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Correlation between psychological problems, self- esteem and quality of life among vitiligo patients

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Abstract: **Background: Vitiligo is a chronic skin disorder that may have a negative impact on patients' self-esteem, quality of life and ultimately results in psychological problems. Aim of the study: This study aimed to assess correlation between psychological problems, self- esteem and quality of life among vitiligo patients. Research question: What is the correlation between psychological problems, self-esteem and quality of life among vitiligo patients? Design: A descriptive correlational research design was utilized in this study. Setting: The study was conducted at Benha dermatology hospital and dermatological outpatients at Benha University Hospital, Kaluobia Governorate. Sample: A random sample of 100 vitiligo patients was recruited consecutively from the above mentioned settings. Tools: *Tool (1):* A structured Interviewing Questionnaire Sheet, *Tool (11):* Depression Anxiety Stress Scale (DASS), *Tool (111):* Rosenberg' Self-Esteem Scale and *Tool (V):* Quality of Life Scale. Results: More than two thirds of the studied vitiligo patients had severe level of depression anxiety stress and more than half of them had low level of self-esteem and quality of life. Conclusion: There is a highly statistically significant negative correlation between mean scores of total depression anxiety stress, self-esteem and quality of life scales among the studied vitiligo patients. Recommendation: Stress management and assertiveness training program should be given to vitiligo patients to relieve their psychological problems and enhance their coping patterns.**

Keywords: **Psychological problems, self-esteem, quality of life, vitiligo.**

1. INTRODUCTION

Vitiligo is an acquired disorder of pigmentation that is characterized by depigmented patches of skin due to the loss of melanocytes. Depigmented patches may appear in a localized or generalized distribution. Vitiligo can affect any part of the skin and the most common regions include the face, trunk, groin, axillae, and genitalia but lesions may develop to other areas of the body such as the ankles, elbows and knees. Despite many efforts trying to treat patients with vitiligo, there is still no actual cure available for that disease but many physicians still used some medications to stop disease progression as well as the repigmentation of depigmented patches such as systemic steroid medications and narrowband ultraviolet B phototherapy ***(Grimes, 2017).***

Furthermore, Vitiligo is a common pigmentary disorder that has a progressive course. Although not life threatening disease, but it is a physical deformity that can lead to many psychological, social, occupational and familial problems for the affected patients as vitiligo lesions may occur at visible sites and may be accompanied by itching. Therefore, patients may suffer from the disease every day and face numerous problems not only psychological problems such as stress, anxiety, depression, low self-confidence but also, social problems such as disturbances in social relationships, work life and marriage. These psychosocial problems vary greatly from person to person, depending on their condition, their social and occupational situation and their psychological wellbeing ***(Kara et al., 2019).***

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Moreover, psychological problems such as stress, anxiety and depression among vitiligo patients appear because of the relation between mind, attitude and skin. This relation may have different types for example many chronic inflammatory skin diseases such as eczema, and acne flare up with emotional stress. On the other hand, the changes made in their skin can decrease their mental health ***(Mahsa& Ameneh, 2017).*** In addition, mental dysfunction is the chief complaint which translated in the form of psychological problems that range from mild embarrassment to a severe loss of self-confidence and social anxiety, especially if the lesion is found in exposed areas of the body such as face, hands or feet. Vitiligo has a negative impact on patients' feelings including depression, worries of being worse with time, feeling of anger, embarrassment and shame, feeling of stigmatization and severe social impairment because of their skin condition ***(osman et al., 2019).***

Self-esteem is broadly defined as the individual's perception about himself. A positive self-esteem is the situation where the individual is aware of his or her positive attributes such as being valuable, sufficient, effective, and successful. In the cognitive area, the positive beliefs that underlie the positive interpretations of an event lead to appearance of optimistic emotions in the individual and a behavioral harmony. In addition, self-esteem among patients with vitiligo is negatively affected because of their fundamental beliefs such as feeling of un worthlessness, inadequacy, or not being loved due to their appearance as many studies reported that attractive people are better accepted by the society and have more social skills and are rarely judged by the society while less attractive people with vitiligo have to work harder to keep their relationships. These feelings direct them into a pattern of inappropriate behavior and negative emotional status ***(Khoury et al., 2017).***

Morever, quality of life can be defined as the degree of wellbeing felt by an individual or group of people as it is a general term applied to the totality of physical, psychological, and social functioning. Vitiligo has a chronic nature, unpredictable course of remissions and relapses, long term treatment, and no curable therapy, and it is often affects the patient's quality of life in different aspects of social activities, work, study and marriage. As well as it reduces the patients' beauty, their self-esteem, isolate them from the society and has poor effects not only on their private, social life and causes social malfunction but also all domains of quality of life ***(Almomani et al.,2018).***

Psychiatric mental health nurse has an important role when giving holistic care for patients with vilitigo as they should view the patients as one unit, as a biological, psychological, social and spiritual being. To see the human as a unique individual and constantly considering the person as one unit is not always easy to put into practice. Practical and medical skills one learns by experience but learning to see patients in other dimensions, psychological, social and spiritual, requires experience and a closer contact with the patient. The nurse has a role of health educator and deals with education regarding health promotion, prevention, treatment and rehabilitation ***(Krüger et al., 2019).***

2. SIGNIFICANCE OF THE STUDY

Vitiligo affects 15 to 20 % of the global population with an equal incidence in male and female patients and in all racial/ethnic groups. Vitiligo most commonly appears in people ages 10 to 30 years and rarely appears in the very young or very old age ***(Harris, 2017***). Furthermore, vitiligo is an important medical health problem as it is one of the most psychologically devastating diseases in dermatology which has a negative impact not only on psychological health but also, it associated with many psycho-social aspects in term of anxiety, depression, physical deformity, loss of self-beauty, loss of self-esteem, stigmatization, social discrimination and all domains of quality of life. So, there is an important need for the researcher to conduct the study to assess the psychological problems among vitiligo patients to improve their psychological status, their self-esteem and hence their quality of life.

