



**Ministry of Higher Education and
Scientific Research**

**21 September University for Medical
and Applied Sciences**

**Impact Of Vitiligo On Quality Of Life Among Vitiligo Patients
Attending Dermatology Clinics In Public Hospitals In Sana'a**

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Researchers

Sheeth Adam Mohammed Ali Al-Tuwaiti	Ahmed Abdusalam Abdulla Nusari
Abdusalam Mohammed Abdusalam kase	Ahmed Redhwan Abdulmajeed Al-Areqii
Abdulgaki Abdu Ali Alwaan	Ashwak Ahmed Musleh Ali Al-Thurhani
Ali Abdulkareem Huneen Abdulla Al-Duraib	Basma Abdulla Saeed Mahyob Al-Suhaibi
Mohammed Kamal Jamil Al-Kumaim	Khulood Masood Saad Zulait
Mohammed Abdulla Mohammed Al-Twail	Shaima Abdulla Mohammed Al-Majrabi
	Shaima Ali Muhammed Saleh Al-Augairi

Supervisors

Associate Professor Mutaia Abuarij

Head Of Dermatology Department In 21 September University.

Consultant In Dermatology, Venerology, Infertility, Cosmetics & Laser Therapy.

Professor Of Dermatology & Venerology In Yemeni Council For Medical Specialties.

Membership Of Training And Employment Committee In Arabic Scientific Council

Ass. Prof. Dr/ Muneera Shaher Abduljabbar

Head Of Public health and community medicine department at 21 September university of medical and applied sciences.

DECLARATION

Dedication : We dedicate our research to our parents, family & friends who present their support and motivation. They were the candles that lit our ways during our study and to those stand with us until our graduation.

To our first love Yemen .

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ABSTRACT

The objectives: this study aimed to evaluation and detection the incidence of the impact of vitiligo on quality of life among all patients treated at the skin outpatients' clinics in public hospitals in Sana'a.

Methods: Our research was a prospective cross-sectional study of all individuals who diagnosed with vitiligo at the three dermatology outpatients' clinics in three public hospitals, in Sana'a. All patients fulfilling the inclusion criteria requested to take part in the study. Data obtained from enrolled individuals using a data collection sheet and Arabic version of the Dermatology Life Quality index (DLQI) and DASS-8 questionnaire. This information was analyzed using a statistical software (SPSS version 26).

Results: A total (n=118) respondents were included as per inclusion criteria in our study. Our cohort comprised of females (60, 50.8%), males (58, 49.2%). The results showed that 108 of the sample members, representing 91.5%, had their quality of life affected due to vitiligo, where (46, 42.6%) had a slight effect, (40, 37%) had a moderate effect, (14, 13%) had a very large effect. (8, 7.4%) had an extremely large effect.

The results showed that (39, 33.1%) of the vitiligo patients suffer from depression, (61.5%) moderate depression,(38.5%)severe depression, that 40 of the vitiligo patients (33.9%) suffered from anxiety, (70%) moderate anxiety, (30%) severe anxiety, and it was also found that 45 (38.1%) suffer from stress, (73.3%) suffer from moderate stress, and (26.7 %) individuals suffer from severe stress.

Conclusion: Our study has shown that vitiligo moderately affects the QOL life of adult Yemen vitiligo patients. Therefore, treatment measures should be directed towards medical and psychological aspects of our patients for better treatment outcomes and improved QoL. This would be an argument for establishment of psychodermatology clinics at our referral hospitals.

TABLE OF CONTENTS

DECLARATION	I
ACKNOWLEDGEMENTS	I
ABSTRACT	II
TABLE OF CONTENTS	III
LIST OF FIGURES	V
LIST OF TABLES	VI
ABBREVIATIONS.....	VII
CHAPTER: INTRODUCTION	1
Introduction	1
Justification of the study	3
Study Objectives	3
General objective:	3
Specific objectives:	3
REVIEW OF LITERATURE	3
Epidemiology.....	5
Etiopathogenesis	5
Classification.....	6
Clinical Features	7
Treatment	7
Emotional and psychological distress	8
Impact in occupation.....	9
Vitiligo influencing a child’s psychosocial development	9
Coping-Up Strategies Adopted By Patients	10
Evaluation of Quality Of Life	10
Vitiligo specific measures	11
Previous studies.....	12
Sulaiman A. Al-Shammari and others, 2021.....	12
hok Med J 2020.....	13
Abdullah Al khaeir, Nada Bolbol,2018.....	13
Dhumad Al-Maliki , and Ali Qais Abdulkafi, 2024.....	14
Asia Hassan Abdulla Saleh, 2022	14
MATERIALS AND METHODS.....	16
Study Design.....	17
Study population	17
Sampling	17

Measurements	18
Data Processing and Analysis	19
 Data entry	 19
Data analysis	19
Ethics.....	19
 RESULTS PRESENTATIONS AND INTERPRETATIONS.....	 20
Introduction	21
Patients' clinical and demographic data.....	21
 Gender of participants	 21
Age of participants	22
Marital status of participants	23
Education of participants.....	24
Work as of participants	25
 Skin Disease	 26
Quality of life in vitiligo patients	27
Quality Of Life (DLQI).....	29
The level of symptoms of depression among vitiligo patients	31
The level of symptoms of Anxiety among vitiligo patients	32
The level of symptoms of Stress among vitiligo patients	34
 DISCUSSION AND CONCLUSIONS.....	 36
Discussion	37
Conclusion	42
 REFERENCES.....	 44
APPENDICES	49
 APPENDIX A. Dermatology Life Quality Index Questionnaire	 49
 DASS-8 Scoring Instructions	 47

LIST OF FIGURES

<i>Figure 1: characteristics of all patients by gender.....</i>	<i>21</i>
<i>Figure 2: characteristics of all patients by age</i>	<i>22</i>
<i>Figure 3: characteristics of all patients by marital status.....</i>	<i>23</i>
<i>Figure 4: characteristics of all patients by Education</i>	<i>24</i>
<i>Figure 5: characteristics of all patients by Work as.....</i>	<i>25</i>
<i>Figure 6: level Affected according to DLQI score</i>	<i>27</i>
<i>Figure 7: Symptoms of psychological disorders in vitiligo patients.....</i>	<i>28</i>

LIST OF TABLES

<i>Table 1: Details of characteristics of all patients by gender</i>	<i>21</i>
<i>Table 2: Details of characteristics of all patients by age</i>	<i>22</i>
<i>Table 3: Details of characteristics of all patients by marital status</i>	<i>23</i>
<i>Table 4: Details of characteristics of all patients by Education.....</i>	<i>24</i>
<i>Table 5: Details of characteristics of all patients by Work as</i>	<i>25</i>
<i>Table 6: Details of characteristics of all patients by skin disease</i>	<i>26</i>
<i>Table 7: Affected according to DLQI</i>	<i>27</i>
<i>table 8: Descriptive statistics for the quality of life index</i>	<i>27</i>
<i>table 9: Symptoms of psychological disorders in vitiligo patients.....</i>	<i>28</i>
<i>Table 10: level of quality of life according to the DLQI scale.</i>	<i>30</i>
<i>Table 11: Level of depression among vitiligo patients.....</i>	<i>31</i>
<i>Table 12: level of symptoms of Anxiety among vitiligo patients.....</i>	<i>33</i>
<i>Table 13: level of symptoms of Stress among vitiligo patient.....</i>	<i>35</i>

ABBREVIATIONS

CEO: Chief Executive Officer

DLQI: Dermatology Life Quality Index

QoL: Quality of Life

SD: Standard deviation

VitiQoL: vitiligo-specific Quality of life instrument

CHAPTER ONE : INTRODUCTION

1.1 Background

Vitiligo is an acquired skin pigmentation disorder that results from the gradual loss of melanocytes. Clinically, vitiligo is characterized by clear white patches and may be accompanied by white hair or polypsis. It is estimated that the global prevalence of vitiligo ranges from 0.5% to 2% of the population, (*Bergqvist C, Ezzedine K, 2020*)

Most researchers agree that the primary cause of vitiligo is currently unknown, but genetic, autoimmune, neurological, and cytotoxic factors are considered responsible for the mechanism of vitiligo. Vitiligo is classified into three types based on the extent and distribution of lesions such as localized (focal, segmental, mucosal), generalized (facial, common or mixed), and global vitiligo, (*Tjut Nurul Alam Jacob; 2021*)

Vitiligo affects all age groups, but it usually begins before the third decade of life, with approximately half of patients appearing before the age of 20 years and a third before the age of 12 years. Vitiligo is more common in women, (*Karmila Jusuf, 2018*)

Vitiligo has a negative impact on the patient's quality of life because it is associated with social stigma. In addition, it has a significant impact on the quality of life because it concerns cosmetic aspects, chronic diseases and long-term treatment that is often ineffective, (*Nazar I, Kamran F, Masood A, 2021*)

Management of vitiligo remains a challenge due to the unpredictable progression of the disease because hypopigmented lesions may persist, expand, or induce repigmentation, (*Alhetheli GI, 2021*)

Repigmentation initially occurs in a perifollicular pattern or begins at the margins of the lesion, with treatment and evaluation continuing for at least 2-3 months. Different vitiligo treatment methods with the principle of stimulating repigmentation, such as phototherapy, topical and systemic immunosuppressants, and surgical techniques, give different results. Currently, vitiligo patients have begun to use concealer camouflage techniques to increase their self-confidence, (*Chen D, Tuan HH, Zhou EY, Liu DH, Zhao Y, 2019*)

Vitiligo affects an individual's perception of body image, self-esteem, mental health and social functioning, stigma, and poor quality of life. Vitiligo patients feel that they have a poor body image, which affects them emotionally and psychologically, (*Silpa-Archa N, Pruksaeakanan C, Angkoolpakdeekul N, et al, 2020*)

Feelings of poor body image are linked to depression, low self-esteem, eating disorders, and even suicidal ideation. This condition can have a significant impact on social relationships. By knowing the prevalence of vitiligo and the factors that affect the quality of life in vitiligo patients, health care and support for people with vitiligo can be improved by providing appropriate guidance and counseling.

1.2. Justification of the study

There was a big gap in the previous studies about dermatologic diseases in Yemen not having a sense about like these sensitive issues among patients in Yemeni society. It is a very important for us as medical students and medical staff to put like these issues in our priorities and concerns because there is a lot of neglected vitiligo patients affected in their quality of life and may get psychological disturbances such as depression and anxiety.

1.3. Study Objectives

1.3.1. General objective:

To evaluation and detection the incidence of the impact of vitiligo on quality of life.

1.3.2 Specific objectives:

- 1) Identify the demographic characteristics of vitiligo patients.
- 2) Identify the clinical characteristics of vitiligo patients.
- 3) Identify the impact of vitiligo on the quality of life of patients with vitiligo.
- 4) Identifying the psychological disorders suffered by patients with vitiligo.

1.3.3 Hypotheses

There is no statistically significant effect for vitiligo patients on their quality of life.

There is no statistically significant relationship between the quality of life of patients with vitiligo and the demographic characteristics of the patients.

There is no statistically significant relationship between the level of psychological disorders and the demographic characteristics of patients.

CHAPTER TWO: REVIEW OF LITERATURE

Vitiligo is an acquired skin disorder characterized by sharply demarcated, depigmented macules and patches that result from progressive loss of melanocytes. (Garg S, Sarkar R, 2014)

Histopathologically, it is characterized by degeneration and disappearance of melanocytes in the involved skin. . (Geel NV and others, 2016)

The term vitiligo has originated from the Latin word “vitium” meaning blemish. The term was first coined by Roman physician Celsus, in the second century AD. Vitiligo was referred to as “Sweta Kustha” meaning “white leprosy” in the ancient Indian epic,

“Atharvaveda”. (Geel NV and others, 2016)

2.1. Epidemiology

The prevalence of vitiligo worldwide ranges between 0.5-2%.

