RESEARCH ARTICLE

DEPRESSION AND ANXIETY AMONG VITILIGO PATIENTS ATTENDING TO THE DERMATOLOGY CLINIC AT KING ABDUL-AZIZ HOSPITAL IN MAKKAH ALMOKARRAMAH 2018

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ARTICLE INFO

ABSTRACT

Background: A limited number of researchers have paid attention to the psychosocial well being of patients affected with vitiligo. We review the psychosocial effects of vitiligo, individuals deal with them, and the psychiatric morbidity in vitiligo patients. The effects of the psychological state on the disease itself together with the potential therapeutic implications are reviewed. Based on these data, we suggest how to further improve patient management. Psychological interventions such as cognitive behavioral therapy are helpful in improving body image, self-esteem, and QOL of patients with vitiligo and also appear to have a positive effect on the course of the disease. Coping responses are related to the level of self-esteem. Those patients with a positive self-image can cope better with physical disabilities. Aim of the study To determine depression and anxiety in vitiligo patients visiting the dermatology clinic at King Abdul-Aziz hospital in Makkah AlMokarramah in comparison to the normal population. **Method**: A cross-sectional study has been conducted in the dermatology clinic at King Abdul-Aziz hospital in Makkah AlMokarramah during the data collection period using the depression scale and the anxiety scale. **Results:** The majority of the subjects had extremely severe depression by the depression scale and extremely severe anxiety by the anxiety scale. There is a significant negative correlation between socio-demographic data (age, duration) and depression respectively were (r= -0.836, -0.917)and p-value =0.001, Also a significant negative correlation between socio-demographic data(age, duration)and anxiety respectively were(r= -0.816, -0.897)and p-value =0.001. **Conclusion:** Addressing psychosocial factors is an important aspect of the management of vitiligo, particularly in patients from communities where the disease is greatly stigmatizing. In evaluating the psychological impact of vitiligo it is important to consider the patient's life situation including the social support network and the attitude of colleagues and family members as even "mild" disease may greatly distress the patient.

INTRODUCTION

Vitiligo is a ceaseless systemic illness that is portrayed through hypopigmented macules and is brought about by incomplete or entire destruction of melanocytes in the influenced skin (Mechri *et al.,* 2006; Dolatshahi, 2008; Borimnejad *et al.,* 2006). In addition, the specific reason for vitiligo is obscure proof proposes which are different factors, as the immune system, hereditary and ecological variables are engaged with the advancement of this illness. It impacts 0.5–2% of the international population regardless of race and gender (Kostopoulou, 2009; Dell'Anna, 2007). Males and females are influenced in a similar way by vitiligo. Vitiligo is brought by the T-cell intervened demolition of melanocytes. Natural anomalies present in melanocytes likely start aggravation through the actuation of intrinsic resistance.

This irritation leads to the recruitment of T-cells, along with cytotoxic T-cells that are melanocyte-specific, perceiving antigens unequivocally created by melanocytes. These cytotoxic T-cells crush the melanocytes, consequently main to the loss of melanin manufacturing and pigmentation of the overlying keratinocytes (Ogg, 1998; Van Den Boorn *et al.,* 2009; Alikhan *et al.,* 2011) This is showed clinically as white macules and patches of the skin (Radakovic-Fijan, 2001; Dell'Anna *et al.,* 2007) Contingent upon soon it begins more skin will be harmed. Low predominance of vitiligo is seen in Scandinavian nations while Asian, particularly Indians and Middle Eastern are at more risk and serious course of disease (Wa kowicz-Kali ska, 2003). Vitiligo ordinarily influencing the face have huge psychological effects and affect the personal satisfaction of the influenced people. This is because of negative thoughts about their physical appearance, these stipulations may additionally act as a possible barrier to social relationships and reason for social anxiety.

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Vitiligo is a received loss of melanocytes in delineated regions of the epidermis, bringing in whole depigmentation of the affected skin. The degree of the illness ranges from limited, focal sickness to almost complete (universal) pigment loss (Yoshimaru, 2017). Vitiligo patients may suffer an excessive stage of stress and psychiatric diseases, depression anxiety, suicidal thoughts, suicidal attempts, embarrassment, social problems, discomfort, cognitive impairment, embarrassment, and physical limitation had been suggested with vitiligo (Nicolaidou, 2012; Yoon, 2011). Thus, vitiligo impacts the patients' personal satisfaction and quality of life, so associated psychiatric disabilities ought to not be underestimated (Furue, 2016). Vitiligo has been characterized clinically into two major forms vitiligo and segmental vitiligo.

