CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.2549689

Available online at: http://www.iajps.com ***Research Article***

PREVALENCE OF DEPRESSION AND ANXIETY DISORDERS IN SYSTEMIC LUPUS ERYTHEMATOUS WOMENS IN SAUDI ARABIA ,2018.

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Abstract :

Background: *Systemic lupus erythematous consider as most common systemic autoimmune worldwide after rheumatoid arthritis. SLE patients at high risk to develop neuropsychic manifestation most commonly depression and anxiety. There is different contributing factor that lead to develop depression and anxiety in SLE patients. This study aimed to assess the prevalence of depression and anxiety in SLE patient as well as assess the relationship between fatigue, life satisfaction, and relationship satisfaction in incidence of depression and anxiety in SLE patient.*

Methods: *A prospective cross-sectional study was carried on SLE patients through one of the supportive group meetings in Saudi Arabia. The study was conducted during the period of August 2018 till September 2018.The study population includes Saudi living females between age group 15 and 60 years old. Males patient were excluded in this study. Non-probability consecutive sampling technique was considered in this survey to recruit all eligible patients consecutively within the data collection period. It's included all subjects that were available and accessible.*

Results: *There were 103 women diagnosed with SLE had been included in this study. The prevalence of depression revealed 82 yielding an overall percentage 79.6% while the prevalence of anxiety revealed 70 accounted for 68%. fatigue has significant relationship on both depression (p-<0.001) and anxiety (p-<0.001). There was significant difference found on relationship satisfaction for both depression (p-0.038) and anxiety (p-0.008). Strong positive relationship found at life satisfaction for both depression and anxiety where mean score was both higher on not depressed and not anxious.*

Conclusions: *Based on the results, we found significant relationship between fatigue, relationship satisfaction and life satisfaction for both depression and anxiety. However, no significant relationship found between age group, marital status, educational level and monthly income. A replication of this study discipline involving multi-center or bigger population is highly encourage in order to better understand the prevalence of depression and anxiety of SLE patient as well as the relationship between fatigue, life satisfaction, and relationship satisfaction in SLE patients.*

Keywords: *Depression, Anxiety, SLE, Fatigue, Life satisfaction, Relationship satisfaction.*

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Please cite this article in press Ala'a Al-Hammad et al., ***Prevalence of Depression And Anxiety Disorders In Systemic Lupus Erythematous Womens In Saudi Arabia ,2018.,*** *Indo Am. J. P. Sci, 2019; 06(01).*

INTRODUCTION:

