Assessment of Awareness and Psychological Status of Vitiligo Patients in Selected Dermatological Hospitals at Minia City

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Abstract

Background Vitiligo is one of the most common skin diseases in the world. According to the World Health Organization (WHO), the number of people suffering from vitiligo is growing year by year and vitiligo becomes worldwide problem. **Aim:** to assess the awareness and psychological status of vitiligo patients in selected dermatological hospitals at Minia city. **Research design:** descriptive cross-sectional design was used to conduct this stud. **Sample:** convenient sample 130 patients suffering from vitiligo disease was used in this study through three months. **Setting:** The study was conducted at two places at Western Dermatology and leprosy clinic and Dermatology outpatient clinics at Minia University hospital that works at all days except Friday. **Data collection:** Data was collected through: four tools. **Tool I:** a structured interview questionnaire sheet about the vitiligo patients consist of two parts: part one: socio-demographic, part two: medical data, **Tool II**: patient knowledge about vitiligo disease, **Tool III**: patient's attitude toward vitiligo disease and **Tool IV**: psychosocial status associated with Vitiligo. **Results:** 26.2% of the studied vitiligo patients have poor level of knowledge and 36.9% of them have fair and good knowledge level equally. 63.1% of the studied vitiligo patients have positive attitude and 36.9% have negative attitude, while 37.7% of them have poor psychological status. **Conclusion:** there is no significant relation between vitiligo disease and socio-demographic characterctices and there is no significant relation between socio-demographic and participants' knowledge. **Recommendations:** Designing and conducting a national level mass campaign of health education for the general public. Future studies should be planned to improve awareness and psychological status of vitiligo patients

Keywords: Vitiligo Disease, Patients, Psychosocial Status, awareness

Introduction

Vitiligo is a common chronic autoimmune disease that is characterized by progressive loss of skin color due to melanocyte destruction. Vitiligo is a skin disorder that causes the skin to lose its color. Smooth white areas (called macules if less than 5mm or patches if 5mm or larger) appear on a person's skin. It's characterized by the acquired loss of constitutional pigmentation manifesting as white macules and patches caused by loss of functioning epidermal melanocytes. The extent of involvement is highly variable, ranging from focal to generalized, and the onset can be abrupt or gradual **(El-Husseiny et al., 2021)**.

Vitiligo is most often classified clinically according to the extent and distribution of depigmentation. It has been proposed that the segmental and focal presentations of the disease constitute a separate subgroup to the non-segmental forms of vitiligo because, compared with focal and segmental vitiligo non-segmental forms show a later age of onset, a stronger association with autoimmunity and unstable results following autologous grafting **(Luo et al.,2020)**.

Etiology is still unknown, but some evidencebased pathogenetic hypotheses have been proposed to explain the loss of melanocytes in epidermis. It is believed to be due to genetic susceptibility that is triggered by an environmental factor such that an autoimmune disease occurs. This results in the destruction of skin pigment cells. Risk factors include a family history of the condition or other autoimmune diseases, such as hyperthyroidism, alopecia, and pernicious anemia **(Gupta et al., 2018)**.

Only sign of vitiligo is the presence of pale patchy areas of depigmented skin which tend to occur on the extremities. Some people may experience itching before a new patch occurs. The patches are initially small, but often grow and change shape, when skin lesions occur, they are most prominent on the face, hands and wrists. The loss of skin pigmentation is particularly noticeable around body orifices, such as the mouth, eyes, nostrils, genitalia and umbilicus. Some lesions have increased skin pigment around the edges. Those affected by vitiligo who are stigmatized for their condition may experience depression and similar mood disorders. **(Hakim, 2020)**

Diagnosis of vitiligo may be facilitated by the use of a Wood's lamp, a hand-held ultraviolet (UV) irradiation device that emits UVA. It helps identify focal melanocyte loss and detect areas of depigmentation that may not be visible to the naked eye, particularly in pale skin. Under the Wood's light, the vitiligo lesions emit a bright blue-white fluorescence and appear sharply demarcated. Dermoscopy can be used to differentiate vitiligo from other depigmenting disorders **(Singh et al., 2019)**.

Treatment of vitiligo is still one of the most difficult dermatological challenges. An important step in the management of vitiligo is to first acknowledge that it is not merely a cosmetic disease and that there are safe and effective treatments available. These treatments include phototherapy, topical and systemic immunosuppressant, and surgical techniques, which together may help in halting the disease, stabilizing depigmented lesions and stimulating repigmentation **(Bleuel & Eberlein, 2018)**.