Vitiligo: Earlier known as vitiligo Vulgaris. It is usually asymptomatic, all around encircled, smooth white macules including different body parts, for the most part in a balanced example. May begins at any site of the body, but the face, genitals, fingers, and hands are frequently the initial sites. Subtypes include Acrofacial vitiligo, Vitiligo Universal, Mucosal vitiligo, Mixed vitiligo, and Focal vitiligo.

Segmental Vitiligo (SV): Monosegmental vitiligo is the most common shape of SV. This type manifests as one or more white depigmented macules conveyed on one side of the body, it is unilateral, and does not cross the midline. (some lesions may partly cross the midline) (Khurrum, 2017). The course of segmental vitiligo can arrest, and depigmented patches can persist unchanged for lifetime. So, it classifies as a medical condition that has social and psychological problems which can differ from low confidence to push, stress, anxiety, depression, social phobia, and different issues (van Geel, 2018) Additionally, the occurrence of depression has elevated in Europe, Asia, Africa, and the Middle East in the ongoing years (Chen, 2000). The latest study carried out by Osinubi O et al., the research was done in 2017, a systematic overview and meta-investigation. The researcher reviewed the literature to pick out observational research assessing the occurrence of psychological signs and symptoms or problems amongst vitiligo patients. There are 29 researches with an all-out number 2530 of individuals with vitiligo were distinguished. Most researches measure both depression (n=25) or anxiety (n=13). The most common equipment had been the Hospital Anxiety and Depression Scale and the Center for Epidemiology Studies Depression Scale. Ten researches furnished data on 13 different psychological outcomes. The researchers found that vary of psychological results is frequent in individuals with vitiligo. The occurrence of anxiety was affected by the type of screening device utilized (Osinubi, 2017).

Recent international research was carried out by Lai YC et al., a systemic survey and meta-analysis of observational researches. The research was in 2017; the researcher meant to explore the occurrence and spread of depression among patients with vitiligo. An extensive study of MEDLINE, Embase, and the Cochrane Library was once conducted. Cross-sectional, case-control or cohort studies that evaluated the occurrence of depression among patients with vitiligo or the relationship between vitiligo and depression were incorporated. Moderate-to-high heterogeneity was seen between the researches. Patients with vitiligo were essentially bound to experience through depression. Clinical depression or depressive manifestations can be pervasive, with the real

commonness contrasting relying upon screening tools or, potentially, geographical areas (Lai, 2017). In 2015 in Mumbai India a case-control research was performed by Karia. Sagar et al. The research contrasted 50 vitiligo patients and 50 non-vitiligo non-psychiatric people. 30% of patients in vitiligo group experienced psychiatric issues while just 6% in the control group and the difference was statistically significant. Depression was available in 20% of vitiligo patients, and 8% had anxiousness issues while in control group, anxiousness issues were seen in 4% and none had despondency. It was discovered that vitiligo patients had increasingly psychiatric comorbidities when contrasted with the control group and it had an orientation on their personal satisfaction quality of life as well (Karia, 2015).

Another research directed in 2015 by Ajaykumar Dhage et al. The cross-sectional research carried in a private nursing home, Gulbarga, Karnataka India. Clinically, recognized vitiligo patients in the age group of 18-40 years old ready to participate in the research were incorporated. Patients with the individual, familial, intellectual behavior, substance abuse, and primary depression were prohibited. The benchmark group comprised of age and sex-coordinated people. They had minor skin changes like skin break out, wrinkles, tanning. The research uncovered that Patients who had vitiligo had significant discouragement and their QOL was upset (Dhage, 2015). Another Indian research directed by Shilpa Garg et al. given that Vitiligo profoundly affects the personal satisfaction (QOL) of the patient. Vitiligo influences emotional, physical, social, psychological, and occupational elements of the QOL of a person. A sympathetic and strong specialist understanding collaboration, data in regard to vitiligo, immediate treatment, great social help, psychotherapeutic intercessions, or psychotropic treatment can assist the patient with living with their malady and to deal with the related psychosocial and psychiatric comorbidity (Garg, 2014). Another research performed in Istanbul Turkey by Özlem Devrim Balaban et al. in 2011. The research was cross-sectional with 42 vitiligo patients and 33 control patients not known to have any dermatological or psychiatric illness. The research uncovered that in comparison to wholesome controls, the rate of psychiatric morbidity was higher, and the mean confidence score was lower in the vitiligo group. There was no significant difference between groups about social anxiety. Most of the patients were sufferers who had been mildly disabled. About the vitiligo cases, psychiatric morbidity was discovered progressively in female and youthful members. Anxiety and social avoidance scores adversely associated with age (Balaban, 2011).