Aim of the study:

This study aimed to assess the correlation between psychological problems, self-esteem and quality of life among vitiligo patients.

Research question:

What is the correlation between psychological problems, self-esteem and quality of life among vitiligo patients?

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3. SUBJECT AND METHODS

I. Subject

Design: A descriptive correlational research design was utilized to achieve the aim of this study.

Setting: The study was conducted at Benha dermatology hospital which is affiliated to the Ministry of Health & dermatological outpatients at Benha University Hospital, Kaluobia Governorate which is affiliated to the Ministry of High Education. These selected hospitals specify two days/week (Sunday &Wenesday) for treatment of vitiligo patients **only.**

Subjects: A random sample of 100 vitiligo patients was recruited consecutively from the above mentioned settings. The studied sample was selected according to the following Inclusion and exclusion criteria.

Inclusion criteria

- Diagnosed as vitiligo patients .
- Aged 18-65 years
- Both sex
- Patients willing to participate in the study.

Exclusion criteria:

- Patients with depigmentation caused by chemicals, burns or other diseases
- Children (<18years).
- Patients who have history of psychotic symptoms.
- Patients who have history of neurological disorders.
- Patients who have visual and hearing impairment.

Tools of Data Collection:

Four tools were utilized for collecting data.

Tool (I):- A structured Interviewing Questionnaire Sheet:

It was designed by the researchers after reviewing related literature and it consisted of two parts:

Part (1):-Socio-demographic characteristics of studied vitiligo patients which include (Age, sex, marital status, educational level, occupation, residence, income and cohabitation).

Part (2):- Clinical data of studied vitiligo patients which include (Duration of illness, lesion site, vitiligo disease is infected or genetic, family supported, and family history of disease).

Tool (II):-Depression Anxiety Stress Scales (DASS):

Depression Anxiety Stress Scales was developed by ***Lovibond &Lovibond, (1995)*** and adapted by the researcher**.** The DASS consists of 21items that covered on three subscales of anxiety (7 items), depression (7 items) and stress (7 items). A DASS total score is computed from the three subscale scores of items rated on a four-point scale (i.e., from 0 =‘‘Did not apply to me at all’’ to 3 = ‘‘Applied to me most of the time’’). The total score equal 63 points. The higher the score, the worst the DASS.

Scoring system for DASS:

- 0-21 grades Normal level of DAS.
- 22- 30 grades Mild level of DAS.
- 31-47 grades Moderate level of DAS.
- 48-63 grades Sever level of DAS.

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Tool (III): - Rosenberg' Self-Esteem Scale

This scale was developed by ***Rosenberg (1965)*** and adapted by the researcher. This scale used as screening technique for measuring self-esteem among the studied vitiligo patients. It consists of 10-items; positive and negative statements were included in the scale. Scores were calculated as follows: for items 1, 2, 4, 6, and 7: Strongly agree = 3, Agree= 2, Disagree= 1, Strongly disagree = 0 & For items 3, 5, 8, 9, and 10 (which are reversed in valence): Strongly agree= 0, Agree= 1, Disagree= 2, Strongly disagree= 3. The scale ranges from 0-30.

Scoring system for self- esteem scale:

- 0-14 grades Low self- esteem.
- 15-20 grades Moderate self- esteem.
- 21-30 grades High self- esteem.

Tool (IV): Quality of life scale for patients with chronic disease:

This scale was originally developed by ***Walker et al., (1987***) and adapted from ***Hassanine (2018)*** to identify a way of living or the manner in which people conduct their day to day activities. It consisted of 28 questions in the form of likert scale covering the emotional, social, mental and physical dimensions of life. Positive and negative statements were included in the scale. The response alternatives were Disagree, Agree, Strongly agree. These responses score as **(1)** Disagree, **(2)** Agree, **(3)** strongly agree for positive items and **(3)** Disagree, **(2)** Agree, **(1)** strongly agree for negative items. The low score indicated poor quality of life and high score indicated good quality of life.

Positive statements (12 statements): 1, 2, 5, 6, 7, 8, 14, 16, 18, 21, 22 and 23.

Negative statements (16 statements): 3, 4, 9, 10, 11, 12, 13, 15, 17, 19, 20, 24, 25, 26, 27and 28).

Scoring system was categorized into three levels:

- Level 1 (Low quality of life): ranged from 50-70%
- Level 2 (Moderate quality of life): ranged from 71-85%
- Level 3 (High quality of life): > 85%

II. Methods:

The study was executed according to the following steps:

*** Administrative approval:**

An official permission was obtained from the hospital authorities in the identified setting to collect the necessary data, and patient consent was be obtained to participate in study.

***Validity**

Content validity was done to assure that the utilized tools measure what it was supposed to measure. Tools were examined by a panel of five experts in the field of dermatology and psychiatric mental health nursing to determine whether the included items clearly and adequately cover the domain of content addressed.

***Reliability:**

Test-retest was repeated to the same sample of vitiligo patients on two occasions and then compares the scores. The Cronbach's coefficient alpha of Quality of life scale is 0.91 for total score, Rosenberg' self-esteem scale is 0.90 for total score while Depression Anxiety Stress Scales is 0.94.