Prevention of vitiligo disease includes primordial prevention, primary prevention, secondary prevention, and

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tertiary prevention. Combined, these strategies not only aim to prevent the onset of disease through risk reduction but also downstream complications of a manifested disease. Primordial prevention targets the underlying stage of natural disease by targeting the underlying social conditions that promote disease onset (**Kisling & Das, 2023**).

Community health nurse play a vital role in discovering and decreasing the psychological impacts of vitiligo. Changing the patient lifestyle as regarding diet well helped in vitiligo patient cure. One of the crucial community health nurse's roles is to instruct the patient regarding balanced diet and eating plenty of fruits and vegetables, cutting down on fatty rich foods, drinking plenty of water, is good to general condition not just the skin. Such a diet is needed to give a good supply of the nutrients which promote healthy skin and are involved in the pigmentation process. Patients with vitiligo should eat some rich tyrosine, zinc, iron and other substances in foods as lack of dietary tyrosine affects the synthesis of melanin, such as lean meat, eggs, milk, sponge gourd, eggplant, and carrots and other fresh vegetables and soy products **Abdelmohsen & Mohamed. (2019)**.

Significance of the study

Vitiligo is a common chronic autoimmune disease that is characterized by progressive loss of skin color due to melanocyte destruction. The worldwide prevalence of vitiligo in adults ranges from 1–2% (**Silpa-Archa et al., 2020**). A relatively high prevalence of vitiligo was found in Africa area and in female patients. For population- or community-based studies, the prevalence has maintained at a low level in recent 20 years and it has increased with age gradually.

Vitiligo is not life threaten conditions It is present worldwide, as prevalence in different countries ranges from less than 0.1% to more than 8% of the general population (1% in the United States and in Europe) ; thus, it can be estimated that approximately 100 million people in the world are affected. While as reports suggest that incidence of vitiligo in India, Egypt, and Japan is higher. Which ranges from 1.25% to 6% of the total population – although these data, worldwide the awareness, and knowledge of vitiligo are often inadequate. (**Khatab et al., 2021**)

A previous study on skin diseases in Asyut governorates reveals that prevalence of vitiligo was about 1.22%. Prevalence of vitilgo in Damanhur teaching hospital was 0.86% according to this study and it was slightly more common among females and in rural areas. The most common exacerbating factor is stress. The most exacerbating factor was stress and the most common associated disorder was thyroid disease (**Abdallah et al., 2020**).

Vitiligo patients endure a higher level of distress compared to the general population and routinely are faced with a negative social stigma leading to an avoidance of activities. Vitiligo reduces the patients' beauty and has deep effects on their private and social life, and causes social malfunction and decreases their quality of life. This illness lowers their self-esteem and may cause shame in social interactions (**Bidaki, et al., 2019**).

Methodology
Aim of the study

The aim of this study was assessment of awareness and psychological status of vitiligo patients in selected dermatological hospitals at Minia city.

Research Questions

- What is the level of knowledge of patient regarding vitiligo disease?
- What is the patient's attitude toward vitiligo disease?
- What is the relation between vitiligo disease and socio-demographic characterctices?
- What is the relation between socio-demographic data and patient's knowledge?

Research Design:

A descriptive cross sectional research design was used to achieve the aim of the current study.

Setting:

The study was conducted at two places at Western Dermatology and leprosy clinic that located beside of Chest disease hospital, in front of Saad Zaghloul primary school (The outpatient clinic works four days per week for dermatology (Saturday, Sunday, Tuesday and Thursday from 9am to 1 pm) and Dermatology outpatient clinics at Minia University hospital, that works at all days except Friday.

Sample size

To determine the sample size (n), Steven Thompson's equation was used. (Thompson, 2012), which are as follows:

$$n = \frac{N \times p(1-p)}{(N-1)\left(\frac{d^2}{z^2}\right) + p(1-p)}$$

Where

- N is the size of the population،
- z is the standard score for the level of significance (0.05)
- and the confidence level is 0.95) and is equal to 1.96
- d is the error rate, equal to 0.05
- P is the probability value equal to 0.5.

$$n = \frac{215 \times 0.5(0.5)}{(215-1)\left(\frac{(0.05)^2}{(1.96)^2}\right) + 0.5(0.5)} = 130$$

The sample contains 130 patients suffering from vitiligo disease from selected hospitals through three months.