It is not easy to confirm the extent of vitiligo in Yemen, as we found only one study from Aden, conducted by researcher Asia Hassan Abdullah Saleh in 2022, that vitiligo in Yemeni females is more common Compared to males, the common form was vitiligo vulgaris. One third of patients had a positive family history of vitiligo, and the most common site incidence was the extremities and was higher in females and males. It was suggested of study that further studies be conducted to evaluate the epidemiology related to the governorates, demographic characteristics, and treatment of the disease.

The prevalence of vitiligo in surrounding countries also ranged from 1.49% in Kuwait to 3.55% in Jordan, 0.4% Saudi Arabia.

Although vitiligo affects all races, a higher incidence has been noted among people with Fitzpatrick skin types III and IV, (Geel NV and others, 2016)

Most cases have an onset around second to third decade of life, whereas segmental

Vitiligo begins usually before ten years of age.

2.2. Etiopathogenesis

The inheritance of vitiligo is polygenic. Various mechanisms of action prevail, which work together to cause progressive loss of melanocytes in vitiligo (‘convergence’ or ‘integrated’ theory). The various mechanism/hypotheses that prevail regarding etiopathogenesis of vitiligo have been listed below. (*Osman AM, Elkordufani Y, Abdullah MA, 2009*)

1. The autoimmune/autoinflammatory theory
2. Self-destruction theory of Lerner
3. Neurogenic theory
4. Defective keratinocyte metabolism with low catalase level in the epidermis.
5. Defective tetrahydrobiopterin and catecholamine biosynthesis.

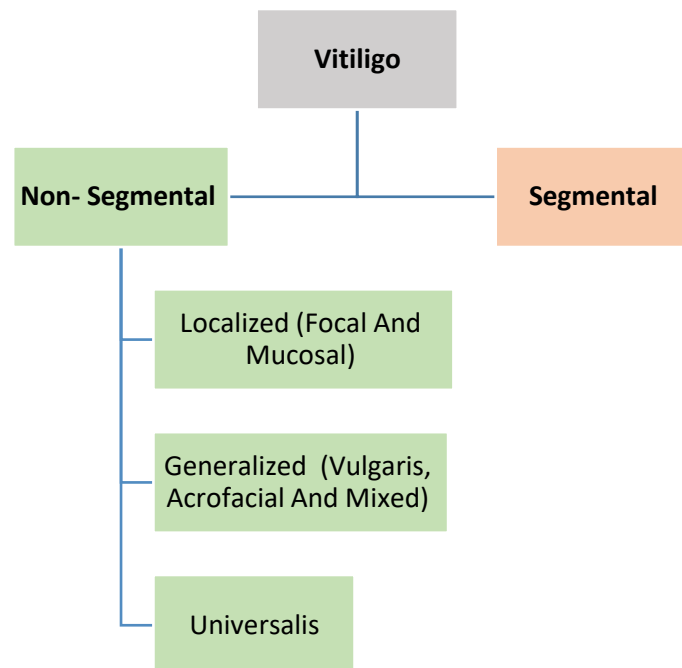
6. Loss of melanocytes through inhibition of their adhesion to fibronectin by extracellular matrix molecules.

2.3. Classification

Vitiligo can be broadly classified based upon the extent of depigmentation as segmental and non-segmental forms, (*Mashayekhi, et al, 2009*)

Quality of life in patients with vitiligo: A descriptive study on 83 patients attending PUVA therapy unit in Imam Reza hospital, Mashad. The various clinical types and subtypes of vitiligo have been presented in figure 1.

Figure 1: Classification of vitiligo



1. **Segmental vitiligo:** characterized by depigmented macules and patches in unilateral dermatomal distribution. The lesions do not cross the mid line.
2. **Focal vitiligo:** characterized by one or few depigmented macules in one anatomical area, but not distributed in a segmental pattern.
3. **Mucosal vitiligo:** characterized by appearance of lesions in the mucous membrane alone.
4. **Vitiligo vulgaris:** characterized by multiple scattered macules and patches in more or less symmetrical pattern. It is the most common presentation of vitiligo.
5. **Acrofacial vitiligo:** the lesions are present over distal fingers and toes, and facial orifices in a circumferential pattern.
6. **Mixed vitiligo:** the lesions are a combination of acrofacial and vitiligo vulgaris, or segmental and acrofacial vitiligo.

7. **Vitiligo universalis:** characterized by complete or near complete depigmentation of the whole body. It is the most severe form of vitiligo.

The various special clinical phenotypes of vitiligo are as follows:

- Trichrome, quadrichrome and pentachrome vitiligo
- Confetti vitiligo or vitiligo ponctué

2.4. Clinical Features

The characteristic lesion of vitiligo is a well-defined, depigmented macule or patch with/without associated depigmentation of hair (leukotrichia/poliosis) over the lesions.

The lesions vary in number and enlarge progressively with a convex outline at the border. The commonly involved body sites are extensor surfaces, skin overlying the digits, periorificial area and less commonly the flexural areas. Koebner's phenomenon is a commonly observed feature of vitiligo. (*Choi S, Kim DY, Whang SH, Lee JH, Hann SK, Shin YJ, 2010*)

The lesions of vitiligo are asymptomatic, except occasional pruritus or burning that may precede or accompany the onset of lesions in some patients.

However at any age, it causes great cosmetic concern and has great psychological impact on affected patients.

2.5. Treatment

The various treatment modalities available for patients with vitiligo are medical, surgical,

phototherapy and camouflage. (*Premkumar R, Kar B, Rajan P, Richard J, 2013*)

Though there is extensive advancement in the therapy of vitiligo, it is often treatment resistant and recurrences are common. This further adds to the woes of the patients and treatment failure or recurrences are additive to the impaired QOL.

2.6. Impact Of Vitiligo On A Patient's Life

Vitiligo affects the lives of sufferers in various ways;

1. Emotional and psychological distress
2. Impact in occupation

3. Vitiligo influencing a child's psychosocial development

2.7. Emotional and psychological distress

Skin plays a major role in an individual's physical and mental well-being, and a sense of self-confidence. Thus, any abnormal appearance of the skin is known to have a profound, effect on patients' social interactions and result in psychological distress

This unusual look of the sufferers is associated with enormous social stigma and affects the interpersonal relationships

Patients with vitiligo feel distressed, have restricted social interaction at school and work places, and may even face ridicule within the family. Young individuals may find it difficult to get their match and marital, (*Sangma LN, Nath J, Bhagabati D, 2015*) disharmony is frequent among couples if one of the partners has vitiligo.

It has been noted that stigma is more among the less educated strata of the society, (*Ongena K, Beelaert L, Geel NV, Naeyaert, 2006*).

The degree of impairment of QOL in vitiligo patients does not depend on the extent of involvement. The degree of upset is more when the exposed body parts, such as head, neck and extremities are involved.

They have a feeling of embarrassment and this is reflected on their choice of clothings which cover the lesions.

The patients feel that they are often being subjected to rude remarks, looked down upon and often feel discriminated.

Women have a greater impairment of QOL as compared to men.

Patients with vitiligo suffer from various psychological disorders; these include, depression, irritability, anger, anxiety, suppressed interpersonal and social behaviour, poor body image, low self-esteem and suicidal ideations, These problems are more common, among the younger age group.

Salzer and Schallreuter have conducted a hospital based study on 117 patients of vitiligo (F=89, M=28). Nearly 75% of the patients in this study considered their disfigurement intolerable to the extent of moderate to severe. Five out of 12 personality dimensions were deranged as compared to normal controls. It was also noted that 26.5% of the patients with such impairment of QOL belonged to well-educated strata of the society.

In a study by Sampogna et al, including 181 vitiligo patients, 60% reported worry of worsening of disease, 37% anger, 34% embarrassment, 31% depression and 28% shame. Social life was affected in 28% of the patients suffering from vitiligo. Sixty eight percent of the study subjects were women and they reported a higher impairment in QOL as compared

to men. The impairment of QOL was comparatively less among patients who had another family member suffering from vitiligo.

Willingness to pay (WTP) is an index that reflects the burden of disease on its patients. Radke *et al* conducted a study (2009) to estimate WTP among 1023 vitiligo patients (71.5% women). The mean dermatology life quality index among the patients with vitiligo in this study was 7.0 (F=7.5, M=5.5). The study results revealed that 32.9% of the vitiligo patients were ready to pay more than €5000 to achieve complete disease remission. Highest WTP was noted among middle-aged patients and especially among women. (*Radtker et al, 2009*)

The chronic, unpredictable and recalcitrant course of the disease and lack of cure in many cases is demoralizing and disempowering for these patients. (*Ramam M, Krishna G, 2012*)

These reflect the negative impact of vitiligo on the quality of life of affected patients, (*Wang KY, Wang KH, Zhang ZP, 2011*)

Hence, it is important to recognize and help the patients to deal with the psychosocial distress associated with the disease.

2.8. Impact in occupation

Patients with vitiligo have restricted job opportunities in some fields due to their unusual look.

Some patients also incur financial losses, as they have to take leave from their jobs due to their treatment appointments like phototherapy. Career options like defense services, media and airlines industries are restricted for these patients.

2.9. Vitiligo influencing a child's psychosocial development

Children have a rapid psychological and social development, and emotional vulnerability. Childhood vitiligo is known to impede a child's health related QOL. Negative experiences during childhood has an impact on childhood development and adult life.

Children with vitiligo often avoid or restrict themselves from sports like swimming where chance of exposure of their skin lesions is high, (*Wang KY, Wang KH, Zhang ZP, 2011*)

Homan *et al* have conducted a study among 283 young adults who had developed vitiligo before the age of 15. This study reported that negative experiences in childhood due to vitiligo caused significant impact in their social development. However, the psychosexual development of such children was comparable to that of healthy controls. Furthermore, a negative childhood experience was significantly associated with higher QOL impairment in early childhood.

2.10. Coping-Up Strategies Adopted By Patients

Patients suffering from vitiligo are known to adapt behavioural and cognitive strategies to cope up with their condition. The patients have to deal with their own emotional as well as others behaviour towards their disease. Some avoid situations like social gathering, sports or sexual relationships where their skin may be visible, (*Thompson AR, Kent G, Smith JA, 2002*)

Similarly, many use concealment, either by wearing clothes that cover their lesions or by using cosmetics to camouflage their patches. Many social support groups have come into existence where they help patients to overcome their distress and reduce the impact of the disease on their QOL, (*Schmid et al, 2007*)

2.11. Evaluation of Quality Of Life

World health organization (WHO) defines quality of life as “an individuals’ perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns”, (*Mitrevska NT, Eleftheriadout V, Guarneri F, 2012*) The measurement of quality of life can be done by dividing into three main domains:

1. Physical functioning (symptoms and functional difficulties)
2. Psychological state (emotional and cognitive functions)
3. Social interaction (work, daily activities and public relations)

Studies have shown that extent of vitiligo does not directly correlate with the patient’s satisfaction after treatment and also does not correlate with clinical improvement of the disease clinically.

This emphasizes that QOL in vitiligo needs to be evaluated separately from the extent of vitiligo.

Moreover, measurement of QOL helps in recognition of psychological and functional limitations in a given patient; decision of treatment and hence, improving the physician patient relationship, (*Amer AAA, Gao XH, 2016*)

Assessment of QOL in patients with vitiligo is of immense importance as it determines the following:

1. Impact of vitiligo on patient’s life at presentation.
2. Impact of the disease on patient’s life following institution of treatment, i.e.therapeutic response.