***Ethical considerations:**

- Approvals of patients were obtained before data collection and after explaining the purpose of the study.

- Anonymity was assured as the filled questionnaire sheets were given a code number (not by names).

- The vitiligo patients were ensured that questionnaire sheet will be used only for the purpose of the study and will be discarded at the end of the study.

- The study maneuvers do not entail any harmful effects on participation.

- The patients who participated in the study were informed about having the right to withdraw at any time without giving any reason.

***A Pilot study:**

After the development of tools, a pilot study was carried out on 10% of the studied subjects (10) vitiligo patients who were excluded from the main study sample. The purpose of the pilot study were to ascertain the clarity, applicability relevance and content validity of the tools, estimate the time needed to complete the sheet, and the necessary changes were undertaken.

The results of the pilot study:

After conducting the pilot study, it was found that:

(1) The tools were clear and applicable; however, few modifications were made in rephrasing of some sentences in both QOL scale and DAS scale to be easier and more understandable.

(2) Tools were relevant and valid.

(3) No problem that interferes with the process of data collection was detected.

(4) Following this pilot study the tools were made ready for use.

***Field work:**

The actual field work was carried out within 8 months from the beginning of April 2020 to the end of November 2020. The study setting was visited by the researcher two days /week (Sunday &Wenesday because this days specified for treatment of vitiligo patients only) from 9Am to 12Pm. An individual interview was conducted for every patient and the average time needed was around (30-45) minutes. At the beginning of interview the researcher greeted the patients, introduced herself to each patient, explained the purpose of the study, took oral consent to participate in the study, filled interviewing questionnaire sheet, and then each patient was asked to fill quality of life scale, self-esteem scale and Depression Anxiety Stress Scale.

*Statistical analysis:

The results were statistically analyzed by using SPSS version 20.Numerical data were expressed as mean ± SD, and range. Qualitative data were expressed as frequency and percentage. Relations between different variables were tested using Fridman test, t-student. Pearson's Correlation analysis was used to show strength and direction of association between two quantitative variables. P value < 0.05 is considered significant.

4. RESULTS

Table (1): Percentage distribution of studied vitiligo patients according to socio-demographic characteristics (n=100).

Socio-demographic characteristics	Studied vitiligo patients (n=100)	
	N	%
Age/year		
Less than 20 Y	10	10.0
20-30 Y	50	50.0
30- 40Y	30	30.0
40and more years	10	10.0
Mean ± SD	30.01 ± 9.42	

Sex		
Male	35	35.0
Female	65	65.0
Marital Status		
Single	60	60.0
Married	30	30.0
Divorced	5	5.0
Widow	5	5.0
Educational level		
Read and write	5	5.0
Basic learning	5	5.0
Secondary learning	60	60.0
University learning	30	30.0
Occupation		
Employer	35	35.0
Free work	60	60.0
Not work	5	5.0
Residence		
Rural	65	65.0
Urban	35	35.0
Income		
Not enough	80	80.0
Enough	15	15.0
Enough and increase	5	5.0
Cohabitation		
Alone	15	15.0
With family	85	85.0

Table (2): Percentage distribution of studied vitiligo patients regarding clinical data (n=100).

Clinical data	Studied vitiligo patients (n=100).	
	No	%
Duration of illness		
Less than 5 years	20	20.0
5-10 years	70	70.0
10 years and more	10	10.0
Mean ± SD	1.60 ± .49	
Lesion site		
Head and neck	25	25.0
Extremities	65	65.0
Trunk	10	10.0
Vitiligo disease is genetic		
Yes	20	20.0
No	80	80.0
Vitiligo disease is infected		
Yes	5	5.0
No	95	95.0
Family history of disease		
Yes	20	20.0
No	80	80.0
Family support to patient		
Yes	85	85.0
No	15	15.0

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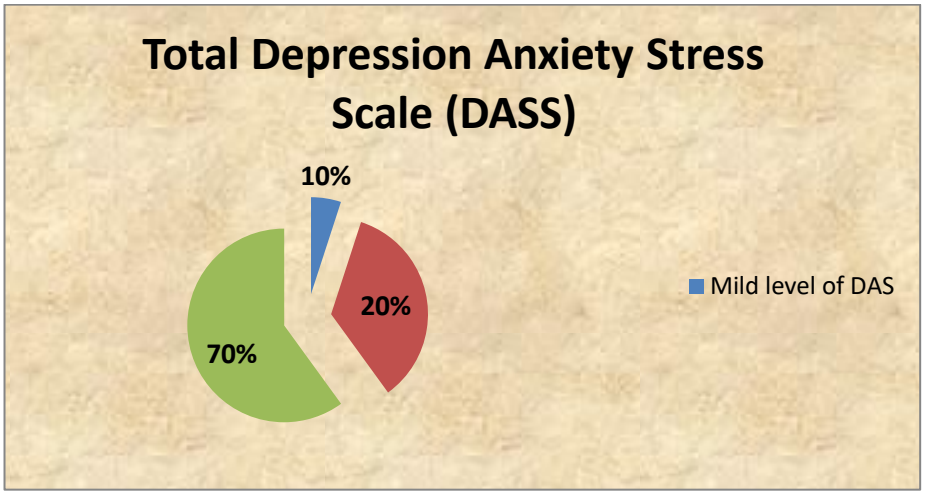

Figure (1): Percentage distribution of the studied vitiligo patients according to their total Depression Anxiety Stress scale (N=100).