Sample type

Convenient sample was used in this study.

Data collection tools

Data were collected by using four tools as follows:

- **Part one: Socio-demographic data:**

It covers the data related to patient as (age, sex, marital status, level of education, occupation, income and residence).

- **Part two: History of patient disease:**

Include data such as (family history, auto-immune disease, physical illness, start of illness, start of treatment, medication management, type of treatment, distribution of vitiligo, affected area, location of vitiligo stability of vitiligo duration of vitiligo). It is adopted from (**Gaafar et al, 2018**) and modified by the investigator.

Tool II: Patient knowledge about vitiligo disease:

It is adapted from (**Tsadik et al, 2020**) to measure patient's knowledge about vitiligo disease, it consistent of 13 questions such as vitiligo is an infectious disease; Vitilooigo is

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an immune disease etc…)

Scoring system of total knowledge level:
Total questions equal 15 question after excluding 6 sub-questions .e,g including the format of if yes not to overestimate their scores (21). Total scores = 15. Complete =2, incomplete = 1 or do not know = 0   to be total of 16 scores)
- **Poor:** 1: 7 (less than 50 %)
- **Fair:** 8: 11 (from 50 to less than 75 %)
- **Good:** more than 11 (more than 75 %)

The third tool: patient's attitude toward vitiligo disease:
It was adopted from **(Gaafar et al, 2018)** and modified by the investigator to assess the patient's attitude toward vitiligo disease and includes 27 closed ended questions such as (Do you have any problems in wearing your choice of clothes? Do other people feel that this disease spreads by touch?) etc.… Three Likert scale (agree = 2, neutral =1 and disagree =0).

Scoring system of total attitude responses
Total questions equal 27 question with total scores equal 54
- Negative= less than 50 % (0: 26 scores)
- Positive = more than 50 % (27 scores and more)

The fourth tool: Psychosocial status Associated with Vitiligo:
It consistent of twenty-one questions such as (I avoid social occasions, my social relations are superficial, I feel my skin delays my marriage, etc…) to assess the psychosocial problems associated with vitiligo. It is adopted from (**Abd El-Nady et al, 2019**). Three Likert scale (yes=2, sometimes=1 and no=0)
Scoring system:
The total score ranged from 0 to 42 score, the level of attitude were then classified as: (negative feeling: 0-20(>50%) and positive feeling: 21-42(<50%).
Total questions equal 20 questions with total scores equal 40
- Poor = less than 50 %(0:19 scores
- Good = more than 50 %(20 and more)

Validity and Reliability of Tools:
The tools were tested for content validity by 5 jury experts in the field of community health nursing and necessary modifications was done. They checked the tool for content accuracy and internal validity. Also, experts were asked to evaluate the items for completeness and clarity (content validity). The relevancy, fluency, and simplicity of each component in the questionnaire were examined by the Experts and they found the questionnaires are useful and helpful. Suggestions were involved and considered into the tool modifications.

Reliability was estimated among 10 participants by using test retest method with two weeks apart between them. Then correlation coefficient **(Cronbach's alpha)** was calculated between the two scores. Test-retest reliability was examined to test the internal consistency of the instrument. Its reliability has been verified with Cronbach's α values of 0

.77,0.78 ,0.80 and 0.82 for patient knowledge about vitiligo, patient's attitude toward vitiligo, Psychosocial status associated with vitiligo and Physical status of participants respectively, which indicates that the questionnaires are reliable to achieve the objectives of the study **(Betty & Jonathan, 2008).**

Pilot study:
A pilot study was conducted at the beginning of the study. It includes (10%)(13) of the total sample .A pilot study was conducted for purpose to testing clarity, completeness, and to determine the time involvement .According to the result of pilot, the needed omissions and/ or additions was done. The result of the pilot study was included in the study.

Data collection procedure
Data collection process was carried out over 6 days per week during morning from (8.00am to 12.00pm) about 3 months from beginning of October 2022 to end of December 2022 (Each day 4 -5 vitiligo patients were interviewed). The investigator started with introducing himself and explained the aim of study for the selected vitiligo patients, assured them that the data collected would be confidential and would be only used to achieve the purpose of the study.
The investigator interviewed each vitiligo patients to fill the questionnaire for illiterate patients, while those who read and write took questionnaire and filled it by themselves. The investigator explained how to fill it with clarified filling time taken (questionnaire took about 30 minute for illiterate members and 20 for educated vitiligo patients to complete the tool). Vitiligo patients were assured that the information collected would be treated confidentially and that it would be used only for the purpose of the study.