3. Effectiveness of a given treatment modality for vitiligo.

Various methods of assessing quality of life in patients with vitiligo have been discussed in the following section.

There are several scales available to measure the quality of life in patients with vitiligo. Some dermatology related measures and few vitiligo specific measures are available for this purpose.

2.12. Vitiligo specific measures

Vitiligo life quality index (VLQI): VLQI is the first vitiligo specific quality of life instrument developed by Senol *et al.* The scale consists of 25 items with score ranging from “never” (score = 0) to “all the time” (score = 4). The total score ranges between 25 and 100 and a higher score indicates a higher impairment on QOL of the patients. The scale particularly focusses on the emotional and social impact of vitiligo on the sufferers.

The study by Senol *et al* was conducted to validate VLQI among 183 vitiligo sufferers. The mean ($\pm$ SD) VLQI score was 44.0 ($\pm$ 12.1). The score was validated by correlating the mean score with DLQI. The study indicated that patients with body surface area (BSA) involvement of >5% had a statistically higher VLQI score as compared to the patients with BSA <5%. Nearly 82% of the patients preferred VLQI to express themselves and reflect the psychosocial problems faced by them. However, no statistically significant relationship was established between the treatment history and the VLQI scores.

The limitation of this study was that the study subjects were of skin types II to IV. The patients with skin types V and VI were not included, who usually have the highest impact of vitiligo on QOL.

VitiQol: Lilly *et al* developed a 15-item instrument “VitiQol”, a vitiligo specific scale and tested it upon 90 patients. The score for each question was calculated on a seven point Likert scale (0-6). The final score ranged from 0 to 90; higher scores indicated poorer QOL. The study dealt in specific about participation, limitation, social stigma and behaviour of patients with vitiligo. A correlation of 0.051 was found between self-reported severity and VitiQol scores. It also showed higher effect on QOL in individuals with exposed patches compared to unexposed patches. (Lilly E, Lu PD, Borovicka JH, Victorson D, Kwasny MJ, West DP, 2013)

The test-retest reproducibility was not evaluated in this study and the study was done at a single point of time regardless of the time of diagnosis and treatment duration with no follow up on the patient.

Hedayat *et al* conducted a similar study to evaluate QOL among 173 vitiligo patients using VitiQoL. The mean VitiQoL score was 30.5 and was significantly correlated with VASI. Women had a higher impairment of QOL as compared to men with vitiligo. QOL was better among the well-educated strata of the study population. Extensive disease and

psychiatric illnesses like anxiety and depression were associated with a poor quality of life, although the scores were not statistically significant. Higher impact on QOL was seen among patients with BSA involvement of more than 15-20%. Disease duration less than 5 years and more than 15-20 years was associated with a lesser impairment in QOL.

Vitiligo impact scale (VIS): Krishna *et al* developed a vitiligo specific QOL scale “VIS” and studied it on 180 patients.⁹ It was a 27 item scale where 19 items were common to all patients, 5 items for married, one item each for unmarried, working or studying. The items were grouped under the domains: self-confidence, depression, anxiety, social interactions, attitude, marriage related problems, occupational and peer pressure related problems, and family worries. Each question had score ranging from 0 to 4, the higher score representing a higher impairment of QOL. (*Krishna GS, Ramam M, Mehta M, Sreenivas V, Sharma VK, Khandpur S, 2013*)

Fifty seven males and forty three females were included in the study and impairment of QOL in women was statistically significantly higher as compared to men. However, no statistical significance was observed in other parameters like marital and employment status, age, duration of vitiligo and visibility of lesions. The results correlated moderately with DLQI and Skindex-16.

The limitation of this scale was that, it included 5 items specific for married people. This lead to a higher score among married patients with vitiligo as compared to unmarried patients.

Vitiligo impact scale – 22 (VIS-22): Recently Gupta *et al*, 2015, developed a new scale “Vitiligo Impact Scale-22 (VIS22)”.

It is a specially designed questionnaire with specificity to assess the extent of impairment of QOL in patients with vitiligo.

It is a modification of vitiligo impact scale where the number of items for married patients were reduced from five to one, equalizing the scale for both married and unmarried group. It is a valid, reliable and responsive health related QOL instrument. It consists of a set of 22 questions which are given to the patients to respond. Since there is no standard protocol to assess the psychological impact of vitiligo, patient’s own opinion has been given a higher value, so that the patient-perceived severity can be assessed. ‘VIS-22’ was developed in All

2.13. Previous studies

Sulaiman A. Al-Shammari and others, 2021

The study aimed to assess the quality of life (QoL) in patients with vitiligo in Saudi Arabia using the dermatology life quality index (DLQI), A cross-sectional study spanning over 6 months was conducted on 253 adult patients with vitiligo at the outpatient dermatology clinics of the National Center

of Vitiligo (Light Clinics) and King Khalid University Hospital, Riyadh, Saudi Arabia. The patients were asked to complete a self-administered questionnaire using an Arabic version of the DLQI to measure the impact of vitiligo on their QoL showed that the median DLQI score was 4, the range 25, min 0 - max 25 and percentiles 2-8. The unadjusted odds ratio (95%CI) showed the median DLQI score was significantly higher in married subjects 2.29 (1.33-3.94) ($p<0.01$). the study showed that The QoL in vitiligo patients in Saudi Arabia was adverse than those with lighter skin, in other countries.

hok Med J 2020

The aim of the study is to measure the impact of vitiligo on the QoL among patients and to investigate its relation to socio-demographic and clinical factors, in Duhok, Kurdistan Region, and Iraq. This study is a cross-sectional hospital- study conducted on 143 patients aged 16 years and above diagnosed to have vitiligo by a consultant dermatologist. All available patients to the investigator in the outpatient dermatology unit at a tertiary care hospital were asked to participate. An oral consent was obtained then a short questionnaire was filled for each patient regarding socio-demographic factors and clinical features of the disease. The QoL was estimated by using the Dermatology Life Quality Index (DLQI). The mean age $\pm$ SD was 31.85 ± 10.39 years of which 76 were males, and 67 were females. The mean DLQI score was $6.67 (\pm 4.81\text{SD})$. The finding of study showed that only 13.3% reported no effect of the disease on their QoL while 39.9 %, 16.8%, and 30.1 % of patients reported that the disease has small, moderate and very large negative effect, respectively on their QoL. There were no significant differences between the mean DLQI scores and gender, job, type and duration of the disease and current treatment status. The Qol was significantly more negatively affected among younger patients, those with higher education, married women, patient with darker skin type, and patients with hands, arms and feet involvement and those with a negative family history of vitiligo.

Abdullah Al khacir, Nada Bolbol,2018

This study aimed to assess patients life quality and its correlation with various variables. The study included 73 vitiligo patients. Diagnosis was established based upon clinical signs. Each patient was assigned a special form, which included demographic information and VitiQol questionnaire, and VitiQol total was calculated via summation of points. The higher total expresses lower quality of life. The study has demonstrated that quality of life in women had been worse than that in men, since all that is related to esthetic matters concerns women. An important correlation had been found between duration of disease (15-20) years and quality of life, since this duration negatively affected the patients' quality of life. With respect to the area of affected body surface, the study showed a proportional relationship, i.e. the more the affected body surface

area, the lower the quality of life, as for the site of disease, the patient with genital involvement have lower quality of life, whereas the study found no correlation among disease type, social status, patient's age, educational standard, color pattern, and quality of life

Dhumad Al-Maliki, and Ali Qais Abdulkafi, 2024

This study aimed to characterize clinical outcomes and assessed the quality of life related to women patients with vitiligo. During the study period, which began on 12 March 2022 and lasted until 26 September 2023, eighty female patients with vitiligo were recruited from the different hospitals in Iraq dermatology outpatient clinics. The study used the DLQI scale to measure the impact of skin conditions on patients' lives and the Beck scale to measure depression levels. Results the study analyzed the demographic and clinical data of women patients with vitiligo, a skin condition affecting the skin and hair. The highest prevalence was found in women aged 25-30 years, with 50% of cases. The most common symptoms included depigmented skin, premature graying of hair, loss of color in mucous membranes, changes in retina color, and social and psychological impact. The affected body parts included the head and face in 60% of cases, hands and feet in 44 cases, and the entire body in 40 cases. The disease duration varied, with 5% having a duration of less than one year, 16% between two and four years, 12% between four and eight years, and 8% between eight and twelve years. The study also identified different patterns of progression in the disease, with patients demonstrating improvement in 7.8 ± 8.4 , those with no change in disease status, those with slow progression, and those with rapid progression. The Study showed that vitiligo had a negative impact on female patients in terms of physical and psychological aspects, which reduced their quality of life.

Asia Hassan Abdulla Saleh, 2022

The objective of the study was to evaluate the different clinical features of vitiligo diseases and to assess the comorbidity disorders in Aden. This was a retrospective descriptive study, in which we reviewed the medical records of all patients with vitiligo attending two private clinics in Aden during the period January 2019 to December 2020. The study patients were (33.5%) males and (66.5%) females (male: female 1: 2). The mean age of the study patients was 23.6 ± 12.9 years and the age ranged between 2 and 65 years. Nearly half (49.7%) of patients were aged ≤ 20 years old and a positive family history of vitiligo was found in 28.6%. Vulgaris is the predominant vitiligo type (57.8%) followed by acrofacial type (13.0%). Extremities involvement were higher in females than males (17.4%) and (9.9%), respectively. Face with extremities involvement and trunk with extremities involvement in female patients seemed to be similar with (9.9). Significant differences were found between vitiligo involvement types and the sex of patients, ($p < 0.05$). In the age group ≤ 20 years old we found (28%) vulgaris type of vitiligo followed by acrofacial (7.4%). Vitiligo onset on extremities represented the highest site involvement (27.3%). Twelve (7.4%) of the patients had associated diseases distributed as follows: diabetes mellitus (4.3%) followed by thyroid diseases (1.9%) and atopic

disorders (1.2%). The associated diseases occurred among the age group ≤ 20 years old and the age group 21 – 40 years old; ($p = 0.043$)

‘

CHAPTER THREE: MATERIALS AND METHODS

Our study was a cross-sectional study. We involved all patients meeting the inclusion criteria seen from 1 November to 24 May 2024 at Republican Teaching Hospital Authority, Al-Thawra General Model Hospital and Al-Kuwait University Hospital in Sana'a city - Yemen.

Patients attending the hospitals for treatment of vitiligo and were meeting the criteria to be in the study were requested to be interviewed about their condition, and were added into our cohort. All patients who were meeting the inclusion criteria accepted the request to participate in the study. After obtaining ethics approval from the University, and gaining permission from the CEOs of various health facilities, data was obtained from participants using the data collection sheet and DLQI questionnaire. This data collection sheet and Arabic version of the DLQI and DASS-8 questionnaire.

4.1. Study Design

This is a cross-sectional study assessing the DLQI among all patients with vitiligo who consented to participate in this research. These patients were seen at the dermatology outpatients' clinics at Republican Teaching Hospital Authority, Al-Thawra General Model Hospital and Al-Kuwait University Hospital.

4.2. Study population

All Vitiligo patients aged (≥ 13 -40 years old) visiting dermatology clinics of the hospitals (Republican Teaching Hospital Authority, Al-Thawra General Model Hospital and Al-Kuwait University Hospital) , either as a new patient or as a follow-up case from November 2023 to 24 May 2024, were recruited to participate in the study.