Research is done by Luluah Al-Mubarak et al. in 2011 a prospective cross-sectional research at National Center for Vitiligo and Psoriasis, Riyadh Saudi Arabia. An approved Arabic tool of 41 questions was created and used explicitly for this research. Arabic language questions were used to 260 vitiligo patients. Scores were contrasted in connection with demographic, clinical, and social factors in four elements of scale (relationship with associates, household relationship, social relationship, and confidence). The general score of QOL in vitiligo is moderately high, showing a negative effect of the infection on QOL. In females, QOL is essentially more influenced than in males (Al-Mubarak, 2011).

Rationale: Having vitiligo, myself was one of the most important reasons for me to pick up this subject. I had the

disease early in preparatory school and it has been a struggle at first due to the way people look at you and some of them fear communicating with you as it may be contagious. For these reasons mentioned above, I was affected socially and psychologically at first, and as the years go and with great help from my parents, I learned to accept myself and to cope up with such actions from other people toward my illness. From This study, we were been able to determine the prevalence of vitiligo among patients attending the dermatology clinic in King Abdul Aziz hospital in Makkah, their quality of life and explore the psychiatric comorbidities among those patients.

Aim of the study: This study aimed to focus on depression and anxiety in vitiligo patients in comparison to the normal population.

Objectives

) To determine the prevalence of depression and anxiety in patients suffering from vitiligo in the dermatology clinic at King Abdul-Aziz hospital in Makkah, 2018.
) To determine the level of depression and anxiety in patients suffering from vitiligo in the dermatology clinic at King Abdul-Aziz hospital in Makkah, 2018.
) To determine Factors related to depression and anxiety that affect vitiligo patients attending the dermatology clinic at King Abdul-Aziz hospital in Makkah, 2018.

METHODOLOGY

Study Area: The study has been performed in Makkah it is the holy city for all Muslims in King Abdul-Aziz Hospital which is one of the general hospitals in Makkah containing one of the largest Dermatology department in the city. There are very cooperative doctors in the department and the size of the clinics is good to ensure the confidentiality and privacy of patients.

Study population: All vitiligo patients attending dermatology clinic in King Abdul-Aziz hospital in Makkah during the data collection period and accept to participate in the study.

Study design: A cross-sectional study has been conducted to determine depression and anxiety in vitiligo patients attending the dermatology clinic at King Abdul-Aziz hospital in Makkah AlMokarramah during the data collection period.

Eligibility Criteria

Inclusion criteria: All adult vitiligo patients < 17 attending the dermatology clinic in King Abdul-Aziz hospital in Makkah during the data collection period

Exclusion criteria

) Vitiligo patients who refused to participate in the study .
) Vitiligo patients are younger than 17 years of age.
) Patients with language barriers .

Sample size: Using EPI info version 7, the study sample size has been determined based on the following assumptions:

There is no official release the average number of vitiligo patients attending in the vitiligo dermatology clinic. During three weeks there is 30-50 patients. The recommended sample is 58 to detect Depression and Anxiety among vitiligo patients attending dermatology clinics at 95% confidence level, 5% estimation error, and study response rate 50%. Then to compensate for the nonresponses and not completed questionnaires 10% was added to the sample. A total of 62 subjects participated in the study. patients attending the dermatology clinic at King Abdul-Aziz Hospital in Makkah AlMokarramah 2018.

Sampling technique: Because of the small number of vitiligo patients and the limited time for data collection all eligible vitiligo patients have been considered in the study.

Data collection tool

The researcher use depression anxiety and stress scales (DASS 42) which is a validated questionnaire available in multi-languages including Arabic and English. The questionnaire is public domain so it can be used without permission (http://www2.psy.unsw.edu.au/ dass/DASSFAQ. htm#_3.__How_do_I_get_permission_to_use_).   The researcher use depression and anxiety scales only as it is the area of focus in the research. The questionnaire consisted of information about the study, the participant rights {written, informed and consent}. The researcher name and contact informations (phone number, email). It had two parts: the first part consists of personal data and sociodemographic data. The second part has the evaluation of depression and anxiety among vitiligo patients.

Data collection technique: The researcher submited the questionnaire to eligible vitiligo patients attending the dermatology clinic at King Abdul-Aziz hospital in Makkah during the data collection period. The questionnaire had been conducted by the researcher. After that, the researcher collected the questionnaire papers for data entry and analysis.

Study outcomes

Primary outcomes

) To determine depression and anxiety among vitiligo patients attending KAAH in Makkah during the data collection period.
) To determine the level of depression and anxiety among vitiligo among patients attending dermatology clinic in KAAH in Makkah during the data collection period .

Secondary outcome

) To study the relation between the various demographic data such as (education level, positive family history of vitiligo, economic status, age, gender, occupation…) and their effect on quality of life and psychiatric co-morbidities among study population.