Systemic lupus erythmatous consider as most common systemic autoimmune worldwide after rheumatoid arthritis, there is wide geographical, ethnic, and race variation of incidence and prevalence of SLE, the highest worldwide prevalence of SLE were in North America 241/100 000 people. While the lowest prevalence was in Northern Australia (0 cases in a sample of 847 people). [1] While in Saudi Arabia, study done in Al-Qaseem , central region of Saudi Arabia prevalence of SLE was estimated to be 19.28 per 100,000 population in the region. [2] Systemic lupus erythematosus SLE is a chronic autoimmune disease that affect variable tissues and organs producing broad spectrum of signs and symptoms. [3-4] Systemic lupus erythematosus SLE characterized by microvascular inflammation that lead to producing numerous autoantibodies, particularly antinuclear antibodies (ANA). [3] Two classification Criteria have been used to diagnose patients with SLE. ACR American College of Rheumatology and SLICC Systemic lupus international collaborating clinics. Four of eleven criteria needed to make the diagnosis in the former one, while four of seventeen criteria in the latter one. Patients with systemic lupus erythematous can be presented with general symptoms including fever, malaise, arthralgias, myalgias, headache, and loss of appetite and weight. Since there are some general symptoms that are common in lupus patient and other autoimmune disease as well as other medical conditions such as disturbing thyroid function and some of psychiatric disease such as depression, for that reason, the diagnosis of the SLE from other autoimmune disease is challenging for most of rheumatologist. [7] Lupus patients may encounter wide variety of neuropsychiatric symptoms range from the most common such as headache, mood disorders till the less common such as psychosis and myelopathies. Neuropsychiatric manifestation of systemic lupus erythematous remains a clinical dilemma for rheumatologist and psychiatrist in either diagnostic or therapeutic. [8-10] Depression and anxiety are two most common psychological manifestations in systemic lupus erythematous patients. [11] Study has been done showed that SLE patients were two times higher prevalence of depression and anxiety than general population. [12] Study was done in Three hundred twenty-six SLE women conclude that 47% diagnosed with major depression disorder, 24% were diagnosed with specific phobia , 16% were diagnosed with panic disorder, and 9% were diagnosed with obsessive-compulsive disorder.[12] The variation of prevalence of depression and anxiety results from the methods of defining depression and anxiety. Based on clinical interview in meta-analysis study was reported that prevalence of major depression and anxiety were 24% and 37% respectively. [13] Depression and anxiety in lupus patients influenced by many factors including: Duration of disease, relationship satisfaction, and fatigue severity scale. [14] It has been proven the importance of social support, both familial and non-familial will prevent from depression, however there was clear correlation between relationship satisfaction and depression. [15] Life satisfaction revels as difference between one's own plan and assumptions and what the real achievement is. Study done in 83 patients to assess the influence and correlation between life satisfaction and clinical manifestation of SLE, conclude that Systemic lupus erythematous incurable disease which has influence of life satisfaction which in turn influence on clinical manifestation and activity of disease especially in neuropsychiatric and renal manifestation with p value = 0.04. [16] on the other hand , study done in Finnish adults in 15-year prospective cohort study with number of sample : 9679, aged between 18-45 . the aim of that study was to assess longitudinal relationship between life satisfaction and depression in healthy adults conclude that there is strong linear relationship between life satisfaction and developing depressive symptoms with p value: 0.001, however, low life satisfaction also indicates an elevated risk of other adverse health outcomes. 17Although fatigue is considered as subjective and nonspecific characteristic in SLE patients, it's clinically important and consider as most common symptoms of patients with SLE. to assess the correlation between fatigue and depression using to Hospital Anxiety and Depression Scale, there was relationship between fatigue and depression with p value = 0.01.18 The Primary objective of this study is to assess the prevalence of depression and anxiety in SLE patients. Secondary objectives are to assess the relationship between relationship satisfaction, life satisfaction and fatigue in correlation with depression and anxiety.

MATERIALS AND METHODS:

A prospective cross-sectional study was carried on SLE patients through one of the supportive group meetings in Saudi Arabia. The study was conducted during the period of August 2018 till September 2018.The study population includes Saudi living females between age group 15 and 60 years old. Males patient were excluded in this study. Total of 103 women was participated in the study. Non-probability consecutive sampling technique was considered in this survey to recruit all eligible patients consecutively within the data collection period. It's included all subjects that were available

and accessible. The study approval had been obtained from the college of medicine, King Faisal University's Research Ethics committee.

DATA COLLECTION:

Data were collected using electronic self-administrated questionnaire distributed electronically through online supporting groups of SLE patients. The scales on this questionnaire were reviewed validity, then translated into Arabic.

QUESTIONNAIRE:

Questionnaire will include six parts, first of all, sociodemographic profiles of patients including: age, gender, nationality, level of education, Marital status, monthly income, years of diagnosis and medication compliance. Second part regarding fatigue severity scale, Fatigue severity scale is a short form evaluation includes 9 items for evaluation of fatigue severity and it's recommended for research purpose for evaluation of SLE patients.15 9 items questionnaire with questions related to fatigue interferes with patient's activity, scale from 1 to 7 most be chosen with 1 = strongly disagree and 7 strongly agree. the cut of is 36 where more than 36 consider as sever fatigue. (Table 1).

(Table 1): The fatigue Severity Scale

The fatigue Severity Scale
Items 1. My motivation is lower than I am fatigued. 2. Exercise brings on my fatigue. 3. I am easily fatigued. 4. Fatigue interferes with my physical functioning. 5. Fatigue causes frequent problems for me. 6. My fatigue prevents sustained physical functioning. 7. Fatigue interferes with carrying out certain duties and responsibilities. 8. Fatigue is among my three most disabling symptoms. 9. Fatigue interferes with my work, family, or social life.
*Individuals choose a number from 1 to 7 (Where 1= strongly disagree and 7= strongly agree). Scale is copyrighted and reproduced with permission.