4.3. Sampling

Purposeful sampling was used. Of the 118 patients who completed the study, none of our patients objected to the exclusion criteria:

Inclusion criteria:

1. Vitiligo is diagnosed in outpatient clinics by a clinical dermatologist.
2. All patients (age ≥ 13 years).
3. Acceptance to participate in the study.

Exclusion criteria:

1. Inpatients.
2. Under 13 years old.
3. The patient who did not agree to participate in the study.

4.4. Measurements

Measurements

The aim and nature of the study was explained by the investigators to all patients meeting the above inclusion criteria. Those who volunteered to participate were asked to sign a consent form. Information regarding demographic characteristics of the patient (example gender, age, and marital status work type), clinical data on vitiligo after a clinical evaluation by a dermatologist was collected on a data collection sheet.

The English version of a widely validated questionnaire commonly used in quality of life studies, the Dermatology Life Quality Index, was administered.

To overcome literacy and language differences.

DLQI questionnaire is user-friendly, and has been used in several other studies assessing QoL in other chronic skin diseases.

We use Arabic version of DLQI and DASS-8 questionnaire. [#append](#)

4.5. Data Processing and Analysis

4.5.1. Data entry

Information from the questionnaire and the data collection sheets were captured into a Microsoft Excel spreadsheet for the reasons of cleaning and coding of the data. Cleaning was done by rechecking the data for possible missing values, extreme values, as well as verifying for internal consistency. For the purpose of data analysis, data coding was done, for example, the QoL scores of patients with vitiligo were summed up and categorised into their respective groups.

4.5.2. Data analysis

The cleaned and coded data in MS-Excel spreadsheet was transferred to statistical software (SPSS version 26) for analysis. To assess patients' demographic characteristics, we carried out descriptive analysis. Categorical variables such as race, gender and others, frequencies and percentages were computed, whereas means and standard deviations were computed for numerical variables. To calculate the DLQI, we added up the score of each question, as well as the scores of all patients. The possible sum of the score ranges from a minimum of 2 to a maximum of 30.

This information was presented in frequency tables and bar graphs. For abnormally distributed data, medians and inter-quartile ranges were employed. Various statistical tests (Chi-square, ANOVA test) were used to test for associations between demographic characteristics and QoL. The significant test is set at $p < 0.05$.

4.6. Ethics

The research proposal was submitted to 21 September University, College of Medicine for approval to begin the study.

Only patient information was used for this research, and details were kept confidential. In order to maintain respondent confidentiality, coded names were used at every step of the entire study. Consent was obtained from hospital managers, as well as from individual participants, before data collection began.

CHAPTER FOUR: RESULTS PRESENTATIONS AND INTERPRETATIONS.

5.1. Introduction

During the study, 118 patients Vitiligo aged (14-40 years old) visiting dermatology clinics of the hospitals (Republican Teaching Hospital Authority, Al-Thawra General Model Hospital and Al-Kuwait University Hospital in Sana'a city -Yemen) were detected.

5.2. Patients' clinical and demographic data

5.2.1. Gender of participants

In the following table, the descriptive statistics of the gender variable of the sample members will be reviewed.

Table 1: Details of characteristics of all patients by gender

sex	frequency	Percent
Male	58	49.2%
Female	60	50.8%
Total	118	100%

The table (1) showed that the majority of the sample members were from the Female (50.8%), while male was (49.2%), For more details, see Figure (2).

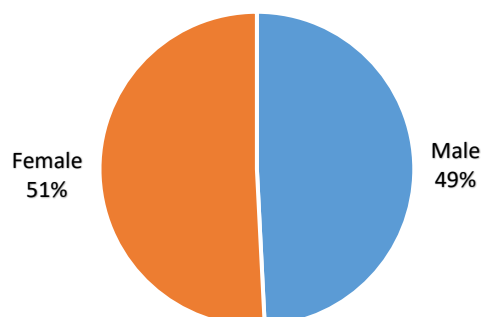


Figure 2: characteristics of all patients by gender

5.2.2. Age of participants

In the following table, the descriptive statistics of the age variable of the sample members was reviewed.

Table 2: Details of characteristics of all patients by age

Age	Frequency	Percent
13y	5	4.2%
14-24y	45	38.1%
25-34y	25	21.2%
More than 34y	43	36.4%
Total	118	100%

The table (2) showed that the majority of the sample members were aged 14-24 years old (38.1%), while (36.4%) were More than 34 years old and (21.2%) of them were aged from 25 to 34 years old, (4.2%) 13 years old. For more details, see Figure (3).

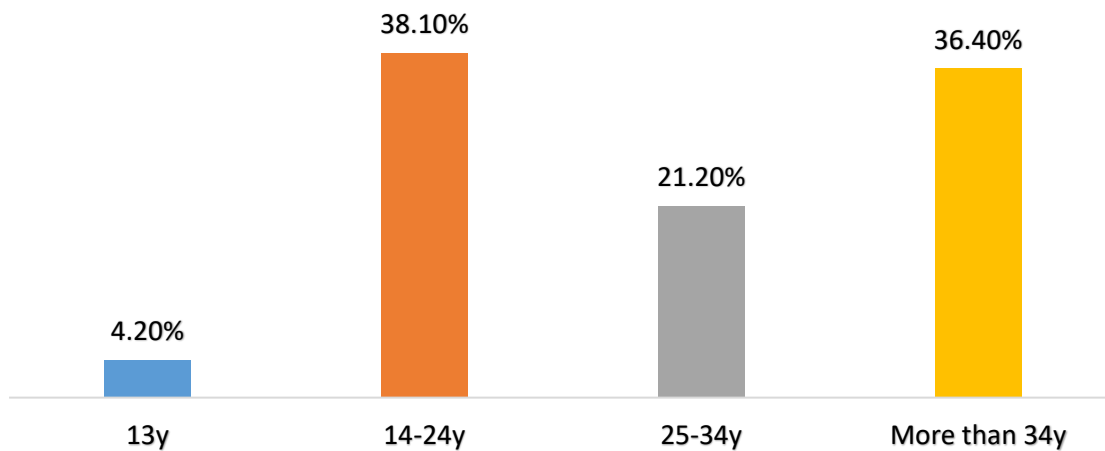


Figure 3: characteristics of all patients by age

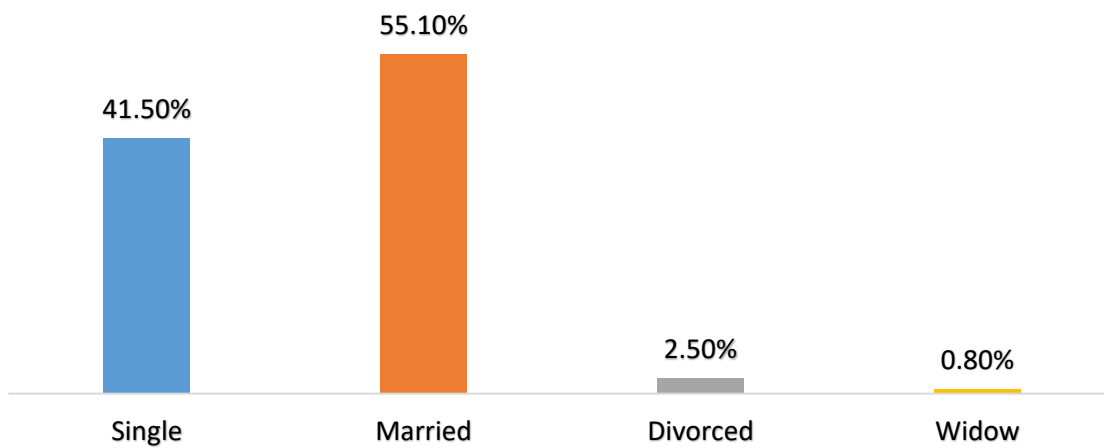
5.2.3. Marital status of participants

In the following table, the descriptive statistics of the marital status variable of the sample members will be reviewed

Table 3: Details of characteristics of all patients by marital status

Marital status	Frequency	Percent
Single	49	41.5%
Married	65	55.1%
Divorced	3	2.5%
Widow	1	0.8%
Total	118	100%

The table (3) showed that the majority of the sample members were Marital status for them Married by (55.1%), followed by the sample members were Marital status for them Single by (41.5%), while (2.5%) were Divorced, (1) case of Widow. For more details, see Figure (4).



5.2.4. Education of participants

In the following table, the descriptive statistics of the Education variable of the sample members will be reviewed

Table 4: Details of characteristics of all patients by Education

Education	Frequency	Percent
High school	35	29.7%
Middle Preparatory School	28	23.7%
Other	12	10.2%
Primary school	22	18.6%
University	21	17.8%
Total	118	100%

The table (4) showed that the majority of the sample members were Education for them High school by (29.7%), followed of the sample members were Education for them Middle Preparatory School by (23.7%), while (18.6%) were Primary school, (17.8%) were University , (10.2%) were Education Other. For more details, see Figure (5).

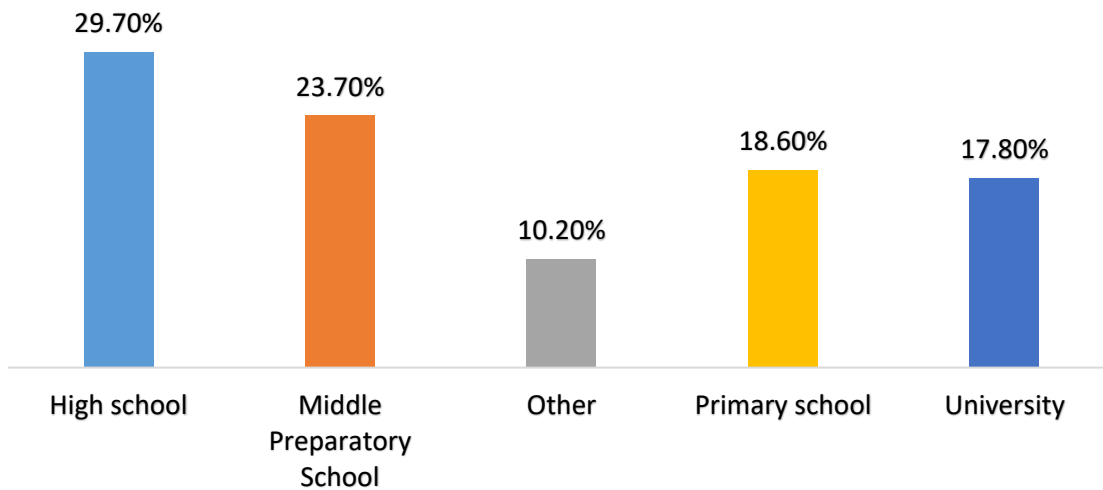


Figure 5: characteristics of all patients by Education

5.2.5. Work as of participants

In the following table, the descriptive statistics of the Work as variable of the sample members will be reviewed

Table 5: Details of characteristics of all patients by Work as

Work as	Frequency	Percent
Employee	20	16.9%
Other	59	50.0%
Student	39	33.1%
Total	118	100%

The table (5) showed that the majority of the sample members were Work as for them no Employee and Student by (50.0%), (33.1%) were Student, (16.9%) were Employee. For more details, see Figure (6).