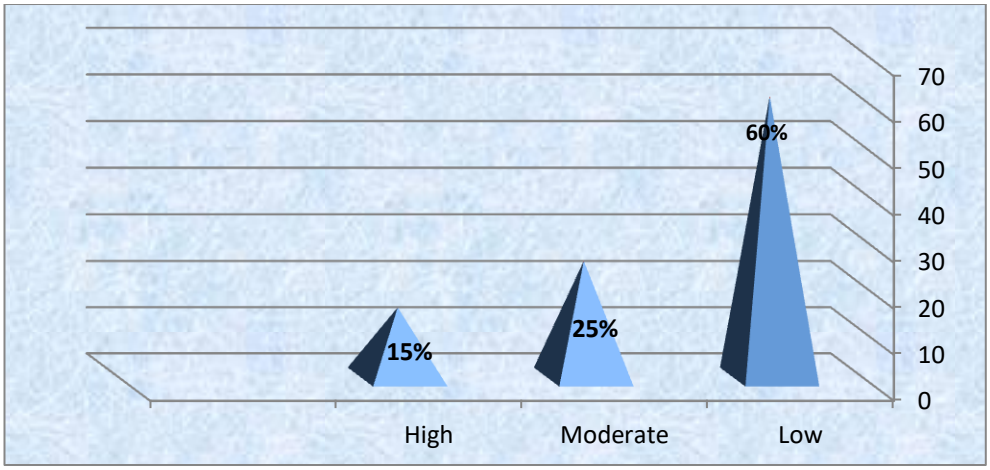

Figure (2): Percentage distribution of the studied vitiligo patients according to their total self-esteem scale (N=100).

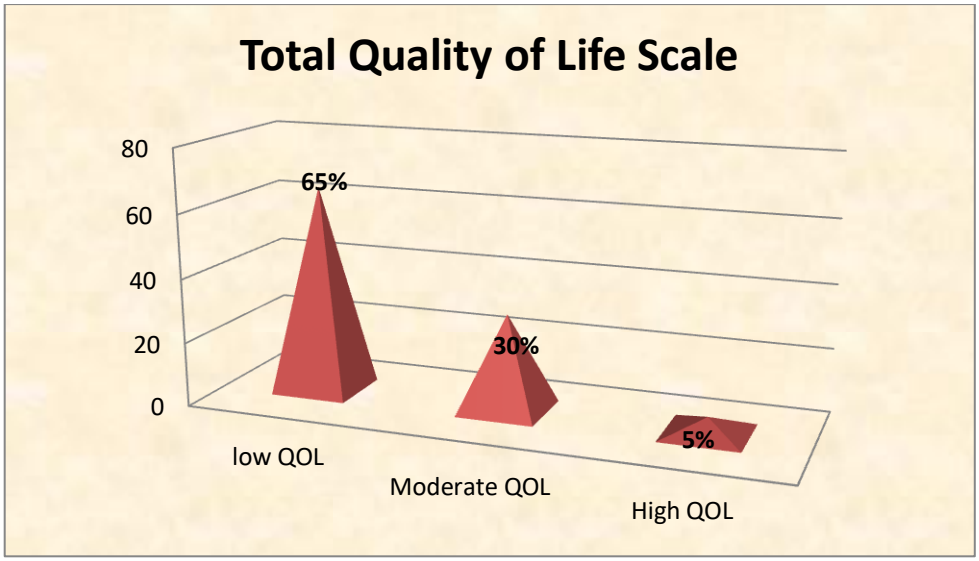

Figure (3): Percentage distribution of the studied vitiligo patients according to their total quality of life scale (N=100).

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Table (3): Relationship between socio-demographic characteristics and total depression anxiety stress scale among the studied vitiligo patients (n=100).

Socio-demographic characteristics	Total Depression Anxiety Stress Scale (DAS)						X2	p-value
	Mild (10)		Moderate (20)		Severe (70)			
	N	%	N	%	N	%		
Age/year								
Less than 20 Y	0	0.0%	0	0.0%	10	100.0%	157.143	0.000**
20-30 Y	0	0.0%	0	0.0%	50	100.0%		
30- 40Y	0	0.0%	20	66.7%	10	33.3%		
40and more years	10	100.0%	0	0.0%	0	0.0%		
Sex								
Male	0	0.0%	0	0.0%	35	100.0%	23.077	0.000**
Female	10	15.4%	20	30.8%	35	53.8%		
Marital Status								
Single	0	0.0%	0	0.0%	60	100.0%	157.143	0.000**
Married	0	0.0%	20	66.7%	10	33.3%		
Divorced	5	100.0%	0	0.0%	0	0.0%		
Widow	5	100.0%	0	0.0%	0	0.0%		
Educational level								
Read and write	0	0.0%	0	0.0%	5	100.0%	100.000	0.000**
Basic learning	0	0.0%	0	0.0%	5	100.0%		
Secondary learning	0	0.0%	0	0.0%	60	100.0%		
University learning	10	33.3%	20	66.7%	0	0.0%		
Occupation								
Employer	0	0.0%	0	0.0%	35	100.0%	66.667	0.000**
Free work	5	8.3%	20	33.3%	35	58.3%		
Not work	5	100.0%	0	0.0%	0	0.0%		
Residence								
Rural	0	0.0%	0	0.0%	65	100.0%	79.592	0.000**
Urban	10	28.6%	20	57.1%	5	14.3%		
Income								
Not enough	0	0.0%	10	12.5%	70	87.5%	93.750	0.000**
Enough	5	33.3%	10	66.7%	0	0.0%		
Enough and increase	5	100.0%	0	0.0%	0	0.0%		
Cohabitation								
Alone	0	0.0%	0	0.0%	15	100.0%	7.563	0.000**
With family	10	11.8%	20	23.5%	55	64.7%		