Ethical Consideration:
An official letter of the study approval was obtained from the Dean of Faculty of Nursing at Minia University to the director of the previously mentioned settings: This letter was including a brief explanation of the objectives of the study and permission was requested from the chairmen to carry out the study. Research proposal was approved from ethical committee in Faculty of Nursing Minia University. Proposal of the study was explained for every patient in the previously mentioned settings. An oral informed consent was obtained from each patient who agrees to participate in the study .Confidentiality of the collected information was respected.

Data statistical analysis
All analyses were done using SPSS, version 22. Quantitative data were presented by mean, standard deviation while qualitative data were presented by frequency distribution. Student t-test and ANOVA test were used to compare means. Pearson correlation was used to determine the association between two quantitative variables. Graphical presentation of the data was done using Microsoft Excel 2017.The probability of less than 0.05 was used as a cut off point for all significant tests and all statistical tests were 2 tailed

Result

Table (1) Distribution of Socio-demographic data among vitiligo patients,2021 (N=130)

| Socio-demographic data	Vitiligo patients (N=130)	
	No.	%
Age/		
• <20	20	15.4
• (20-30)	32	24.6
• (31-40)	39	30
• >40	39	30
Marital status		
• Single	34	26.2
• Married	72	55.5
• Widow	8	6.2
• Divorced	16	12.3
Gender		
• Male	53	40.8
• Female	77	59.2
Educational Qualification		
• Illiterate	33	25.4
• Primary	32	24.6
• Secondary	33	25.4
• University	32	24.6
Occupation		
• Student	19	14.6
• Worker	34	26.2
• Employee	35	26.9
• Other	42	32.3
Income		
• Less than1000	44	33.8
• From 1000 to2000	40	30.8
• more than2000	46	35.4
Residence		
• Urban	66	50.8
• Rural	64	49.2
Information source:		
• neighbors, friends or relatives	60	46.2
• Media	26	20.0
• medical personnel	11	8.5
• both A and B	7	5.4
• None	26	20.0

Table (1) explains that 30 % of vitiligo patients are in the age period between 31:40 years old and only 14.5 % are less than 20 years old. As for marital status, 55.5% of the participant patients are married. Likewise, 25.4 % and 26.4 % the participant patients are illiterate and employee respectively. As for residence, 50.8% of them from urban areas and regarding monthly income, 35.4% of them are more than 2000 pound. As for information source, 46.2% of vitiligo patients obtain it from neighbors, friends or relatives.

Table (2) Distribution of history of vitiligo disease among vitiligo patients (N=130):

History of vitiligo disease	Vitiligo patients (N=130)	
	No.	%
Auto-immune disease		
• Yes	43	33.1
• No	87	66.9
Family history		
• Yes	43	33.1
• No	87	66.9
Physical illness		
• Yes	64	49.2
• No	66	50.8
Start of illness (years)=disease onset		
• 1-3 yrs.	42	32.3
• 4-5 yrs.	14	10.8
• >5yrs.	74	56.9
Duration of treatment (years)		
• 1-3 yrs.	49	37.7
• 4-5 yrs.	14	10.8
• >5 yrs.	67	51.5
Type of medical treatment		
• Psychiatric	12	9.2
• Chemical	53	40.8
• Radiation therapy	65	50.0
Affected area		
• Head	5	3.8
• Neck	10	7.7

History of vitiligo disease	Vitiligo patients (N=130)	
	No.	%
• Arms	22	16.9
• Legs	7	5.4
• hands and legs	42	32.3
• neck and arms	3	2.3
• different body parts	36	27.7
• neck and legs	2	1.5
• head and neck	3	2.3
Location of Vitiligo		
• Visible	103	79.2
• Not visible	27	20.8
Stability of vitiligo		
• Stable vitiligo	67	51.5
• Progressive vitiligo	63	48.5
Duration of vitiligo		
• <1 year	5	3.8
• >1 year	125	96.2