Figure 6: characteristics of all patients by Work as

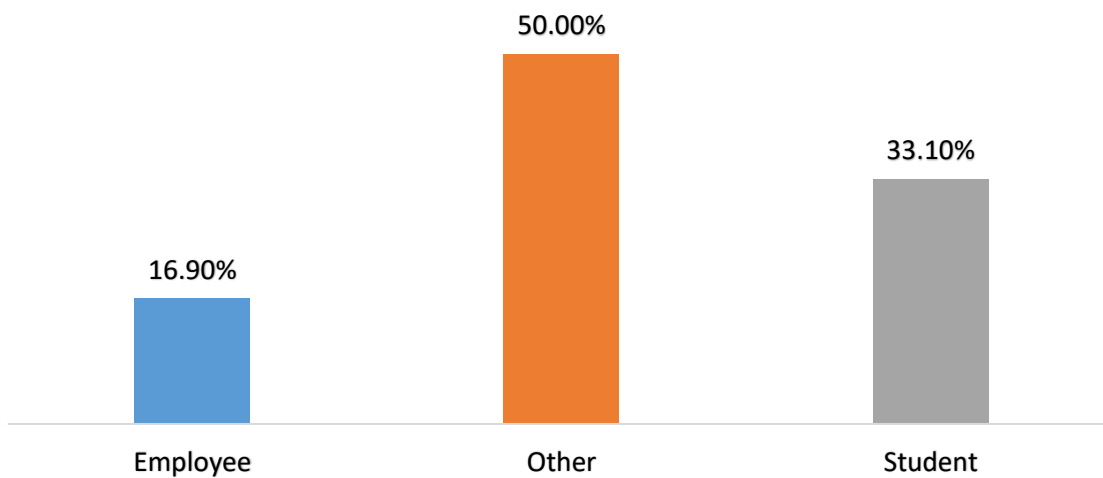


Figure 7: characteristics of all patients by Work as

5.3. Skin Disease

In the following table, the descriptive statistics of the skin disease variables of the sample members will be reviewed.

Table 6: Details of characteristics of all patients by skin disease

Variable	Category	F	%
Is there any other skin disease	No	95	80.5%
	Yes	23	19.5%
	Total	118	100%
If yes, is it?	Others	18	78.3%
	Psoriasis	5	21.7%
	Total	23	100%
Is there Chronic disease	No	86	72.9%
	Yes	32	27.1%
	Total	118	100%
Chronic disease	DM	8	25.0%
	HTN	7	21.8%
	Other	16	50.0%
	Thyroid Disease	1	3.13%
	Total	32	100%
Duration of disease	0-11 m	15	12.7%
	1-3y	42	35.6%
	4-6 y	19	16.1%
	More than 6 y	42	35.6%
	Total	118	100%
Spread of disease	Generalized	20	16.9%
	Partial	98	83.1%
	Total	118	100%
Family history	No	89	75.4%
	Yes	29	24.6%
	Total	118	100%

The table (6) showed that the 19.5% form 118 had other skin diseases, 78.3% of 23 had others , (21.7%) Psoriasis.(72.9%) had not chronic disease, 32, 27.1% had chronic disease, 25% of them had DM, 21.8% had HTN, (1) patient had Thyroid Disease, 50% of them had other Chronic disease.

(35.6%) of sample were Duration of disease, from 1-3 years, and more than 6 years, (16.1%) Duration of disease were from 4-6 years, (12.7%) of less than 1 years , (75.4%) not had family history, (24.6%) had family history.

5.4. Quality of life in vitiligo patients

Table 7: Affected according to DLQI

Category	F	%
No (0-1)	10	8.5%
Yes (2-30)	108	91.5%
Total	118	100%

The table (7) showed that the majority of the sample members were Affected of life (91.5%), 42.59% of them had small effect, 37.04% had moderate effect, 12.9% very large effect, (7.4%) had extremely large effect.

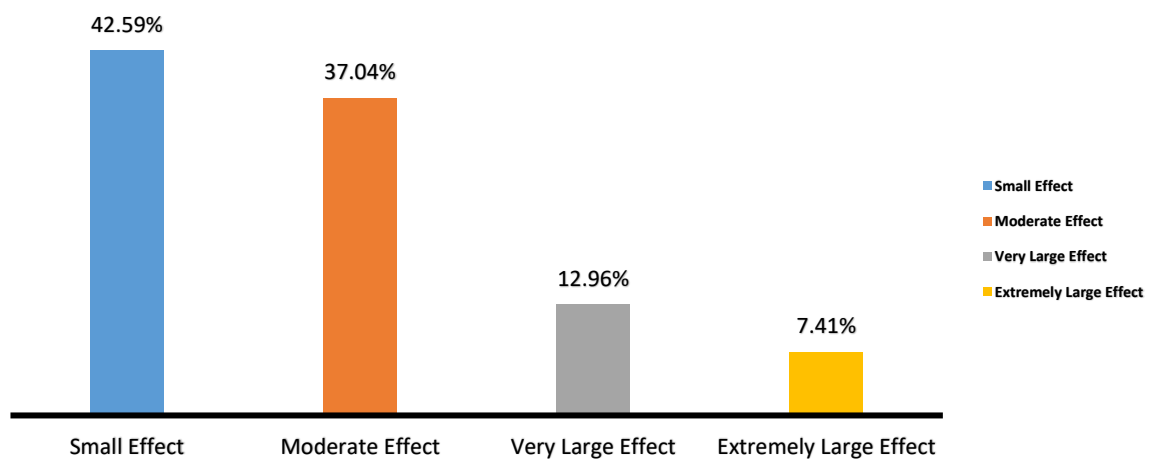


Figure 8: level Affected according to DLQI score

table 8: Descriptive statistics for the quality of life index

Descriptive Statistics					
Mean DLQI score	N	Minimum	Maximum	Mean	Std. Deviation
	108	2	30	8.35	6.23

The results showed that Mean DLQI score in this the study was (8.36 ± 6.23)

table 9: Symptoms of psychological disorders in vitiligo patients

Is there according to DASS score?	Yes		No	
	F	%	F	%
Depression	39	33.1%	79	66.9%
Anxiety	40	33.9%	78	66.1%
Stress	45	38.1%	73	61.9%
Total score	41	35.0%	77	65.0%

The results of the table showed that (39,33.1%) of the vitiligo patients suffer from depression, (61.5%) of them suffered from moderate depression, and 38.5% of them suffered from severe depression, and that 40 of the vitiligo patients (33.9%) suffered from anxiety, (70%) of whom They have moderate anxiety, (30%) have severe anxiety, and it was also found that 45 (38.1%) suffer from stress, (73.3%) suffer from moderate stress, and (26.7%) suffer from severe stress.

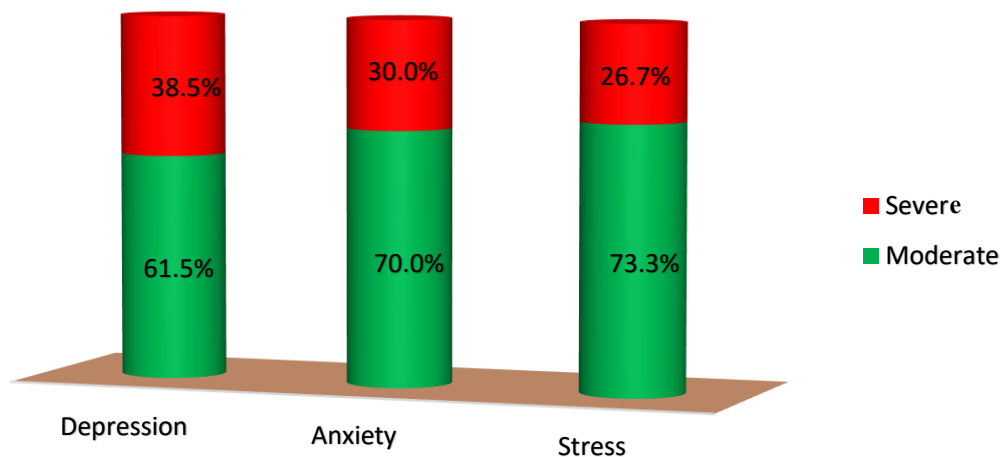


Figure 9: Symptoms of psychological disorders in vitiligo patients

5.5. Quality Of Life (DLQI)

The results of the table showed that 108 of the sample members, representing 91.5%, had their quality of life affected due to vitiligo, where (50, 42.6%) had a slight effect, (44, 37%) had a moderate effect, (15, 13%) had a very large effect. (8, 7.4%) had an extremely large effect.

The level of impact on quality of life according to the DLQI scale in females is higher than in males, but the results of the chi-square test did not show a significant difference (P value = 0.6).

The quality of life in vitiligo according to the DLQI scale among individuals aged 14 to 24 years and over 34 years had a greater effect compared to all ages, but the results of the chi-square test did not show a significant difference (P value = 0.50).

The quality of life among married individuals with vitiligo was most affected according to the DLQI scale (61, 56.5 %), and single individuals (43, 39.8 %). The results of the Chi-Square test showed that there were statistical differences in the level of quality of life among people with vitiligo according to the DLQI at Level (P value = 0.017) among different social groups.

The quality of life of individuals with vitiligo whose education level was (high school) was more affected than other groups (34, 31.5%), followed by those whose education level was (middle school) (23, 21.3%). Using the Chi-Square test, It was found that there were statistical differences in the level of quality of life among people with vitiligo according to the DLQI at the level (P value = 0.012) between the different educational groups.

Sample members with vitiligo who did not work (Employee, Students) had their quality of life most affected by 50.9%. Using the Chi-square test, there was no significant difference between the different work type categories at a significance level (P value = 0.647).

Table 10: level of quality of life according to the DLQI scale.

level DLQI score		Small Effect		Moderate Effect		Very Large Effect		Extremely Large Effect		total		Chi-Square	Sig.
		N	%	N	%	N	%	N	%	N	%		
Age	13 Y	1	25.0%	2	50.0%	0	0.0%	1	25.0%	4	3.7%	8.323	.502 ^{a,B}
	14-24y	19	46.3%	15	36.6%	5	12.2%	2	4.9%	41	38.0%		
	25-34	13	54.2%	8	33.3%	3	12.5%	0	0.0%	24	22.2%		
	More Than 34	13	33.3%	15	38.5%	6	15.4%	5	12.8%	39	36.1%		
	Total	46	42.6%	40	37.0%	14	13.0%	8	7.4%	108	100%		
Sex	Female	20	39.2%	22	43.1%	6	11.8%	3	5.9%	51	47.2%	1.640	.650 ^a
	Male	26	45.6%	18	31.6%	8	14.0%	5	8.8%	57	52.8%		
	Total	46	42.6%	40	37.0%	14	13.0%	8	7.4%	108	100%		
Marital Status	Divorced	0	0.0%	1	33.3%	1	33.3%	1	33.3%	3	2.8%	20.233	0.017*
	Married	25	41.0%	22	36.1%	10	16.4%	4	6.6%	61	56.5%		
	Single	21	48.8%	17	39.5%	3	7.0%	2	4.7%	43	39.8%		
	Widowed	0	0.0%	0	0.0%	0	0.0%	1	100%	1	0.9%		
	Total	46	42.6%	40	37.0%	14	13.0%	8	7.4%	108	100%		
Education	High School	20	58.8%	8	23.5%	5	14.7%	1	2.9%	34	31.5%		
	Middle School	12	52.2%	9	39.1%	2	8.7%	0	0.0%	23	21.3%	25.576	0.012
	Other	2	18.2%	3	27.3%	3	27.3%	3	27.3%	11	10.2%		
	Primary School	3	14.3%	12	57.1%	3	14.3%	3	14.3%	21	19.4%		
	University	9	47.4%	8	42.1%	1	5.3%	1	5.3%	19	17.6%		
	Total	46	42.6%	40	37.0%	14	13.0%	8	7.4%	108	100%		
Work As	Employee	10	58.8%	4	23.5%	2	11.8%	1	5.9%	17	15.7%	4.223	.647 ^a
	Other	21	38.2%	20	36.4%	9	16.4%	5	9.1%	55	50.9%		
	Student	15	41.7%	16	44.4%	3	8.3%	2	5.6%	36	33.3%		
	Total	46	42.6%	40	37.0%	14	13.0%	8	7.4%	108	100%		