**0.000 a highly statistically significant.

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Table (4): Relationship between socio-demographic characteristics and total self- esteem scale among the studied vitiligo patients (n=100)

Socio-demographic characteristics	Total Self- Esteem Scale (DAS)						X2	p-value
	High (15)		Moderate (25)		Low (60)			
	N	%	N	%	N	%		
Age/year								
Less than 20	0	0.0%	10	100.0%	0	0.0%	127.55	0.000**
20-30 Y	0	0.0%	15	30.0%	35	70.0%		
30- 40Y	5	16.7%	0	0.0%	25	83.3%		
40 Y and more	10	100.0%	0	0.0%	0	0.0%		
Sex								
Male	0	0.0%	25	71.4%	10	28.6%	64.83	0.000**
Female	15	23.1%	0	0.0%	50	76.9%		
Marital Status								
Single	0	0.0%	25	41.7%	35	58.3%	103.05	0.000**
Married	5	16.7%	0	0.0%	25	83.3%		
Divorced	5	100.0%	0	0.0%	0	0.0%		
Widow	5	100.0%	0	0.0%	0	0.0%		
Educational level								
Read and write	0	0.0%	5	100.0%	0	0.0%	107.50	0.000**
Basic learning	0	0.0%	5	100.0%	0	0.0%		
Secondary learning	0	0.0%	15	25.0%	45	75.0%		
University learning	15	50.0%	0	0.0%	15	50.0%		
Occupation								
Employer	0	0.0%	25	71.4%	10	28.6%	91.58	0.000**
Free work	10	16.6%	0	0.0%	50	83.4%		
Not work	5	100.0%	0	0.0%	0	0.0%		
Residence								
Rural	0	0.0%	25	38.5%	40	61.5%	64.83	0.000**
Urban	15	42.8%	0	0.0%	20	57.2		
Income								
Not enough	0	0.0%	25	31.3%	50	68.7%	91.31	0.000**
Enough	10	66.7%	0	0.0%	10	33.3%		
Enough and increase	5	100.0%	0	0.0%	0	0.0%		
Cohabitation								
Alone	0	0.0%	15	100.0%	0	0.0%	52.94	0.000**
With family	15	17.6%	10	11.8%	60	70.6%		

**0.000 a highly statistically significant.

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Table (5): Relationship between socio-demographic characteristics and total quality of life scale among the studied vitiligo patients (n=100).

Socio-demographic characteristics	Total Quality of Life Scale						X2	p-value
	Low (65)		Moderate (30)		High (5)			
	N	%	N	%	N	%		
Age/year								
Less than 20 Y	0	0.0%	10	100.0%	0	0.0%	82.906	0.000**
20-30 Y	50	100.0%	0	0.0%	0	0.0%		
30- 40Y	15	50.0%	10	33.3%	5	16.7%		
40and more years	0	0.0%	10	100.0%	0	0.0%		
Sex								
Male	25	71.4%	10	28.6%	0	0.0%	3.071	> 0.05
Female	40	61.5%	20	30.8%	5	7.7%		
Marital Status								
Single	50	83.3%	10	16.7%	0	0.0%	42.308	0.000**
Married	15	50.0%	10	33.3%	5	16.7%		
Divorced	0	0.0%	5	100.0%	0	0.0%		
Widow	0	0.0%	5	100.0%	0	0.0%		
Educational level								
Read and write	0	0.0%	5	100.0%	0	0.0%	88.034	0.000**
Basic learning	0	0.0%	5	100.0%	0	0.0%		
Secondary learning	60	100.0%	0	0.0%	0	0.0%		
University learning	5	16.7%	20	66.7%	5	16.7%		
Occupation								
Employer	25	71.4%	10	28.6%	0	0.0%	15.522	> 0.05
Free work	40	66.7%	15	25.0%	5	8.3%		
Not work	0	0.0%	5	100.0%	0	0.0%		
Residence								
Rural	55	84.6%	10	15.4%	0	0.0%	33.502	0.000**
Urban	10	28.6%	20	57.1%	5	14.3%		
Income								
Not enough	65	81.2%	10	12.5%	5	6.2%	58.333	0.000**
Enough	0	0.0%	15	100.0%	0	0.0%		
Enough and increase	0	0.0%	5	100.0%	0	0.0%		
Cohabitation								
Alone	5	33.3%	10	66.7%	0	0.0%	11.513	> 0.05
With family	60	70.6%	20	23.5%	5	5.9%		

**0.000 a highly statistically significant.

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Table (6): Relationship between clinical data and total depression anxiety stress scale among the studied vitiligo patients (n=100).