Study variables

Dependent variable

-) Depression and anxiety among vitiligo patients.
-) Independent variables:
-) Age
-) Gender
-) Nationality
-) Marital status
-) Education level
-) Occupation
-) Socioeconomic status
-) Duration of disease
-) positive family history of vitiligo

Data entry and analysis

The researcher uses The Statistical Package for Social Sciences (SPSS) program version 24.0V for data entry and analysis with the help of a statistician. (type of variants and tests performed) Significance: the researcher has been selected a P-value equal or less than 0.05 as a level of significance and has been consider results significant if P-value less than 0.05.

Ethical considerations

-) Permission from the joint program of family medicine in Makkah has been obtained.
-) Permission from the research committee in Makkah has been obtained.
-) Permission from the Directorate of Health Affairs of Makkah has been obtained.
-) Written and verbal consent has been obtained from all participants.
-) All information has been confidential and privacy of patients will be considered as much as possible.

Relevance and expectations

-) By conducting this research, has been able to know if there is an association between depression and anxiety and vitiligo patients and the level of impact could be assessed. Afterward, analysis and recommendation regarding the results have been conducted which might help increasing the level of awareness among patients and society regarding the disease itself and its psychological aspects.

Limitations

-) Rare disease, time limitation and few numbers of patients over the data collection period.

Budget

-) Self-Budgeted.

RESULTS

A total of 58 subjects participated in the study out of invited 62 (response rate: 94%). Patients attending the dermatology clinic at King Abdul-Aziz Hospital in Makkah AlMokarramah 2018.

A total of (58) participated in the study. Only (41.4%) of the participants were (20-30) years while (24.1%) were (30-40) and the data ranged from (14to45) by mean +SD (27.431±8.564). (62.1%) were females (37.9%) males. (72.4%) Saudi while (27.6%) non-Saudi. Approximately more than half of participant single (56.9%) and (43.1%) were married. Most of the participants had a preparatory degree and illiterate education were (27.6%), followed by secondary education were (19.0%). (22.4%) were employed in the private sector, followed by (22.4%) Retired and (15.5%) were military sector jobs and finally non-employed were (12.1%). More than half of the personal income (62.1%) had income less than 6000 SR, followed by income 6000-12000SR were (24.1%) while income more than 12000 SR were (13.8%). Only (36.2%) of the subjects in family income had less income than 6000 SR, followed by income more than 12000 SR were (32.8%) while income 6000-12000SR were (31.0%). Only of the participated duration >10 were (37.9%) while duration <5 were (32.8%) and the data ranged from (1 to15) by mean +SD (7.552±4.197).

Regarding the depression scale the majority of the subjects had extremely severe were (34.5%), followed by respectively severe, mild, normal was (24.1%, 17.2%, 12.1%) and the data ranged from (2- 41) by mean +SD (22.328±11.106). Regarding anxiety scale, the majority of the participants in the extremely severe were (44.8%), followed by respectively severe, moderate, normal, moderate were (20.7%, 15.5%, 13.8%) and the data ranged from (2- 39) by mean +SD (19.293±10.372).
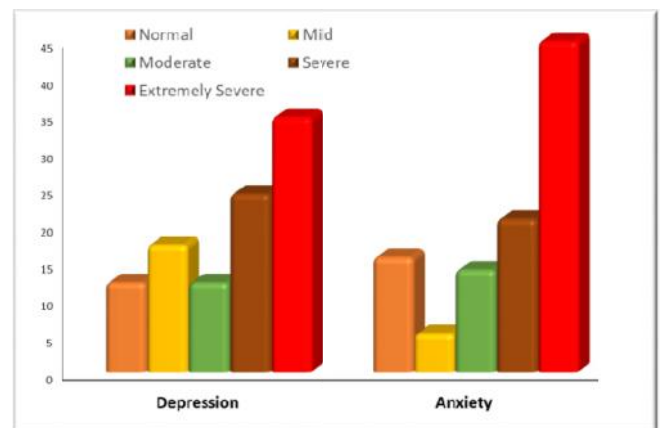

