झाले किंवा आपला वेळ घेतला?	खूपच बराच थोडासा काहीही नाही		संबंध नाही

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ËëMf{dknZ OdZrîVagMr

डीएलक्यूआय

रुग्णालय क्र: तारीख: गुण:

नाव: रोग परिक्षण :

पत्ता:

ह्या प्रश्नावलीचा मुख्यउद्देश हा आपल्या त्वचेच्या त्रासामुळे आपल्या जीवनावर मागील आठवड्यात झालेला परिणाम मोजणे. कृपया प्रत्येक प्रश्नासाठी एका चौकोनात बरोबरची खूण करा.

1	मागच्या आठवड्यात, तुमची त्वचा किती **खाज येणारी,सोअर(hi d), दुखणारी** किंवा **दंश करणारी** होती?	खूप बराच थोडासा काहीही नाही		
2	मागच्या आठवड्यात, तुम्ही त्वचेमुळे किती **शरमिंदे** किंवा **स्वतःची जाणीव** ठेवून वागत होतात?	खूप बराच थोडासा काहीही नाही		
3	मागच्या आठवड्यात, तुमच्या त्वचेने तुमच्या **खरेदीला जाण्यात** किंवा,आपल्या **घराची** किंवा **बागेची** देखभाल करण्यात किती अडचण आणली?	खूप बराच थोडासा काहीही नाही		संबंध नाही
4	मागच्या आठवड्यात, तुमच्या त्वचेने तुमच्या कोणते **कपडे** घालावेत ह्या निर्णयावर प्रभाव टाकला?	खूप बराच थोडासा काहीही नाही		संबंध नाही
5	मागच्या आठवड्यात, तुमच्या त्वचेमुळे तुमच्या **सामाजीक** किंवा फुरसतीच्या कामांवरती किती परीणाम झाला?	खूप बराच थोडासा काहीही नाही		संबंध नाही
6	मागच्या आठवड्यात, तुमच्या त्वचेने तुम्हाला कोणताही **खेळ खेळायला** किती कठीण केले?	खूप बराच थोडासा काहीही नाही		संबंध नाही
7	मागच्या आठवड्यात, तुमच्या त्वचेने तुम्हाला **काम करण्यात** किंवा **अभ्यासात** अडथळा आणला का?	होय नाही		संबंध नाही
	जर 'नाही' तर मागच्या आठवड्यात तुमच्या त्वचेने **कामात** अथवा **अभ्यासात** किती त्रास दिला?	बराच थोडासा काहीही नाही		
8	मागच्या आठवड्यात, तुमच्या त्वचेमुळे तुमच्या **साथीदारसोबत** किंवा **जवळच्या मित्रांसोबत** किंवा **नातेवाईकांसोबत** काही त्रास निर्माण झाला का?	खूप बराच थोडासा काहीही नाही		संबंध नाही
9	मागच्या आठवड्यात, तुमच्या त्वचेमुळे तुम्हाला काही **लैंगिक अडचणी** आल्या का?	खूप बराच थोडासा काहीही नाही		संबंध नाही
10	मागच्या आठवड्यात, तुमच्या त्वचेच्या **उपचारांमुळे** तुम्हाला काय त्रास झाला, उदाहरणार्थ आपले घर अस्ताव्यस्त झाले किंवा आपला वेळ घेतला?	खूप बराच थोडासा काहीही नाही		संबंध नाही