Table (2) illustrates that 66.9% of vitiligo patients have both auto-immune disease and no family history. Also, 50.8% of them have physical illness while the disease started from >5years for 56.9% of them. Likewise, 50 % of the studied patients are managed by both psychiatric and chemical therapy. As for affected area, 32.3 % and 27.7 % of the studied patients affected at hands and legs and different body parts respectively. Also regarding disease stability, 51.5 % of them have stable vitiligo.
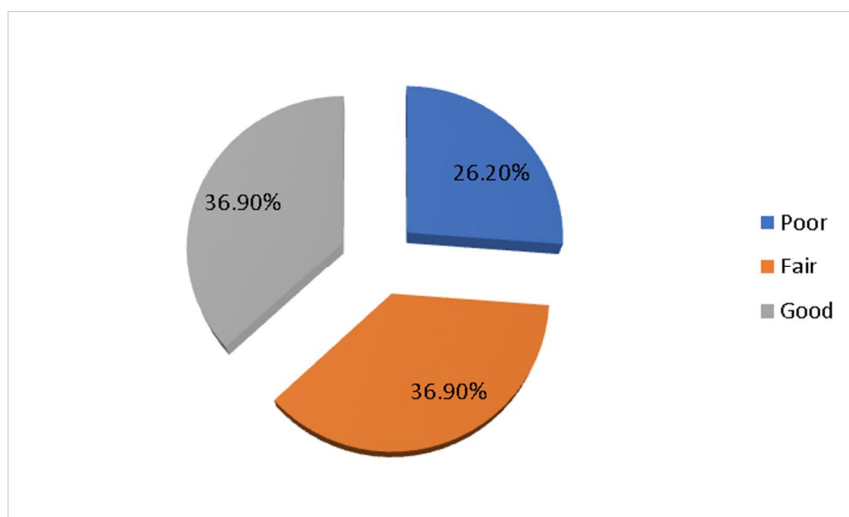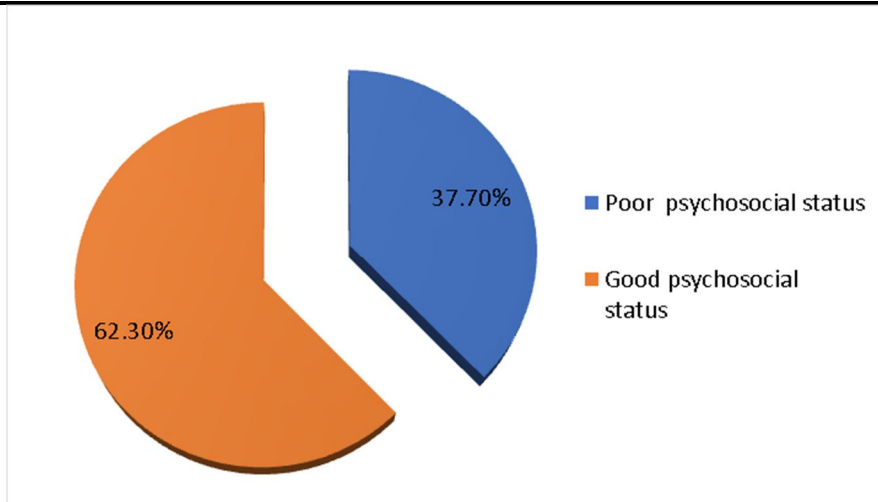

Figure (1) Percent distribution of total knowledge level among vitiligo patients (N= 130):

Figure (1) illustrates that 26.2 % of the studied vitiligo patients have poor level of knowledge and 36.9 % of them have fair and good knowledge level equally.
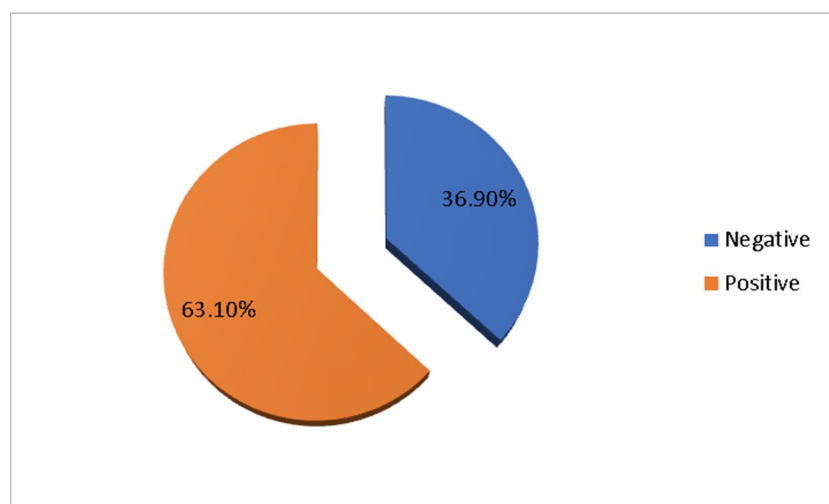
Figure (2) percent distribution of attitude responses among vitiligo patients (N= 130):

Figure (2) shows that 63.1 % of the studied vitiligo patients have positive attitude toward their disease.while 36.9% have negative attitude.