Third part is relationship assessment scale, which is 7 items according to Portuguese experimental version from Mesquita, Barbosa, & Figueiredo-Braga, 2014. These 7 items with 5-point scale to measure and assess relationships satisfaction. Unmarried women were excluded. it's 7 items questionnaire were can be chosen from 1 equal very low and 5 equals very high. The score calculated: sub of items and divided by 7 to get the mean score, items 4 and 7 are reverse scored. Table 2

Table 2: Relationship assessment scale

	Low				High
1. How will does your partner meet your needs?	1	2	3	4	5
2. In general, how satisfied are you with your relationship?	1	2	3	4	5
3. How good is your relationship compared to most?	1	2	3	4	5
4. How often do you wish you hadn't gotten into this relationship?	1	2	3	4	5
5. To what extend has your relationship met your original expectations?	1	2	3	4	5
6. How much do you love your partner?	1	2	3	4	5
7. How many problems are there in your relationship?	1	2	3	4	5

Forth part is life satisfaction scale, Adapted from Fugl-Meyer AR, Branholm IB, and Fugl-Meyer KS, Happiness and domain-specific life satisfaction In adult northern Swedes it composed of 9 items questionnaire. assessing the overall life satisfaction. Score from 1 to 6 . 1 = very dissatisfying and 6 = very satisfying. For items 6 and 7, score 0 for unmarried women. Table 3

Table 3: Life-Satisfaction Questionnaire-9 (LISAT-9)

How satisfactory are these different aspects of your life? Indicate the number which best suits your situation.
1. Life as a whole 2. My ability to manage my self-care (dressing, hygiene, transfers, etc.) is 3. My leisure situation is 4. My vocational situation is 5. My financial situation is 6. My sexual life is 7. My partnership relation is 8. My family life is 9. My contacts with friends

Fifth part is Depression screening, PHQ9 which is Patient Health Questionnaire (PHQ-9) for screening depression and it consists of 9 items.[16] Table 4 . Score from 0 to 3. where 0 = not at all and 3 + nearly every day. Interpretation score as following: Score (0-4) : None , Score (5-9) : Mild depression , Score : (10-14) : moderate depression , score : (15-19) : moderately sever depression , Score : (20-27) : Sever depression.

Table 4 : Patient Health Questionnaire (PHQ-9) for screening depression

	Not at all	Several days	More than half the days	Nearly every day
1) Little interest or pleasure in doing things.	0	1	2	3
2) Feeling down, depressed, or hopeless.	0	1	2	3
3) Trouble falling or staying asleep, or sleeping too much.	0	1	2	3
4) Feeling tired or having little energy.	0	1	2	3
5) Poor appetite or overeating.	0	1	2	3
6) Feeling bad about yourself or that you are a failure or have let yourself or your family down	0	1	2	3
7) Trouble concentration on things, such as reading the newspaper or watching television.	0	1	2	3
8) Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual.	0	1	2	3
9) Thoughts that you would be better off dead or of hurting yourself in some way.	0	1	2	3

Sixth part is DSM-V criteria specially for diagnosis generalized anxiety disorder, it consists of 6 items to diagnose GAD. In addition to that, GAD-7 which is generalized anxiety disorder for screening anxiety and it consists of 7 items for evaluation of anxiety in last two weeks. Where 0 = not at all and 3 = nearly every day Table 5

Table 5: Generalized anxiety disorder scale (GAD-7)

Over the last two weeks, ow often have you been bothered by the following problem?				
	Not at all	Several days	More than half the days	Nearly everyday
1) Feeling nervous, anxious or on edge.				
2) Not being able to stop worrying.				
3) Worrying too much about different things.				
4) Having trouble relaxing.				
5) Being so restless it is hard to sit still.				
6) Becoming easily annoyed or irritable.				
7) Feeling afraid as if something awful might happen.				

STATISTICAL ANALYSIS METHOD:

Statistical Packages for Social Sciences (SPSS) version 21 has been used to analyze all the data for this project. To measure the prevalence of depression and anxiety disorders of SLE among women, a questionnaire composed of 5 parts had been utilized. The validated sets of questionnaires were as follows; the fatigue severity scale, [15] relationship assessment scale which is 7 items (according to Portuguese experimental version from Mesquita,