Figure 0-1. Distribution scale of the depression, anxiety

Table 0-2. Correlation between depression and anxiety

Correlations	Depression	
	r	P-value
Anxiety	0.970	<0.001*

Table shows that is a significant positive correlation between depression and anxiety were r= 0.970 and p-value =0.001. Table shows a significant negative correlation between socio-demographic data (age, duration) and depression respectively were (r= -0.836, -0.917) and p-value =0.001. Also shows a significant negative correlation between socio-demographic data (age, duration) and anxiety respectively were (r= -0.816, -0.897) and p-value =0.001. Regarding table; age, results show a significant relationship between depression and age were f=57.554 and P-value=0.001, increase (in <17and 20-30 years than 30-40 and >40 years), the mean +SD respectively were (37.077±4.252, 22.958±7.202 than 15.857±4.294, 5.714±2.059).
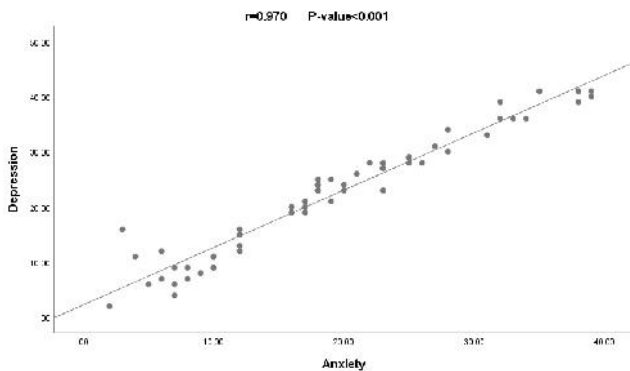
Figure 0-2. Correlation between depression and anxiety

Table (0-3): Correlation between socio-demographic data (age, duration) and depression, anxiety

Correlations	Age		Duration	
	r	P-value	r	P-value
Depression	-0.836	<0.001*	-0.917	<0.001*
Anxiety	-0.816	<0.001*	-0.897	<0.001*

Regarding gender, the table show a significant relationship between depression and gender were t=6.335 and P-value=0.001, increase (in female than male), the mean +SD respectively were (27.889±8.694 than 13.227±8.309). Regarding nationality show a significant relationship between depression and nationality were t=2.587 and P-value=0.012, increase (in Saudi than non-Saudi), the mean +SD respectively were (24.548±11.517 than16.500±7.492). Regarding marital status there is a significant relationship between depression and marital status were t=5.969 and P-value=0.001, increase (in Single than Married), the mean +SD respectively were (28.303±8.907 than 14.440±8.559). About education there is a significant relationship between depression and education were f=25.994 and P-value=0.001, increase (in Postgraduate, secondary, preparatory than primary, illiterate), the mean +SD respectively were (39.400±3.050, 32.455±5.610, 22.938±8.481than19.500 ±7.502, 11.188±5.394). Occupation, Personal and Family income show no significant relationship between depression and occupation, personal and family income were respectively (f=1.530, 0.442, 0.396) and respectively P-value=0.197, 0.645, 0675).

Regarding Duration, shows a significant relationship between depression and duration were t=117.537. and P-value=0.001, increase (in duration <5, then 5-10 and >10), the mean +SD respectively were (33.842±5.728 than 24.765±4.409, 10.500±4.533). Age shows a significant relation between anxiety and age were f=51.306 and P-value=0.001, increase (in <17and 20-30 years than 30-40 and >40 years), the mean +SD respectively were (33.692±5.073, 19.292±6.396 than 12.429±4.894, 6.286±2.289). Also, gender has a significant relation between anxiety and gender were t=6.079 and P-value=0.001, increase (in female than male), the mean +SD respectively were (24.361±8.803 than 11.000±6.838).

Nationality shows a significant relation between anxiety and nationality were t=2.345and P-value=0.023, increase (in Saudi than non-Saudi), the mean +SD respectively were (21.190±11.057 than 14.313±6.172). Marital status shows a significant relation between anxiety and marital status were t=5.191 and P-value=0.001, increase (in Single than Married),

the mean +SD respectively were (24.394±9.811than 12.560 ±6.646). Regarding education, there is a significant relation between anxiety and education were f=26.540 and P-value=0.001, increase (in Postgraduate, secondary, preparatory than primary and illiterate), the mean +SD respectively were (35.800±4.658, 28.818±5.845 and 20.000±7.519 than 15.200±6.957 and 9.438±4.690). Regarding occupation, personal and family income, show no significant relation between anxiety and occupation, personal and family income were respectively (f=1.358, 0.555, 0.851) and respectively P-value=0.255, 0.577, 0.433). Regarding duration has a significant relation between anxiety and duration were t=94.746 and P-value=0.001, increase (in duration <5, then 5-10 and >10), the mean +SD respectively were (30.263±6.514 than 20.647±4.372 and 8.773±3.841).

DISCUSSION

Psychiatric or psychological factors play a role in approximately 30% of dermatological disorders; stress, for example, can affect or exacerbate chronic skin diseases. A total of (58) participated in the study vitiligo patients attending to dermatology clinic at King Abdul-Aziz Hospital in Makkah AlMokarramah 2018. An international multicenter cross-sectional study across 13 European countries found that 10.1% and 17.2% of dermatology patients suffered from depression and anxiety respectively. This study finds that a majority of the patients were female (62.1%) also (41.4%) of the participated were (20-30) years while (24.1%) were (30-40) and the data ranged from (14 to 45) by mean +SD (27.431±8.564) ,the majority of patients (72.4%) were Saudi, the participated duration >10 were (37.9%) the data ranged from 1 to 15 by mean +SD (7.552±4.197). Depression and Anxiety act as a psychosocial stressor in initiating or causing a relapse of skin problems, as many studies have shown that psychological problems can change the skin's immunity [19]. Conversely, depression could be a consequence of dermatological disorders due to their long course and effects on self-esteem and body appearance. All these factors make the skin more sensitive to depression and anxiety.