5.6. The level of symptoms of depression among vitiligo patients

Table 11: Level of depression among vitiligo patients

Level (Depression)		Moderate		Sever		Total		Chi-Square	Sig.
		N	%	N	%	N	%		
Age	13 Y	1	100%	0	0.0%	1	2.6%	7.295	0.063
	14-24y	13	81.3%	3	18.8%	16	41.0%		
	25-34	4	33.3%	8	66.7%	12	30.8%		
	More Than 34	6	60.0%	4	40.0%	10	25.6%		
	Total	24	61.5%	15	38.5%	39	100%		
Sex	Female	14	70.0%	6	30.0%	20	51.3%	1.242	0.27
	Male	10	52.6%	9	47.4%	19	48.7%		
	Total	24	61.5%	15	38.5%	39	100%		
Marital Status	Divorced	0	0.0%	0	0.0%	0	0.0%	4.744	0.029
	Married	9	45.0%	11	55.0%	20	51.3%		
	Single	15	78.9%	4	21.1%	19	48.7%		
	Total	24	61.5%	15	38.5%	39	100%		
Education	High School	6	46.2%	7	53.8%	13	33.3%	2.765	0.598
	Middle School	6	75.0%	2	25.0%	8	20.5%		
	Other	1	50.0%	1	50.0%	2	5.1%		
	Primary School	7	63.6%	4	36.4%	11	28.2%		
	University	4	80.0%	1	20.0%	5	12.8%		
	Total	24	61.5%	15	38.5%	39	100%		
Work As	Employee	4	50.0%	4	50.0%	8	20.5%	6.66	0.036
	Other	9	47.4%	10	52.6%	19	48.7%		
	Student	11	91.7%	1	8.3%	12	30.8%		
	Total	24	61.5%	15	38.5%	39	100%		

Symptoms of depression were most apparent in the age groups ranging from 14 to 24 years of vitiligo patients (16, 41%), followed by the age groups from 25 to 34 years, with a percentage of 31%, the lowest age group exposed to symptoms of depression is the age group with the age of 13 years with a percentage of (2.6%), there were no statistically significant differences in the level of depressive symptoms between age groups.

The level of symptoms of depression in male and female vitiligo patients was not significantly different, and there were no statistically significant differences in the level of symptoms of depression according to gender.

Sample members from social groups (married, single) are the groups most exposed to symptoms of depression, and the level of significance (0.029) indicates that there are statistically significant differences in symptoms of depression due to marital status.

Symptoms of depression were most apparent among the sample members whose jobs were neither employee nor student, at a rate of (48.7%), and symptoms of depression appeared to a second degree among the sample members (students), at a rate of (30.8%), and the lowest appearance of symptoms of depression was among employees (20.5%), results of a chi-square test showed that there are statistically significant differences in the level of symptoms of depression among people with vitiligo, due to the type of work, at a significance level of (0.036) .

Symptoms of depression were most apparent among sample members whose educational level was (High School) 13, with a percentage of 33.3%, followed by those whose educational level was (Primary School) with 11, with a percentage of 28.2%, and the lowest occurrence was among other educational groups. The results of the chi-square test showed that there were no statistically significant differences in the level of symptoms of depression among people with vitiligo, due to the educational level variable (0.598).

5.6. The level of symptoms of Anxiety among vitiligo patients

The results showed that symptoms of anxiety were most apparent in the age groups from 14 to 24 years, with a number of 14, or 35%, and the lowest appearance of symptoms was in the age group of 13 years. The results of the Chi-Square test showed that there were no statistically significant differences in the level of anxiety. The appearance of symptoms of anxiety in people with vitiligo is due to age.

It was also found that symptoms of anxiety were most apparent in the groups whose education was (High school), with a number of 15, or 38%, and the lowest appearance was in the groups whose educational level was (University and Other), with a number of 4, and a percentage of 10% for each. The results of the Chi-Square test showed that there was no statistically significant differences in the level of symptoms of anxiety among people with vitiligo due to the educational level variable.

With regard to gender, it was found that females were the most exposed to symptoms of anxiety (25, 63%). This means that they are more exposed to anxiety than males. The results of the Chi-Square test showed that there were statistically significant differences in the level of manifestation of anxiety symptoms in people with vitiligo due to the variable gender . (0.013)

It was also found that the sample members whose marital status was married were the most exposed to symptoms of anxiety, with a number of 26 (65%), while the level of manifestation of anxiety symptoms among single people was 35%, and no symptoms of anxiety appeared in the other groups. The results of the Chi-Square test showed the presence of significant differences. Statistical significance for the level of anxiety symptoms among people with vitiligo due to the marital status variable (0.021) .

Finally, the results showed that the level of significance for the type of work variable reached (0.052), and this indicates that there are statistically significant differences in the level of symptoms of anxiety among people with vitiligo due to the type of work variable. The sample members who were not employees or students were the most exposed, at a rate of 63%.

Table 12: level of symptoms of Anxiety among vitiligo patients

Level (Anxiety)		Moderate		Sever		total		Chi-Square	Sig.
		N	%	N	%	N	%		
Age	13 Y	0	0.0%	0	0.0%	0	0%	5.54	.063a
	14-24y	13	92.9%	1	7.1%	14	34%		
	25-34	7	53.8%	6	46.2%	13	33%		
	More Than 34	8	61.5%	5	38.5%	13	33%		
	Total	28	70.0%	12	30.0%	40	100%		
Sex	Female	21	84.0%	4	16.0%	25	63%	6.22	.013a
	Male	7	46.7%	8	53.3%	15	37%		
	Total	28	70.0%	12	30.0%	40	100%		
Marital Status	Divorced	0	0.0%	0	0.0%	0	0%	5.35	0.021
	Married	15	57.7%	11	42.3%	26	65%		
	Single	13	92.9%	1	7.1%	14	35%		
	Total	28	70.0%	12	30.0%	40	100%		
Education	High School	11	73.3%	4	26.7%	15	37%	2.15	.708a
	Middle School	5	83.3%	1	16.7%	6	15%		
	Other	2	50.0%	2	50.0%	4	10%		
	Primary School	8	72.7%	3	27.3%	11	28%		
	University	2	50.0%	2	50.0%	4	10%		
	Total	28	70.0%	12	30.0%	40	100%		
Work As	Employee	3	42.9%	4	57.1%	7	17%	5.93	.052a
	Other	17	68.0%	8	32.0%	25	63%		
	Student	8	100 %	0	0.0%	8	20%		
	Total	28	70.0%	12	30.0%	40	100%		

5.7.The level of symptoms of Stress among vitiligo patients

The results showed that the appearance of Stress symptoms was at the same level for all age groups, The results of the Chi-Square test showed that there were no statistically significant differences in the level of Stress symptoms in people with vitiligo due to the age variable.

The results showed that the appearance of Stress symptoms in females was greater than in males, but the results of the Chi-Square test showed that there were no statistically significant differences in the level of Stress symptoms in people with vitiligo due to the variable of gender.

The results showed that the appearance of Stress symptoms more than in single people, but the results of the Chi-Square test showed that there were no statistically significant differences in the level of Stress symptoms in people with vitiligo due to the marital status variable.

The results showed that the appearance of Stress symptoms in those whose education was (high school) was more than in the other educational categories, with a number of 16 and a percentage of 36%, but the results of the Chi-Square test showed that there were no statistically significant differences in the level of appearance of Stress symptoms in people with vitiligo due to the level variable. Educational.

The results showed that the appearance of Stress symptoms among sample members who had other jobs was 26 and 58%, but the results of the Chi-Square test showed that there were no statistically significant differences in the level of Stress symptoms in people with vitiligo due to the variable type of work.

Table 13: level of symptoms of Stress among vitiligo patient

Level (Stress)		Moderate		Sever		Total		Chi-Square	Sig.
		N	%	N	%	N	%		
Age	13 Y	0	0.0%	0	0.0%	0	0%	2.045	.360 ^a
	14-24y	10	66.7%	5	33.3%	15	33%		
	25-34	10	66.7%	5	33.3%	15	33%		
	More Than 34	13	86.7%	2	13.3%	15	33%		
	Total	33	73.3%	12	26.7%	45	100%		
Sex	Female	16	66.7%	8	33.3%	24	53%	1.169	0.28
	Male	17	81.0%	4	19.0%	21	47%		
	Total	33	73.3%	12	26.7%	45	100%		
Marital Status	Divorced	1	100.0%	0	0.0%	1	2%	0.390	.8230
	Married	22	73.3%	8	26.7%	30	67%		
	Single	10	71.4%	4	28.6%	14	31%		
	Total	33	73.3%	12	26.7%	45	100%		
Education	High School	14	87.5%	2	12.5%	16	36%	3.282	.5120
	Middle School	5	55.6%	4	44.4%	9	20%		
	Other	3	75.0%	1	25.0%	4	9%		
	Primary School	9	69.2%	4	30.8%	13	29%		
	University	2	66.7%	1	33.3%	3	7%		
	Total	33	73.3%	12	26.7%	45	100%		
Work As	Employee	7	77.8%	2	22.2%	9	20%	0.542	.7630
	Other	18	69.2%	8	30.8%	26	58%		
	Student	8	80.0%	2	20.0%	10	22%		
	Total	33	73.3%	12	26.7%	45	100%		

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

5.1. Discussion

In this study, vitiligo was more common in patients between the ages of 14-24 years (38.1%), and the study also showed that (36.4%) were sample members who were over 34 years old.

This result is consistent with many studies, in a study conducted by (Reiva Farah Dwiyan, 2017) eighty-one patients (33.47%) were under 20 years old, and in a study conducted by (Alvian Arifin Saiboo, 2020) it was found that vitiligo patients were mostly in the category Age range: 17-25 years, with a percentage of (26.96%). Also, a study conducted by (Asia Hassan Abdullah Saleh, 2022) found that the majority of patients (49.7%) were less than 20 years old. The results of this study differ with a study conducted by (Juneit Awal, Navleen Kaur, Guramrit Singh, Nishant Sharma, 2024) which found that vitiligo was more common in patients aged 30 to 39 years (34.35%).

In this study, vitiligo was more common in female patients (50.8%), while male patients (49.2%). This result is consistent with the results of many studies, which showed that female vitiligo patients are more common than males, and the percentage of females was observed in the study (Al-Mutairi and Sharmay) a percentage of (58%). The study also indicated that the percentage of females among vitiligo patients was 68.34%, as well as a study by (Asia Hassan Abdullah Saleh, 2022) that found that (33.5%) were males and (66.5%) were females. Also a study conducted by (Riva Farah Doyana, 2017) which showed that the number of females was (66.12%) and males was 33.88%, and a study (Rebecca Y. M. Cheung, 2022) showed that the percentage of females was (60.1%), and in a study (Alvian Arifin Saiboo, 2020) it was shown that Females (53.9%) were higher than males (46.1%).

It was also shown that the percentage of married people reached (55.1%), single people (41.5%), while (2.5%) divorced women, (1) widowed. This result is consistent with many studies, which showed that the occurrence of vitiligo in married people was more than in unmarried people. Married people. In a study conducted by (Reva Farah Doyana, 2017) she noted that the majority of vitiligo patients were married (57.44%), and in a study conducted by (Juneet Awal, Navleen Kaur, Guramrit Singh, Nishant Sharma, 2024) she noted that 115 patients were married while 72 They were single and 8 were divorced.