Clinical data	Total Depression Anxiety Stress Scale (DAS)						X2	p-value
	Mild (10)		Moderate (20)		Severe (70)			
	N	%	N	%	N	%		
Duration of illness								
Less than 5 years	0	0.0%	0	0.0%	20	100.0%	108.163	0.000**
5-10 years	0	0.0%	20	28.6%	50	71.4%		
10 Y and more	10	100.0%	0	0.0%	0	0.0%		
Lesion site								
Head and neck	0	0.0%	0	0.0%	25	100.0%	110.989	0.000**
Extremities	0	0.0%	20	30.8%	45	69.2%		
Trunk	10	100.0%	0	0.0%	0	0.0%		
Vitiligo disease is genetic								
Yes	0	0.0%	0	0.0%	20	100.0%	10.714	> 0.05
No	10	12.5%	20	25.0%	50	62.5%		
Vitiligo disease is infected								
Yes	0	0.0%	0	0.0%	5	100.0%	2.256	> 0.05
No	10	10.5%	20	21.1%	65	68.4%		
Family history of disease								
Yes	0	0.0%	0	0.0%	20	100.0%	10.714	> 0.05
No	10	12.5%	20	25.0%	50	62.5%		
Family support to patient								
Yes	0	0.0%	15	17.6%	70	82.4%	70.588	0.000**
No	10	66.7%	5	33.3%	0	0.0%		

**0.000 a highly statistically significant.

Table (7): Relationship between clinical data and total self-esteem scale among the studied vitiligo patients (n=100)

Clinical data	Total self- esteem Scale						X2	p-value
	High (15)		Moderate (25)		Low (60)			
	N	%	N	%	N	%		
Duration of illness								
Less than 5 years	0	0.0%	20	100.0%	0	0.0%	136.1	0.000**
5-10 years	5	7.1%	5	7.1%	60	85.8%		
10 Y and more	10	100.0%	0	0.0%	0	0.0%		
Lesion site								
Head and neck	0	0.0%	25	100.0%	0	0.0%	161.5	0.000**
Extremities	5	7.7%	0	0.0%	60	92.3%		
Trunk	10	100.0%	0	0.0%	0	0.0%		
Vitiligo disease is genetic								
Yes	0	0.0%	20	100.0%	0	0.0%	75.0	0.000**
No	15	18.8%	5	6.2%	60	75.0%		

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Vitiligo disease is infected								
Yes	0	0.0%	5	100.0%	0	0.0%	15.7	0.001**
No	15	15.8%	20	21.1%	60	63.1%		
Family history of disease								
Yes	0	0.0%	20	100.0%	0	0.0%	75.0	0.001**
No	15	18.8%	5	6.2%	60	75.0%		
Family support to patient								
Yes	0	0.0%	25	29.4%	60	70.6%	100.0	0.000**
No	15	100.0%	0	0.0%	0	0.0%		

**0.000 a highly statistically significant.

Table (8): Relationship between clinical data and total quality of life scale among the studied vitiligo patients (n=100)

Clinical data	Total Quality of Life Scale						X2	p-value
	Low (65)		Moderate(30)		High (5)			
	N	%	N	%	N	%		
Duration of illness								
Less than 5 years	10	50.0%	10	50.0%	0	0.0%	36.081	0.000**
5-10 years	55	78.6%	10	14.3%	5	7.1%		
10 Y and more	0	0.0%	10	100.0%	0	0.0%		
Lesion site								
Head and neck	15	60.0%	10	40.0%	0	0.0%	32.505	0.000**
Extremities	50	76.9%	10	15.4%	5	7.7%		
Trunk	0	0.0%	10	100.0%	0	0.0%		
Vitiligo disease is genetic								
Yes	10	50.0%	10	50.0%	0	0.0%	5.449	> 0.05
No	55	68.8%	20	25.0%	5	6.2%		
Vitiligo disease is infected								
Yes	0	0.0%	5	100.0%	0	0.0%	12.281a	0.002**
No	65	68.4%	25	26.3%	5	5.3%		
Family history of disease								
Yes	10	50.0%	10	50.0%	0	0.0%	5.449	> 0.05
No	55	68.8%	20	25.0%	5	6.2%		
Family support to patient								
Yes	65	76.5%	15	17.6%	5	5.9%	41.176	0.000**
No	0	0.0%	15	100.0%	0	0.0%		

**0.000 a highly statistically significant

Table (9): Correlation between mean scores of total depression anxiety stress, self -esteem and quality of life scales among the studied vitiligo patients (n=100).

Correlation	R	P-value
Total Depression Anxiety Stress & Total Self Esteem	-.384	.000**
Total Depression Anxiety Stress & Total Quality of Life	-.621	.000**
Total Self Esteem & Total Quality of Life	.339	.000**

** Highly statistically significant.

Table (1) shows the socio-demographic characteristics of the studied vitiligo patients. It clarified that a half of them (50.0%) were in the age group of 20 to < 30 years with the mean age was 30.01 ± 9.42 years. Regarding to sex, nearly two thirds (65.0%) were females. Concerning marital status, more than half of them (60.0%) were single, had secondary learning and were free workers. In accordance with residence, nearly two thirds (65.0%) are from rural areas. This table also shows that the majority of the studied patients are mentioned they don't have enough income and are lived with their families (80.0%&85.0% respectively).

Table (2) demonstrates distribution of the studied vitiligo patients regarding their clinical data. Regarding to duration of illness, more than two thirds (70.0%) of them are mentioned they have vitiligo disease from 5-10 years. In relation lesion site, more than half of them (65.0%) have vitiligo in their extremities. Concerning to vitiligo disease is genetic and infected, the majority of studied patients are mentioned "no" (80.0 % & 95.0% respectively).Regarding family history of disease, the majority of the studied sample are answered "no" and received more support from their family (80.0 % & 85.0% respectively).

Figure (1) illustrates percentage distribution of studied of the studied vitiligo patients according to their total Depression Anxiety Stress scale. It shows that more than two thirds of studied patients have severe level and less than one quarter have moderate level while the minority of them has mild level of depression anxiety stress.