When stressed, the body releases more cortisol than normal lead to dermatological problems [20]. A similar study reported differences in levels of anxiety and depression between males and females, supported by many epidemiological studies around the world and in SA, which have revealed that women visit dermatological clinics more often than men due to women's greater sensitivity to health-related issues (Nicolaidou, 2012; Yoon, 2011). In the current study depression and Anxiety among vitiligo patients visiting the dermatology clinic at King Abdul-Aziz Hospital in Makkah AlMokarramah 2018, depression scale the majority of the subjects had extremely severe were (34.5%), followed by respectively severe, were (24.1%). The anxiety scale, the majority of the participants in the extremely severe were (44.8%) (Table (3-1)). Were similar to a previous study investigating psychological disorders among dermatology patients (Mechri, 2006). The variation in the prevalence of depression could be due to many factors, such as the diversity of the population and the type of scale. It is unclear whether the cultural factor has an impact on the lower prevalence of depressive symptoms in Arab populations than others. This could be explained by the fact that the Arab population may
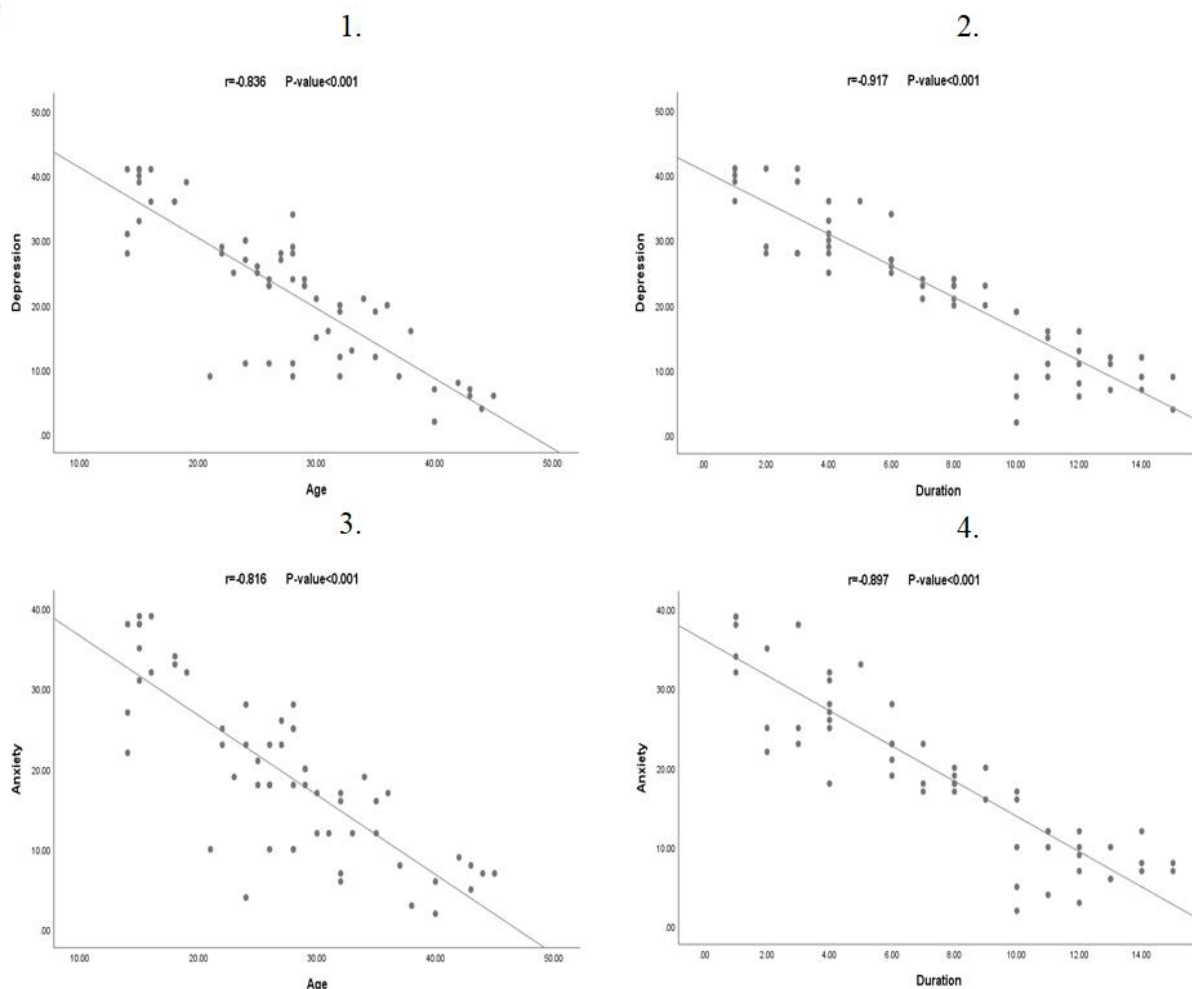
Figure (0-1): Correlation between socio-demographic data (age, duration) and depression, anxiety