The results of the current study showed that most of the sample members had a secondary level of education, (29.7%), the middle stage (23.7%), while (18.6%) the primary stage, (17.8%) university, (10.2%) other education, and this study is consistent with the results of a study conducted by (Reiva, 2017), which found that (59.50%) of patients were in middle and high school levels, and 58 patients were graduates or above (23.97%).

The results of the current study showed that most of the sample members were non-workers and non-students (50.0%), (33.1%) students, (16.9%) employees, and this result is not consistent with the results of the study (Juneet Awal et al, 2024), which showed that most of the sample members were from working professions (40%), followed by students (18.5%), and domestic workers (17.95%), but it is consistent with the study (Alvian Arifin Saiboo,

2020), which showed that most of the sample members The sample was students (25.22%), and the study (Riva, 2017) showed that (30.99%) of the sample members were students.

The results of the current study showed that 35.6% of the sample members had a disease duration of 1-3 years and more than 6 years (16.1%), and this result is consistent with the result of (Juneet Awal et al, 2024) which showed (39.49%) of patients appear to have the disease within 3 years, and the study (Riva, 2017) also showed that (30.43%) of the sample's members have a disease duration of 1 to 5 years.

The results of the current study showed that (24.6%) had a family history of vitiligo, and this result is consistent with the results of a study (Juneet Awal, Navleen Kaur, Guramrit Singh, Nishant Sharma, 2024)^[ref27] which showed that vitiligo was positive in 34 patients (17.43%), and a study (Asia Hassan, 2022)^[ref26] which explained that (28.6%) of the cases had a positive family history of vitiligo.

Mean DLQI score in this the study was (8.36 ± 6.23) which is higher than that of some of previous studies (Rajesh Sinha, Pinki Kumari , Subhasree Sarkar , Parvin Kumar Kesari, 2023) The mean DLQI score was 7.8 ± 5.3 , (Vasudha Abhijit Belgaumkar, et al. 2020) The mean DLQI score of participants was 3.15 ± 4.2 , (Anaba L. Ehiagh, et al, 2019) Quality of Life was found to be impaired, mean DLQI score was 5.7 ± 6.8 . (Ramadan Saleh, MD, et al, 2010) The mean DLQI score was 8.02 ± 5.5

but lower than some other studies (Nitin Mishra et al, 2014)^[1], (Mitrevska Teovska N, 2023) The overall mean score for DLQL 11.70 ± 5.7 , (Arbabi, Zhand, Samadi, et al, 2009) The mean $\pm$ SD score obtained by participants was 10.46 ± 7.021 (ranges from 0-30), (Abdul Malik Hooshmand, Nasar Ahmad Shayan, 2017) The overall mean of 9.72 ± 5.82)

The result showed that the 19.5% form 118 had other skin disease, 78.3% of 23 had others disease, (21.7%) Psoriasis. This result Similar study (Mohammad Arbabi et al, 2019) 25.2 other skin disease 22.8 Psoriasis, study (M.A. Morales-Sánchez et al, 2017) who it found that 24 (16) of Vitiligo Patients had Psoriasis.

In this study it found that 27.1% of Vitiligo Patients had chronic disease, 25% of them had DM, 21.8% had HTN, 1% had Thyroid Disease, 50% of them had others Chronic disease, this result not similar study by Rajesh Sinha et al, 2023 , Co-morbidities Diabetes (6.4%) Hypothyroidism (7.6%) Hyperthyroidism (2.5%) Alopecia areata (3.8%) Psoriasis (1.2%) and study by (M.A. Morales-Sánchez et al, 2017) who it found, Diabetes mellitus (4) HTN (2) Alopecia areata (1,3) Arthritis rheumatoid (0,6).

Among 1903 participants who replied to the depression score, 29.6% were found depressed, Moreover, the prevalence of depression in vitiligo (28.1%), diabetes (30.8%) and hypertension (29.6%), the study another the proportions of anxious vitiligo, diabetic and hypertensive patients were (21.3%, 19.3% and 19.5%)

In this study, there was that 35.6% of sample have Duration of disease, from 1-3years, and more than 6 years, (16.1%) have Duration of disease were from 4-6 years, (12.7%) of less than 1 years. In this similar result study by (Rajesh Sinha et al, 2023) the duration of

symptoms was greater than one year in 44(58.9%) patients, and study by (Sawitri, Aprilin Krista et al, 2022) Duration of vitiligo (years) < 5years was experienced by 18 (46.2%).

The result found that Partial vitiligo is the most common type of vitiligo in this research, 83% Partial, 16.9% Generalized, and this similar study by (Jeffrey Giantoro, Fajar Waskito, Sunardi Radiono, 2021) Generalized vitiligo is the most common type of vitiligo by 66.67% .

The results of the study showed that 108 of the sample members, representing 91.5%, had their quality of life affected due to vitiligo, where (46, 42.6%) had small effect, (40, 37%) had a moderate effect, (14, 13%) have an very large effect, (8, 7.4%) have an extremely large effect Similarly Kota RS. et al., (2019) in India reported that 85.3% of participants suffered from QoL impairment, still their distribution was different for each impairment category; 34.7% patients were found to have small effect on QoL, 26% had moderate, 23.3% had very large and 1.3% had extremely large effect on QoL.

(Abdul Malik Hooshmand, Nasar Ahmad Shayan, 2017) There was no effect on the DLQI in 3 patients (1.8%), while 7 patients (4.1%) experienced an extremely large impact, Fifty-eight participants (34.1%) had very large effect, (31.76%) had moderate effect, (28,24%) had small effect.

In addition, Hussain A. et al., (2022) in Faisalabad reported that the effect of vitiligo was classified as follows: no effect 10.4%, mild effect 24.0%, moderate effect 34.4%, very large effect 17.6% and extremely huge effect 13.6%

Nouran Mohammed El Korashy, Lamia Hamouda Ismail Elgarhy, Eman Ali Younis and Nihal Salah Shihab, (2023) Shows that only 21.2% of participants have good quality of life while the rest (about 80%) have different degrees of quality of life impairments ranging from slight effect on patients' quality of life (18.2%), moderate effect (21.2%), very large effect (19.7%) and extreme effect on patient's life (19.7%)

This result similar result study by (Amit Goyal, et al, 2017) On quantifying the effect on quality of life; 44% had small effect (DLQI score= 2-5), 18% had moderate effect (DLQI score= 6-10), and 10% had very large effect on their quality of life

This result no similar result study by Sawitri, Aprilin Krista et al, (2022) In the group of patients with mild vitiligo, only 6 patients (16.2%) felt that their disease did not affect their lives, while the other 31 patients (83.8%) felt that their disease affected their lives, A total of 23 patients (62.2%) felt that they had a small effect, 4 patients (10.8%) thought that they had a moderate effect, and 4 patients (10.8%) thought that they had a very large effect In the group of moderate vitiligo patients, only 1 vitiligo patient (20%) felt that their disease had a moderate effect on life,

In the group of moderate vitiligo patients, only one vitiligo patient (20%) felt that their disease had a moderate effect on life. In the group of patients with severe vitiligo, only 1 patient with vitiligo (20%) felt that their illness had a very large effect on their lives.

The results showed that (39,33.1%) of the vitiligo patients suffer from depression, (61.5%) of them suffered from moderate depression, and (38.5%) of them suffered from severe depression, and that 40 of the vitiligo patients (33.9%) suffered from anxiety, (70%) of whom they have moderate anxiety, (30%) of them have severe anxiety, and it was also found that 45(38.1%) suffer from stress, (73.3%) suffer from moderate stress, and (26.7%) suffer from severe stress.

The results of present study were consistent with the study of Grimes& Miller (2018) who reported that vitiligo can affect patient's psychological well-being and the majority of them were most likely to have associated psychological problems as anxiety, stress, and depression. Also, this result goes in the same line with the study done by Osman et al., (2019) who stated that the majority of his studied sample suffering from loneliness, depression anxiety, and stress as a result of vitiligo, In addition, the results of the current study were in agreement with a study carried by Nasreen et al, (2017) who founded that psychiatric disorder has a probable association with vitiligo and major depression and anxiety remain the most common psychiatric disorders among two thirds of his studied sample. Also, this result goes in the same line with the study done by Gul et al., (2017) who found that more than half of his vitiligo studied patients reported many psychological complaints such as major depression, panic disorders stress and anxiety.

In study by (Amit Goyal, et al, 2017) Frequency of psychiatric morbidities assessed by psychiatrist is as Mixed anxiety depressions= 13, Major Depressive Disorder= 7, Nicotine dependence= 9, Anxiety disorder= 7, Alcohol and nicotine abuse= 7, Alcohol abuse= 4 and Alcohol and nicotine dependence= 3.

(Rajesh Sinha et al, 2023) According to the DLQI scores, a moderate effect was seen in 27 (34.6%) patients, followed by a very small effect in 24(30.7%) patients, a very large effect in 18(23%) patients, no effect in 6(7.6%) patients and extremely large effect in 3(3.8%) patients.

The result of study found that there was no significant association between demographic variables (occupation, age, sex) all items of socio-demographic characteristics and total Stress scale, and DLQI level, there is significant association between demographic variables (Education, Marital Status) and total quality of life scale.

The study Similarly (Nouran Mohammed El Korashy, Lamia Hamouda Ismail Elgarhy, Eman Ali Younis and Nihal Salah Shihab, 2023) revealed a statistically significant difference between the level VLQI score among female and male patients, Hedayat K. et al. (2016) in Iran reported a statistically significant difference between the median VitiQoL score among female and male patients.

In contrast, Al-shammari SA. et al., (2021) in Saudi Arabia, Silpa-Archa. et al., (2020) in Thailand and Anaba EL.et al., (2020) in Nigeria reported no statistically significant difference between the mean DLQI and VitiQoL scores among both sexes

Abdul Malik Hooshmand, Nasar Ahmad Shayan, 2017) There was significant association between demographic variables (work type, age, sex) and DLQI level.

In study by Amit Goyal, et al, 2017) there was no significant association between demographic variables and psychiatric morbidity or dermatological disease

The result of the current study showed that there is statistically significant relationship between all items of socio-demographic characteristics (Marital Status, Work As) and total depression scale.

The result of the current study showed that there is statistically significant relationship between all items of socio-demographic characteristics (sex, Marital Status, Work As) and total anxiety scale.

The result of the current study showed that there is no statistically significant relationship between all items of socio-demographic characteristics) and total Stress scale.

The current result disagreement with a study done by (Rehab et al, 2021) and (Suyog, 2016) who mentioned that there is a highly statistically significant relationship was found between all items of socio-demographic characteristics and total depression anxiety stress scale, The current result were contradicted with the study of Daneshpazhooh et al., (2017) who reported that there is no statistically difference was noted between all items of socio-demographic characteristics and total depression anxiety stress scale.

5.2 CONCLUSION

Vitiligo is the most common form of skin depigmentation, and it has a profound effect on patients' quality of life, Partial vitiligo is the most common type of vitiligo. The results showed that Mean DLQI score in this the study was (8.36 ± 6.23), 91.5%, of sample members had their quality of life affected due to vitiligo, most of them had small and moderate effect. Third of sample had depression, anxiety, suffer, the most of them suffered (moderate). The results showed that there is significant association between (Education, Marital Status) and total quality of life scale; and There is no significant association between (work type, age, and sex) and DLQI level.