Figure (2) shows percentage distribution of the studied vitiligo patients according to their total self-esteem scale. It reflects that more than half of studied patients have low self-esteem and only one quarter of them have moderate self-esteem while the minority of them has high self –esteem. .
Figure (3) explains percentage distribution of the studied vitiligo patients according to their total quality of life scale. It reports that more than half of studied patients have low level and more than one quarter have moderate level while the minority of them has high level of quality of life. .

Table (3): illustrates relationship between socio-demographic characteristics and total depression anxiety stress scale among the studied vitiligo patients. It reports that there is a highly statistically significant relationship between all items of socio-demographic characteristics and total depression anxiety stress scale at p-value < 0.000**

Table (4) reflects relationship between socio-demographic characteristics and total self- esteem scale among the studied vitiligo patients. It shows that there is a highly statistically significant relationship between all items of socio-demographic characteristics and total self-esteem scale at p-value < 0.000**.

Table (5) represents relationship between socio-demographic characteristics and total quality of life scale among the studied vitiligo patients. It reports that there is a highly statistically significant relationship between all items of socio-demographic characteristics except (sex, occupation, co-habitation) with total quality of life scale at p-value < 0.000**.

Table (6) shows relationship between clinical data and total depression anxiety stress scale among the studied vitiligo patients. It clarifies that there is a highly statistically significant relationship between certain items of clinical data (duration of illness, lesion site, family support) and total depression anxiety stress scale at p-value < 0.000**.

Table (7) reports relationship between clinical data and total self-esteem scale among the studied vitiligo patients. It shows that there is a highly statistically significant relationship between all items of clinical data and total self-esteem scale at p-value < 0.001**. .

Table (8) reflects relationship between clinical data and total quality of life scale among the studied vitiligo patients. It represents that there is a highly statistically significant relationship between all items of clinical data except (vitiligo disease is genetic, family history of disease) with total quality of life scale at p-value < 0.000**.

Table (9) illustrates there is a highly statistically significant negative correlation between total depression anxiety stress, self- esteem and quality of life scales while there is a highly statistically significant positive correlation between total quality of life and total self-esteem mean scores among the studied vitiligo patients at p- value <0.000**.

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5. DISCUSSION

Vitiligo affects between 15 to 20 percent of the population, regardless of age, race or sex. People with this disorder can experience emotional stress, particularly if vitiligo develops on visible areas of the body, such as face, hands, arms and feet. Furthermore, disfigurement of skin among vitiligo patients can be a potential source of emotional distress as many affected patients feel embarrassed, ashamed, depressed, or worried about how others will react that leading to impaired psychosocial adjustments and hence affect self- esteem and quality of life negatively ***(Teo et al., 2018).*** So this study aimed to assess correlation between psychological problems, self-esteem and quality of life among vitiligo patients.

The results of the present study reveals that, a half of studied sample were in the age group of 20 to < 30 years with the mean age 30.01 ± 9.42 years. This may be due to vitiligo disease more commonly affect the young age and the risk of disease was decreased with increasing age.This result is in agreement with a study carried out by ***Kara et al., (2019)*** who found that the average mean age of study sample was 30.34±12.19 years. On other hand, this result were in disagreement with ***(Nasreen et al., 2017)*** who founded that the age group of his sample between 30-40 years with the mean age 24.6±3.22 years .

Regarding sex, the results of the present study clarified that nearly two thirds of studied vitiligo patients were females. This can be due to many studies mentioned that vitilgo is a health problem that affecting females more than males. This result goes in the same line with the study done by ***Daneshpazhooh et al., (2017)*** who found that two thirds of his studied patients were female. The present study result was inconsistent with a study carried by ***Khoury et al., (2017)*** who reported that more than half of the total sample were males.

Concerning marital status, the present study reveals that more than half of the total sample was single. This could be due to appearance of vitiligo lesion in visible sites of the body that affect the persons' beauty and hence impair marriage. This result goes in agreement with a study carried by ***Kiprono et al., (2018)*** who founded that more than two thirds of the patients were single. On other hand, this result was contradicted with a study carried by ***Khattri et al.,(2017)*** who founded that the majority of his studied sample were married.

As regards to the educational level, the current study showed that more than half of the studied sample have secondary education. This finding is incongruent with a study carried by ***Almomani et al., (2018)*** who founded that less than half of his sample had a high education. On other hand, this result goes in the same line with ***Jalel et al., (2016)*** who reported that more than half of his studied sample had secondary education.

The results of the present study regarding occupation proved that more than half of the total sample was free worker. This may be due to not availability of governmental jobs in addition, more than half of studied sample was young age, single and require free work to be independent. This result is in disagreement with study done by **Bae *et al.,(2017)*** who reported that more than three quarter of his studied patients was employed.

As regard residence, the result of the present study showed that, nearly two thirds of the studied patients were from rural areas. This could be due to the site of data collection serves many rural areas. These findings were in agreement with the study of ***Grimes (2017)*** who found that, more than half of his studied sample was from rural areas. Morever, the results demonstrated that, the majority of the studied patients didn`t have sufficient income. This could be due to the cost of treatment and follow up is expensive. These findings were contradicted with the study done by ***Almomani et al., (2018)*** who found that, only one third of his sample mentioned that their income was not enough.