Table (3-4): Description of the relation between Socio-demographic data and Depression

Demographic data		No	Depression			F or T	ANOVA or T-test	
			Mean	±	SD		test value	P-value
Age	<17	13	37.077	±	4.252	f	57.554	<0.001*
	20-30	24	22.958	±	7.202			
	30-40	14	15.857	±	4.294			
	>40	7	5.714	±	2.059			
Gender	Female	36	27.889	±	8.694	t	6.335	<0.001*
	Male	22	13.227	±	8.309			
Nationality	Saudi	42	24.548	±	11.517	t	2.587	0.012*
	Non Saudi	16	16.500	±	7.492			
Marital status	Single	33	28.303	±	8.907	t	5.969	<0.001*
	Married	25	14.440	±	8.559			
Education	Illiterate	16	11.188	±	5.394	f	25.994	<0.001*
	Primary	10	19.500	±	7.502			
	Preparatory	16	22.938	±	8.481			
	Secondary	11	32.455	±	5.610			
	Postgraduate	5	39.400	±	3.050			
Occupation	Governmental sector	14	23.143	±	10.618	f	1.530	0.197
	Private sector	13	20.385	±	11.529			
	Military sector	9	20.222	±	9.271			
	Retired	13	26.308	±	10.988			
	Non-employed	7	24.429	±	12.300			
	House wife	2	5.500	±	4.950			
Personal Income	Less than 6000 SR	36	23.194	±	11.691	f	0.442	0.645
	6000-12000SR	14	21.929	±	11.445			
	More than 12000SR	8	19.125	±	7.864			
Family Income	Less than 6000 SR	21	23.476	±	12.081	f	0.396	0.675
	6000-12000SR	18	22.944	±	11.780			
	More than 12000SR	19	20.474	±	9.582			
Duration	<5	19	33.842	±	5.728	t	117.537	<0.001*
	5-10.	17	24.765	±	4.409			
	>10	22	10.500	±	4.533			

Table 0-5. Description of the relation between Socio-demographic data and Anxity

Demographic data		No	Anxiety			F or T	ANOVA or T-test	
			Mean	±	SD		test value	P-value
Age	<17	13	33.692	±	5.073	f	51.306	<0.001*
	20-30	24	19.292	±	6.396			
	30-40	14	12.429	±	4.894			
	>40	7	6.286	±	2.289			
Gender	Female	36	24.361	±	8.803	t	6.079	<0.001*
	Male	22	11.000	±	6.838			
Nationality	Saudi	42	21.190	±	11.057	t	2.345	0.023*
	Non Saudi	16	14.313	±	6.172			
Marital status	Single	33	24.394	±	9.811	t	5.191	<0.001*
	Married	25	12.560	±	6.646			
Education	Illiterate	16	9.438	±	4.690	f	26.540	<0.001*
	Primary	10	15.200	±	6.957			
	Preparatory	16	20.000	±	7.519			
	Secondary	11	28.818	±	5.845			
	Postgraduate	5	35.800	±	4.658			
Occupation	Governmental sector	14	20.143	±	9.046	f	1.358	0.255
	Private sector	13	18.385	±	10.054			
	Military sector	9	16.000	±	9.721			
	Retired	13	22.769	±	11.833			
	Non-employed	7	21.143	±	10.746			
	House wife	2	5.000	±	4.243			
Personal Income	Less than 6000 SR	36	20.056	±	10.910	f	0.555	0.577
	6000-12000SR	14	19.357	±	10.667			
	More than 12000SR	8	15.750	±	7.226			
Family Income	Less than 6000 SR	21	21.048	±	10.773	f	0.851	0.433
	6000-12000SR	18	19.833	±	10.722			
	More than 12000SR	19	16.842	±	9.639			
Duration	<5	19	30.263	±	6.514	t	94.746	<0.001*
	5-10.	17	20.647	±	4.372			
	>10	22	8.773	±	3.841			

not prefer to discuss or explore their mental illness, and the stigma of psychological illness may contribute to this result (Chen, 2000). Prevalence rates of depression, anxiety, and stress among Saudi Arabian dermatological patients in the current study were similar to a previous study investigating psychological disorders among dermatological patients (Mechri, 2006). However, other local studies have reported much higher rates of depression and anxiety in dermatological patients (Nicolaidou *et al.,* 2012; Yoon, 2011; Furue, 2016). One possible reason for this discrepancy in prevalence rates may be the use of different assessment tools. For example, the study conducted in the Qassim region used the Beck Depression Scale, while the current study used scales (DASS 42) (Alharbi, 2019).