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ANNEXURE V – PHOTOGRAPHS

Vitiligo on the face and neck

Generalized vitiligo on the hands, legs and feet

Vitiligo on the dorsal aspect of the hands

ANNEXURES VI - MASTER CHART

ID	OA(years)	Age(years)	Sex	Duration(days, months and years)	Occ	MS	Site	FD	VoL	ToV	BSA(%)	AD	VASI	DLQI
1	39	54	M	15	A	1	Trunk, UE	1	2	2	30	no	10.5	9
2	10	20	F	10	O	2	F&N	2	3	1	10	no	4.2	12
3	28	28	M	20 days	O	1	Trunk, Hands, feet	2	1	1	30	no	12.7	11
4	29	35	M	6	A	1	UE, trunk, hands	2	2	1	40	no	17.4	14
5	24	24	M	6months	S	2	hands, UE, LE	2	1	1	30	no	10.4	10
6	9	19	F	10	S	2	UE, trunk,face	1	2	1	45	no	12.6	14
7	41	42	M	1	O	1	Trunk, Hands, feet	2	1	1	45	no	10.5	0
8	45	46	F	1	C	1	Trunk, UE, LE, hands	2	2	2	40	no	13.1	8
9	25	26	F	1	S	2	F&N	2	2	1	20	no	0.56	21
10	43	45	F	2	H	1	Trunk, Head, hands, feet	2	1	1	30	no	8	11
11	15	20	M	5	S	2	UE, LE, Trunk, hand	2	1	1	30	no	15.1	10
12	47	48	F	1	H	1	UE	2	2	2	50	HT	0.75	21
13	28	28	F	3months	H	1	F&N	2	2	1	20	no	6.5	13
14	10	20	M	10	C	2	Hands, UE, LE	2	1	1	60	no	14.5	17
15	7	22	M	15	S	2	Hands, feet, UE	2	1	1	10	no	7.75	10
16	11	18	M	7	S	2	UE, Trunk, hands	2	2	3	32	no	11.6	10
17	31	33	M	2	O	2	Trunk, UE, LE, hands, feet, head	1	1	3	28	no	15.9	12
18	30	40	F	10	H	1	UE, LE, trunk, hands, feet, face	2	1	1	30	no	13.7	7
19	24	39	M	15	A	1	Face, trunk, UE	1	2	1	20	no	6.75	12
20	12	19	F	7	S	2	Trunk,head, face, hands	2	1	1	31	no	11.56	15
21	14	20	F	6	S	2	Trunk, hands, feet	2	1	1	40	no	7.5	10
22	26	28	F	1.5	H	1	Lips, trunk	2	2	4	30	no	5.5	17
23	10	20	M	10	S	2	Perioral, face	2	2	1	20	no	3.8	12
24	37	39	F	2	H	1	Trunk, LL	2	1	1	10	no	7.6	1
25	13	18	F	5	S	2	Perioral,neck	1	2	1	20	no	4.2	19
26	34	36	F	1.5	H	1	LE, trunk	2	1	5	10	no	5.5	10
27	26	27	M	1	O	2	Neck	2	2	1	20	no	2.1	11
28	20	22	M	2	S	2	Hands, UE, neck	2	2	1	30	no	5.55	15
29	10	18	M	7	S	2	LL	2	3	6	30	no	4.1	11
30	38	58	M	20	A	1	Perioral,hands, feet, trunk	2	1	7	40	no	5.2	9
31	37	39	F	2	H	1	Hands, feet	2	2	1	45	no	3.2	15
32	18	20	M	2	S	2	Trunk, feet	2	1	1	20	no	3.1	9
33	28	33	M	5	O	1	UE	2	1	4	25	no	1.2	8
34	27	28	F	1	S	2	Hands	2	2	8	10	HT	0.5	10

35	32	35	F	3	H	1	Lips	2	2	1	30	no	0.75	12
36	26	28	F	2	H	1	UE,LE	2	1	9	40	no	2.1	11
37	29	34	F	5	O	1	Lips, hands, feet	2	2	1	20	no	3.55	16
38	50	58	F	8	H	1	UE	2	1	2	20	DM	4.1	12
39	17	18	M	1	S	2	Trunk	2	3	1	20	no	3.55	11
40	37	43	M	6	A	1	Hands, feet, trunk	2	1	1	30	no	4.15	4
41	25	29	F	4	S	2	UE, LE	2	1	1	30	no	3.75	9
42	33	43	M	10	O	1	Trunk, UE	2	1	1	40	no	1.8	6
43	27	30	F	3	H	1	UE, LE	2	1	1	30	no	4.1	9
44	33	35	F	2	H	1	Hands, face, neck	2	2	1	10	no	11.3	12
45	23	28	F	5	H	1	Hands, LE	2	1	1	20	no	5.5	1
46	39	45	F	6	H	1	Hands, trunk	2	1	1	22	DM	6	12
47	35	44	M	9	O	1	UE, LE, feet	2	1	1	10	no	7.6	8
48	24	28	F	4	S	2	Neck, face, hands	2	2	1	10	no	4.25	14
49	17	18	M	6months	S	2	Trunk, LE	2	1	2	20	no	7.15	12
50	18	19	F	1	S	2	UE, LE, trunk	2	3	8	30	no	8.15	12
51	43	49	M	6	C	1	Lips	2	2	6	20	no	1.8	15
52	29	32	F	3	H	1	Lips, hands, feet, trunk,feet	2	1	1	10	HT	16.2	9
53	43	44	F	1	H	1	UE, LE	2	1	1	20	no	5.56	13
54	27	30	M	3	O	1	Hands, trunk	2	1	1	40	no	6.7	13
55	26	26	F	6months	S	2	Neck, hands	2	2	1	42	no	5.5	20
56	36	42	M	6	O	1	Trunk, LE	2	3	5	30	HT	8.4	13
57	28	35	F	7	H	1	Neck	2	2	1	32	no	1	18
58	16	19	M	3	S	2	Neck, hands, trunk	2	1	1	30	no	9.6	16
59	31	33	M	2	A	1	Trunk, UE, LE	2	1	1	20	no	12.6	13
60	32	39	F	7	H	1	Trunk, LE	2	2	1	50	no	6.25	20
61	21	23	M	2	S	2	Hands, trunk	2	2	1	40	no	4.4	22
62	17	18	M	6months	S	2	Hands, feet, trunk	2	1	1	30	no	5.35	13
63	14	28	M	14	S	2	UE, LE, hands	2	1	1	27	no	7.75	14
64	16	28	M	12	C	1	Trunk, UE	2	1	1	27	no	4	8
65	15	18	M	3	S	2	Hands, feet, trunk	2	1	9	36	no	6.2	13
66	19	23	M	4	O	2	LE,UE, trunk	2	2	1	18	HT	7.1	15
67	16	28	M	12	A	1	UE, LE	2	1	7	45	no	3.25	6
68	34	35	M	1	O	1	Hands	2	3	5	20	no	0.75	9
69	37	37	M	6months	O	1	Trunk	2	3	1	21	no	1.1	15
70	22	32	M	10	O	1	Trunk, LE	2	3	4	27	no	3	6
71	22	28	M	6	S	2	Face	2	2	1	9	no	2.5	15
72	17	18	M	6months	S	2	Trunk, UE	2	1	1	45	no	5.5	14