As regard to duration of illness, more than two thirds of studied sample are mentioned they have vitiligo disease from 5-10 years. This could be due to vitiligo is chronic disease that require a long time for treatment and follow up. This result is incongruent with result of ***Lipowska et al., (2016)*** who represented that more than half of his sample had vitiligo less than 5 years. Concerning lesion site, more than half of studied sample have vitiligo in their extremities. This may be due to the primary site of vitiligo involvement is sun-exposed areas as many literatures mentioned that. This result goes in agreement with a study of ***Attwa et al., (2016*) & *Chua et al., (2017)*** who founded that the majority of his studied sample had vitiligo in their extremities.

Regarding family history of disease, vitiligo disease is infected and genetic; the majority of the studied sample are mentioned "no". This result is in disagreement with study carried by ***Laberge et al., (2016)*** who mentioned that about one third of his studied sample reported that vitiligo disease is infected and nearly half of them had a family history of vitiligo

disease. on other hand, this result was in agreement with a study carried by ***Baghestani et al., (2017)*** who founded that the majority of his studied sample hadn't vitiligo disease in their families.

The result of the current study illustrates that more than two thirds of the studied vitiligo patients have severe level of depression anxiety stress. This can be justified by vitiligo is one of the most psychologically devastating diseases in dermatology because of appearance of pigmentation in visible sites which lead to numerous problems not only psychological problems such as stress, anxiety, depression, low self-confidence but also, social problems such as disturbances in social relationships, work life and marriage. 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.

The result of the present study illustrates that more than half of the studied vitiligo patients have low levels of self-esteem and quality of life. From view point of researcher this may be justified by vitiligo is a chronic skin disorder that may have a negative impact on the patients, self- esteem and quality of life domains as this disease reduces the patients' beauty as it affects skin appearance that determines patients body image and any pathologic change in it can decrease their self - esteem and isolate them from the society and has poor effects on their private, social life because it causes social malfunction and decreases patients quality of life.The result was consistent with ***Kara et al., (2019)*** his study showed that nearly two thirds reported low self-esteem and poor quality of life. More ever, this result goes in the same line with the study done by ***Grimes& Miller (2018)*** who stated that self-esteem and quality of life are negatively affected among the majority of his studied patients with vitiligo.

The result of current study is consistent with ***Almomani et al., (2018)*** who stated that vitiligo has negative effects on quality of life, especially on the medical, physical, social, psychological, economical and sexual aspects. The result of the present study is parallel with a study done by ***Parsad et al., (2018)*** which highlighted that nearly three quarters of his sample had low self-esteem and low quality of life level. Also***, Zar et al., (2019)*** who founded that more than half of his vitiligo studied sample had a decrease in self- esteem, social participation, physical health, emotional health, and lower scores on quality of life measures.

The result of the current study explains that there is a highly statistically significant relationship 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. On other hand, The result of the present study goes in the same line with a study done by ***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.

Furthermore, the present study results showed that there is a highly statistically significant relationship between duration of illness and lesion site with total depression anxiety stress scale. The result of the present study was parallel with a study done by ***Bonotis et al., (2016)*** who reported that there is a highly statistically significant difference between duration of illness and lesion site with psychological distress.

The present study results illustrated that there is a highly statistically significant relationship between all items of socio-demographic characteristics, clinical data and total self-esteem scale. This result goes in the same line with the study done by ***Gul et al., (2017)*** who reported that there is a highly statistically significant difference between all items of socio-demographic characteristics, disease history with total self-esteem scale. In contrast, the present study results were in disagreement with the study carried out by ***Khattri et al., (2017)*** who showed that there is no statistically significant differences was found between all items socio-demographic characteristics with total self-esteem scale except with the item of age.

The current study results reflected that there is a highly statistically significant relationship between certain items of socio-demographic characteristics and total quality of life scale. The present study results were consistent with the study carried out by ***Suyog et al., (2016) & Salsberg et al., (2018)*** who found that there is a highly statistically significant relationship between age, marital status, occupation, residence, income and total quality of life scale. On other hand, this result is contradicted with the study done by ***Mitrevska et al., (2017)*** who represented there is a highly statistically significant differences between all items of socio-demographic characteristics and total quality of life scale.

The result of the present study reflects that there is a highly statistically significant negative correlation between total depression anxiety stress, self- esteem and quality of life mean scores among the studied vitiligo patients as when level of depression anxiety stress increase, level of self- esteem and quality of life decrease and vice verus. On other hand, there is a highly statistically significant positive correlation between total quality of life and total self-esteem mean scores as when level of self-esteem increase, the level of quality of life also increase and vice verus. This result is consistent with ***Zar et al., (2019)*** who reported that psychological problems such as stress, anxiety and depression has been shown to be more common among vitiligo patients that ultimately cause a reduction in their self-esteem and quality of life.

6. CONCLUSION

Vitiligo is a chronic skin disorder that may have a negative impact on the self-esteem, quality of life domains and ultimately results in psychological problems among the studied vitiligo patients as more than two thirds of them had severe level of depression anxiety stress while more than half of them had low level of self-esteem and quality of life. Furthermore, there was a highly statistically significant negative correlation between mean scores of total depression anxiety stress, self-esteem and quality of life scales.

7. RECOMMENDATIONS

Based on the findings of the current research, the following recommendations are suggested:

(1) Stress management and assertiveness training program should be given to vitiligo patients to relieve their psychological problems and enhance their coping patterns.

(2) Designing and implementing psycho-educational programs for vitiligo patients to increase their self-esteem and quality of life domains.

(3) Psychiatric support must be provided continuously as a part of routine nursing care for all patients with vitiligo.

Further studies are needed on large sample of vitiligo patients in different geographical areas to generalize the results

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