Mina et al, reported differences in levels of anxiety and depression between males and females. Shows a significant positive correlation between depression and anxiety were r= 0.970 and p-value =0.001 also shows a significant negative correlation between socio-demographic data (age, duration) and depression respectively were (r= -0.836, -0.917) and p-value =0.001, a significant negative correlation between socio-demographic data (age, duration) and anxiety respectively were (r=-0.816, -0.897) and p-value = 0.001 (Table (3-2),Table (3-3)). These results are supported by different studies, such as observing a negative relation between age and depression and anxiety for both lifetime and 12 month depression after adjusting for some socio-demographic factors using logistic regression technique. These results are consistent with some previous findings (Alharbi *et al.,* 2019; Lai , 2017) which rule out some older relations between age and depression is U-shaped with the lowest reported levels of depression and anxiety at ages 45–49 (Al Alawi, 2018).

Some studies have revealed that the highest prevalence of depression and anxiety is frequently seen in cases with severe forms of vitiligo and severe psoriasis compared to other skin disorders (Karia, 2015). Patients with psoriasis may also exhibit comorbidities that raise the risk of developing depression and anxiety (Dhage, 2015). which considerably influence their lives and may lead to stigmatization and isolation from social relations, thereby increasing the risk of depression and anxiety (Garg, 2014). The findings of this analysis illustrate that despite changes in the overall demographics of the KSA population, the prevalence rates of depression remain consistent with previous Canadian and American epidemiological surveys. This study has further described the current distribution of depression and anxiety based on age, gender, nationality, marital status, education, and income.

The current study also assessed whether Depression and Anxiety among vitiligo patients visiting the dermatology clinic at King Abdul-Aziz Hospital in Makkah AlMokarramah 2018. A significant relation between the Socio-demographic and the presence of depression, anxiety. Socioeconomic status, as indicated by education and income, also showed significant association with depression. In a multivariate analysis using logistic regression analysis, these variables showed strong relationships with depression. Nevertheless, it remains important to target programs for those at the lowest income level, and people who are divorced or separated. In the light of this analysis, individuals who live with partners need special attention (Table (3-4),Table (3-5)). However, the age-specific rates indicate that gender differences diminish with age and there is virtually no difference at age 75+ which agrees with Gutiérrez-Lobos et al (Gutiérrez-Lobos, 2002).

The relation between depression and marital status is highly significant. While our analysis confirms previous reported patterns for depression based on marital status, one notable difference emerged. The prevalence of depression in individuals living common-law was similar to that of separated and divorced individuals, not married individuals, with whom they are most often grouped in other studies, including the recent report using the same data set for all Canada. Some studies have revealed, similar study the prevalence of depressive symptoms was almost similar to another local study, which was conducted in a dermatology clinic in Riyadh, which revealed a prevalence of 12.6% (Mleeh *et al.,* 2019). Conversely, the percentage of depression in this study was less compared to studies conducted in Oman (24%) (Osman, 2015), Sudan (22%) (Al Alawi, 2018). Outside the Arabic-speaking populations, the prevalence seems to be substantially higher, ranging from 23% to 62.3% (DASS FAQ, 2017).

Conclusion

This study has provided a news of the prevalence of depression and anxiety among vitiligo patients visiting the dermatology clinic at King Abdul-Aziz Hospital in Makkah AlMokarramah. While this is not very different from what has been found before, we have provided details of subgroups of the population who are at more risk for depression and anxiety. These findings are potentially important. The results show significant relationships between depression and different socio-demographic factors. Vitiligo influenced conjugal, sexual coexistence, and closeness. This produces mental troubles and upsets in social relationships and makes an awful pressure vitiligo cycle. Among vitiligo cases, psychological problems were discovered increasingly in youthful members and higher in patients having depigmented patches on uncovered body regions. Vitiligo and skin disorders patients had more social nervousness, tension, isolation, and despondency. Finally, the study produced that factors (age, gender, marital status, and level of education) were independent variables for depression and anxiety. Assessment of the psychosocial morbidity might be important in all vitiligo and skin disorders patients.

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