Figure (3) Percent distribution of psychosocial status among vitiligo patients (N= 130):
Figure 3 illustrates that 62.3 % of the studied vitiligo patients have good psychological status and 37.7 have poor psychological status

Disussion

Regarding age of vitiligo patients more than one quarter of them were in the age period between 31:40 years old and more than half of the participant patients are married. This result comes in contrast with **Murshidi, et al., (2023)** who studied **"**Public Knowledge and Attitude towards Vitiligo: A Cross-Sectional Survey in Jordan" who found that most of the participants were between 16 and 30 years old and less than half of them were married.

In the same line, this result comes in agreement with **Asati, et al., (2016)** who studied "A hospital-based study on knowledge and attitude related to vitiligo among adults visiting a tertiary health facility of central India" in which more than one third were between 25-34 years old and more than half of them were married.

Regarding to residence, more than half of the studied patients are in urban. This result contrast with **Bader, et al., (2023)** who studied psychosocial status and quality of life among vitiligo patients who found that more than two thirds of the studied patient live in rural.

Regarding to education, one quarter of the participant patients are illiterate and secondary education respectively. This result comes inconsistent with **Murshidi, et al., (2023)** the majority of respondents had a bachelor's degree or diploma. In the same line, this result in contrast with **Asati, et al., (2016)** in which majority of vitiligo patients were graduate and above.

Regarding source of information more than one third was obtained from neighbors, friends or relatives. This result comes in agreement with **Murshidi, et al. (2023)** in which a substantial proportion of participants had acquired knowledge about vitiligo from family and friends.

Concerning family history of vitiligo patients, two thirds of them have auto-immune disease. This result comes in contrast with **Abdelsalam, et al., (2021)** who studied "TLR4 gene polymorphisms in Egyptian vitiligo patients: insights into emerging association with clinical activity, family history, and response to therapy" who found that less than one tenth (8%) of the study participants had auto-immune disease and positive family history.

Regarding total knowledge of vitiligo patients, one quarter of the studied vitiligo patients have poor level of knowledge and more than one third have fair and good knowledge level equally. This result comes in congruent with

El-Gilany, et al. (2020) who found that majority of vitiligo patients and their relatives had sufficient knowledge about vitiligo.

As for patients' attitudes toward their disease, more than half of the studied vitiligo patients have positive attitude toward their disease. This result comes in accordance with **El-Gilany, et al., (2020)** who found that more than half have positive attitude towards vitiligo patients.

Regarding psychological status, nearly two thirds of the studied vitiligo patients have good psychological status. This result is in contrast with **Bader, et al., (2023)** That more than half of the studied patients had low level of self-esteem. From the researchers' point of view this might be due to the support of family members and the community which improves their psychological status.

Conlusion

Based on the findings of the present study findings, the following conclusions can be drawn:

More than one third had fair and good knowledge respectively negative attitudes towards vitiligo. Nearly half of vitiligo patients reported that they feel the disease sometimes delays their marriage and half of them avoid social occasions. There is no significant relation between vitiligo disease and socio-demographic characterstices. Also, There is no significant relation between socio-demographic and participants' knowledge.

Recommendations

Based on the current study finding, the following recommendations were proposed:

Designing and conducting a national level mass campaign of health education for the general public. The general public should be made aware that vitiligo patients need social support. Educating the public about vitiligo is crucial to increase self-confidence, social integration, and psychological well-being of patients with vitiligo.

♣ Encouraging a better coordination between all healthcare partners like dermatologists, psychiatrists, and healthcare workers to settle all the issues and to help in achieving the eradication goals of vitiligo disease.

♣ Improving psychosocial rehabilitation, increasing emotional stability and self-worth of the discharged vitiligo patients should be encouraged to maintain stable married life

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for them. Also as a step to reduce depression, loneliness, discrimination and rejection common among discharged patients.

♣ Future studies should be planned to improve awareness and psychological status of vitiligo patients

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