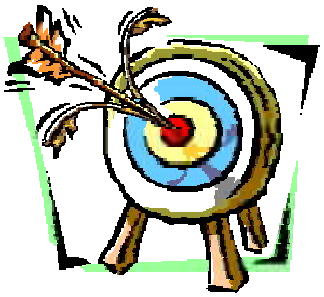
73	24	32	M	8	C	2	LE, trunk, hands	2	1	1	36	no	8.55	5
74	38	38	F	1 month	H	1	Neck, UE, hands	2	1	1	18	no	7.5	14
75	58	60	M	2	A	1	UE, LE, chest	2	1	2	45	no	6.35	7
76	15	18	M	3	S	2	Trunk	2	3	1	18	no	2.25	20
77	44	44	F	6months	H	1	Face, neck, trunk	2	2	1	45	no	14.2	18
78	23	25	F	2	H	1	UE, LE	2	1	5	27	no	5.1	8
79	60	60	F	2months	H	1	Trunk	2	3	1	18	no	2.5	7
80	40	42	F	2	H	1	UE, hands, feet	2	1	1	35	no	4.5	8
81	13	19	F	6	S	2	Trunk,UE, LE	2	1	2	45	no	8.56	18
82	15	19	M	4	S	2	Face and neck	2	2	1	27	no	4.2	21
83	22	42	M	20	O	1	Hands, trunk , UE	2	2	1	54	no	7.75	20
84	57	59	F	2	H	1	Hands, trunk, feet	2	2	1	30	no	9.6	20
85	40	42	F	2	C	1	UE, trunk	2	1	5	18	no	4.75	3
86	48	48	F	1 month	H	1	Hands	2	2	1	24	no	1.75	7
87	33	34	M	1	O	1	Trunk, UE, LE	2	1	1	30	no	5.3	7
88	26	46	M	20	O	1	UE, Trunk	2	1	7	18	no	11.5	22
89	49	51	M	2	O	1	Hands, feet	2	2	2	45	no	6.1	1
90	17	26	M	9	S	2	Trunk	1	3	1	21	no	2.3	7
91	37	40	M	3	C	1	Trunk, LE	2	3	9	30	no	5.4	12
92	32	32	M	15 days	O	1	Lips, hands, feet	2	2	1	21	no	8.7	22
93	29	30	F	1	H	1	UE, hands, face	2	2	1	36	HT	6	6
94	46	48	M	2	A	1	Trunk, LE	2	3	1	32	no	5.5	5
95	21	22	F	1	S	2	Hands, feet	2	2	1	10	no	6.5	15
96	21	23	F	2	S	2	Trunk, Hands, feet	2	2	1	20	no	9.5	21
97	18	28	M	10	O	1	Neck, UE	2	2	1	30	no	5.3	15
98	42	45	F	3	H	1	Trunk, feet, face	2	1	1	45	no	10.5	6
99	18	20	M	2	S	2	UE,LE,trunk	2	1	1	54	no	8	5
100	33	35	F	1.5	H	1	UE, hands	2	2	1	18	no	4.5	11

ANNEXURE-VII

KEY TO MASTER CHART

Variables	Abbreviations	Full form
OA	Onset Age	
Sex	M	Male
	F	Female
OCC (Occupation)	A	Agriculture
	H	Housewife
	C	Clerical
	S	Student
	O	others
MS (Marital status)	1	Married
	2	Unmarried
FD (Family History of Disease)	1	Yes
	2	No
VoL(Visibility of lesions)	1	Both
	2	Exposed
	3	Non exposed
ToV (Type of Vitiligo)	1	vitiligo vulgaris
	2	Segmental
	3	Generalized
	4	Focal
	5	Localized
	6	Mixed
	7	Acral
	8	Mucosal
	9	Liptip
AD (Associated diseases)	DM	Diabetes Mellitus
	HT	Hypothyroidism

Introduction



Objectives

Review of Literature

Methodology

Results

Discussion

Conclusion

Summary

Bibliography

Annexure-I

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Annexure-II

Annexure-III

Annexure-IV

Annexure-V

Annexure-VI

Annexure-VII