The result of the study showed that there is statistically significant relationship between demographic variables (Marital Status, Work As) and total depression scale. also between demographic variables (sex, Marital Status, Work As) and total anxiety scale, but there is no statistically significant relationship between demographic variables and total Stress scale.

CHAPTER SIX: RECOMMENDATIONS

We recommend maintaining a stable psychological state for vitiligo patients by trying all the advanced and modern treatment methods

We recommend paying attention to the psychological aspect of vitiligo patients and remembering that the psychological burdens may have a greater impact on the patient than the health burdens of the disease.

We recommend that when evaluating vitiligo as a disease not only its characteristics, but also its impact on quality of life.

We recommend the need to spread the culture related to this disease in that it is non-contagious, harmless and does not constitute a defect or stigma.

The management and treatment of vitiligo patients should take into account the educational and social aspects of the patient, as it contributes to increasing the impact on exposure to the injury and speed of recovery.

Conducting further studies and research on vitiligo and taking the issue from multiple angles, in order to contribute to reducing the health and economic burdens it leaves, whether on the affected individual, his family, or the health system.

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APPENDICES

APPENDIX A. Dermatology Life Quality Index Questionnaire



نموذج استمارة استبيان حول مدى تأثير مرض البهاق على نمط حياة المرضى

المقدمة/ نحن فريق من طلاب جامعة ٢١ سبتمبر كلية الطب البشري قمنا بهذا الاستبيان لغرض قياس مدى تأثير مرض البهاق على صحة ونفسية المرضى المصابون بهذا المرض في العاصمة صنعاء-اليمن في مستشفى الكويت وهيئة مستشفى الجمهوري مع إحاطتكم علما بالسرية التامة للمعلومات المأخوذة عن طريق الاستبيان وعدم تداولها إلا بين أعضاء الفريق فقط وبين مشرفي البحث ولأغراض إحصائية وبحثة وبحثة ونرجو منكم المساهمة في ملئ الاستبيان ولكم جزيل الشكر.

المشرف الأول/ الأستاذ الدكتور مطيع أبو عريج

المشرف الثاني/ الدكتورة منيرة شاهر

الاسم: -.....

العمر:.....

الجنس: ☐ ذكر ☐ أنثى

الحالة الاجتماعية: ☐ عازب/ة ☐ متزوج/ة ☐ طلق/ة

الموئل: ☐ ابتدائي ☐ إعدادي ☐ ثانوي ☐ جامعي

المهنة: ☐ طالب ☐ موظف ☐ غير ذلك

الفترة الزمنية للمرض

أمراض جلدية أخرى (إن وجد):

☐ نعم (مثلا: ☐ الصدفية، ☐ الصلع البقعي، ☐ تصلب الجلد، ☐ أخرى) ☐ لا

أمراض مزمنة (إن وجد) :

☐ سكري ☐ ضغط ☐ أمراض الغدة الدرقية ☐ مرض أديسون ☐ التهاب المفاصل الروماتيزمي

طبيعة انتشار المرض :

☐ في الجسم كامل ☐ جزء من الجسم

هل يوجد تاريخ عائلي للمرض :

☐ لا ☐ نعم



التغيرات التي حدثت خلال الأسبوع الماضي:

(١) هل كانت مصحوبة بحكة، تقرحات، ألم، وخز:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٢) هل تشعر بالخجل:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٣) هل أثر مرضك على ذهابك للسوق أو الخروج إلى حوش المنزل:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٤) كم مقدار تغير جلدك أثر على إختيارك لملابسك:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٥) كم مقدار تأثير شكل جلدك اثر على إختلاطك بالمجتمع:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٦) كم مقدار تأثير مرضك على أدائك للرياضة:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٧) هل مرضك أثر على أو منعه من الدراسة أو لا:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٨) هل مرضك كان سببا في خلق مشاكل مع شريك أو صديقك:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(٩) هل كان هناك تأثير لعلاقتك بشريكك:

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

(١٠) هل العلاج سبب لك مشكلة في البيت (مثلا منعزل، إهمال من الأسرة)

☐ نعم قليلا ☐ لا☐ نعم بكثرة☐ نعم بشدة

Number.....

Severity.....



❖ Arabic DASS-8`

مقياس التصنيف على النحو التالي:

0) لم تنطبق علي إطلاقاً

1) طبقت علي إلى حد ما، أو لبعض الوقت

2) تطبق علي إلى حد كبير، أو جزء كبير من الوقت

3) يطبق علي كثيراً أو في أغلب الأحيان

0	1	2	3	1 (S) شعرت أنني كنت أستهلك الكثير من طاقتي العصبية / النفسية
0	1	2	3	2 (A) كنت قلق بشأن المواقف التي قد أصاب فيها بالذعر، فقد السيطرة، وجعل من نفسي أحمق
0	1	2	3	3 (D) شعرت أنه ليس لدي ما أتطلع إليه
0	1	2	3	4 (S) وجدت صعوبة في الاسترخاء
0	1	2	3	5 (D) شعرت بالحزن و الكآبة /الغم
0	1	2	3	6 (A) شعرت أنني على وشك الذعر
0	1	2	3	7 (D) لم أستطع أن أصبح متحمساً لأي شيء
0	1	2	3	8 (A) شعرت بالخوف دون أي سبب منطقي / وجيه

	Stress (S)	Anxiety (A)	Depression (D)
Number			
Severity			

DLQI questionnaire is classified into 10 questions and each question with 4 possible answers scored from 0 to 3. The DLQI score is calculated by summing the scores of all the questions, resulting in a maximum of 30 and a minimum of 0. The higher the score, the more quality of life is impaired. DLQI score [AY Finlay, GK Khan, 1994 & Lewis V L, Finlay A Y, 2004 & Hongbo Y, Thomas CL, Harrison MA, Salek MS, Finlay AY, 2005]

Interpretation is done as follow:

DLQI score	Interpretation
0-1	No effect at all on patient's life
2-5	Small effect on patient's life
6-10	Moderate effect on patient's life
11-20	Very large effect on patient's life
21-30	Extremely large effect on patient's life

Headings	Questions	Answers	Score
(1) Symp- toms and feelings	Q1: Over the last week, how itchy, sore, painful or stinging has your skin been?	Very much	3
		A lot	2
		A little	1
		Not at all	0
	Q2: Over the last week, how embarrassed or self- conscious have you been because of your skin?	Very much	3
		A lot	2
		A little	1
		Not at all	0
(2) Daily activities	Q3: Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?	Very much	3
		A lot	2
		A little	1
		Not at all	0
		Not relevant	0
	Q4: Over the last week, how much has your skin influenced the clothes you wear?	Very much	3
		A lot	2
		A little	1
(3) Leisure	Q5: Over the last week, how much has your skin affected any social or lei- sure activities?	Not at all	0
		Not relevant	0
		Very much	3
		A lot	2
		A little	1
	Q6: Over the last week, how much has your skin made it difficult for you to do any sport?	Not at all	0
		Not relevant	0
		A little	1
(4) Work and school	Q7: Over the last week, has your skin prevented you from working or studying?	Yes	3
		No	0
	If 'no', over the last week, how much has your skin been a problem at working and studying?	A lot	2
		A little	1
(5) Personal relation- ships	Q8: Over the last week, how much has your skin created problems with your partner or any close friends or relatives?	Not at all	0
		Not relevant	0
		A little	1
		A lot	2
		Very much	3
	Q9: Over the last week, how much has your skin caused any sexual difficul- ties?	Not at all	0
		Not relevant	0
		A little	1
(6) Treatment	Q10: 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?	A lot	2
		A little	1
		Not at all	0
		Not relevant	0
		Very much	3

DASS-8

Name:

Date:

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

Items of the DASS-8 are retained from the original scale (DASS-21), and they come with their numbers and order in the parent scale.

Stress 1	(1) I felt that I was using a lot of nervous energy	0	1	2	3
Anxiety 1	(2) I was worried about the situations in which I might panic and make a fool of myself	0	1	2	3
Depression 1	(3) I felt that I had nothing to look forward to	0	1	2	3
Stress 2	(4) I found it difficult to relax	0	1	2	3
Depression 2	(5) I felt down-hearted and blue	0	1	2	3
Anxiety 2	(6) I felt I was close to panic	0	1	2	3
Depression 3		0	1	2	3

Anxiety 3	<p>(7) I was unable to become enthusiastic about anything</p> <p>(8) I felt scared without any good reason</p>	<p>0 1 2 3</p>
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DASS-8 Scoring Instructions

The DASS-8 should not be used to replace a face-to-face clinical interview. If you are experiencing significant emotional difficulties you should contact your GP for a referral to a qualified professional.

Depression, Anxiety and Stress Scale -8 Items (DASS-8)

The Depression, Anxiety and Stress Scale - 8 Items (DASS-8) is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each of the depression and anxiety subscales of the DASS-8 contain 3 items while the stress subscale contains 2 items. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items. The total scores of the DASS-8 and its subscales range between 0 to 24, 0 to 9, 0 to 9, and 0 to 6, respectively.

الخلاصة

الأهداف: هدفت هذه الدراسة إلى تقييم وكشف مدى حدوث تأثير البهاق على جودة الحياة لدى جميع المرضى الذين يعالجون في عيادات الجلد الخارجية في المستشفيات العامة بصنعاء.

الطرق: كان بحثنا عبارة عن دراسة مقطعية مستقبلية لجميع الأفراد الذين تم تشخيص الإصابة بالبهاق في العيادات الخارجية الثلاثة للأمراض الجلدية في ثلاثة مستشفيات عامة في صنعاء (مستشفى الثورة العام، ومستشفى الجمهوري التعليمي ومستشفى الكويت الجامعي). جميع المرضى الذين يستوفون معايير الاشتمال المطلوبة للمشاركة في الدراسة. بيانات تم الحصول عليها من الأفراد المسجلين باستخدام ورقة جمع البيانات والنسخة العربية من الدليل مؤشر جودة الحياة للأمراض الجلدية (DLQI) واستبيان DASS-8. وكانت هذه المعلومات تم تحليلها باستخدام البرنامج الإحصائي (SPSS الإصدار 26).

النتائج: تم تضمين إجمالي (ن = 118) من المشاركين وفقاً لمعايير الاشتمال في دراستنا. تتألف المجموعة من الإناث (60، 50.8%)، الذكور (58، 49.2%). وأظهرت النتائج أن 108 من أفراد العينة، الذين يمثلون 91.5%، تأثرت نوعية حياتهم بسبب البهاق، حيث (46، 42.6%) كان لهم تأثير طفيف، (40، 37%) كان لهم تأثير متوسط، (14، 13%) كان لهم تأثير كبير، (8، 7.4%) كان لها تأثير كبير للغاية. أظهرت النتائج أن (39، 33.1%) من مرضى البهاق يعانون من الاكتئاب، (61.5%) يعانون من اكتئاب متوسط، (38.5%) اكتئاب شديد، وأن 40 من مرضى البهاق (33.9%) عانى من القلق، (70%) قلق متوسط، (30%) قلق شديد، وقد وجد أيضاً أن 45 (38.1%) يعانون من التوتر، (73.3%) يعانون من التوتر متوسط، و(26.7%) يعانون من التوتر الشديد.

الاستنتاج: أظهرت دراستنا أن البهاق يؤثر بشكل معتدل على نوعية الحياة لدى البالغين من مرضى البهاق في اليمن. ولذلك ينبغي توجيه التدابير العلاجية نحو الطبية والجوانب النفسية لمرضانا لتحقيق نتائج علاجية أفضل وتحسين جودة الحياة. سيكون هذا حجة لإنشاء عيادات للأمراض الجلدية النفسية عند الإحالة.