Barbosa, & Figueiredo-Braga, 2014), Life satisfaction scale, [17] Depression screening which is Patient Health Questionnaire (PHQ-9), [16] and the General Anxiety Disorder (GAD-7). [18] On assessment of fatigue severity scale which includes 9 items for evaluation of fatigue severity and it's recommended for research purpose for evaluation of SLE patients. [15] 9 items with questions related to fatigue interferes with patients activity, scale from 1 to 7 must be chosen with 1 classified as "strongly disagree" to 7 as "strongly agree." The cutoff point was 36 where more than 36 considered as severe fatigue. On the measurement of relationship satisfaction scale which comprised of 7 items (according to Portuguese experimental version from Mesquita, Barbosa, & Figueiredo-Braga, 2014) where an answer of 1 classified as "very low" and answer of 5 classified as "very high." The score calculated: sub of items and divided by 7 to get the mean score, items 4 and 7 are reverse scored. Unmarried women were excluded. On the evaluation of life satisfaction scale which composed of 9 items questionnaire. Score from 1 to 6 where the answers option were 1 considered as "very dissatisfying" to 6 which was considered as "very satisfying." For items 6 and 7, score 0 for unmarried women. Life-Satisfaction Questionnaire-9 (LISAT-9) was adapted from adapted from Fugl-Meyer and colleagues. [17] The score calculated: sub of items and divided by 9 to get the mean domain score.On assessment of depression, Patient Health Questionnaire (PHQ-9) [16] has been used and it consists of 9 items where the answer options were 0 as "not at all" to 3 as "nearly every day." A possible score range from 0 – 27 were generated.On measuring for diagnosis of generalized anxiety disorder, we used GAD-7 which is generalized anxiety disorder for screening anxiety and it consists of 7 items for evaluation of anxiety for the last two weeks. [18] Where the answer options were 0 as "not at all" to 3 as "nearly every day." A possible score range from 0 – 27 were generated. Both descriptive and inferential statistics had been conducted where numbers and percentages were used to presents all categorical variables and mean ± standard deviation were used to summarize all continuous variables. A p-value cut off point of 0.05 at 95% CI used to determine statistical significance. The analyses measure the relationship between socio-demographic and mental disorder indicators among depression and anxiety group of SLE patients by using chi-square test as well as independent t-test.

RESULT:

There were 103 women diagnosed with SLE had been included in this study. Age range was from 15 – 60 years old of which 22 (21.4%) were in the age group of 15 – 25 years old, 49 (47.6%) were in the group of 26 – 35 years old and 32 (31.1%) were in the age group of more than 35 years of age. Nearly all patients were Saudis (95.1%) with only 5 patients were non-Saudis. Majority of the women came from Central region (41.7%), 22.3% were came from Eastern region, 17.5% from Western region, 13.6% from Southern region and 4.9% from Northern region. More than half (55.3%) of the patients were married while 44.7% were unmarried. 57.3% of them were university graduate as opposed to high school or below with 42.7%. Regarding monthly income expressed in SAR, more patients were having an income of less than 5,000 with 67%, 12.6% were having 5,000 – 9,999 monthly income and 20.4% were having 10,000 or more monthly income. In the duration when diagnosed with SLE, there were 8.7% with less than a year duration, 21.4% with the duration of 1 – 5 years, 31.1% with the duration of 6 – 10 years, 19.4% were having duration of 11 – 15 years and 19.4% were having duration of more than 15 years. Almost all of them were in medication compliance. Few of the patients were known to have psychiatric illness (9.7%) with 19.4% were having family history of it while 14.6% were known to have family history of SLE and 32% were known to have family history of rheumatological disease (Table 6).

Table 6: Socio demographic characteristics of patients

Study Variables	N (%) (n=103)
Age group in years	
• 15 – 25 years old	22 (21.4%)
• 26 – 35 years old	49 (47.6%)
• >35 years old	32 (31.1%)
Nationality	
• Saudi	98 (95.1%)
• Non-Saudi	05 (04.9%)
Region	
• Central region	43 (41.7%)
• Eastern region	23 (22.3%)
• Western region	18 (17.5%)
• Southern region	14 (13.6%)
• Northern region	05 (04.9%)
Social Status	
• Unmarried	46 (44.7%)
• Married	57 (55.3%)
Educational level	
• High school or below	44 (42.7%)
• University	59 (57.3%)
Monthly income (SAR)	
• <5,000	69 (67.0%)
• 5,000 – 9,999	13 (12.6%)
• ≤10,000	21 (20.4%)
Duration when diagnosed with SLE	
• Less than a year	09 (08.7%)
• 1 – 5 years	22 (21.4%)
• 6 – 10 years	32 (31.1%)
• 11 – 15 years	20 (19.4%)
• More than 15 years	20 (19.4%)
Medication compliance	
• Yes	99 (96.1%)
• No	04 (03.9%)
Are you known to have psychiatric illness?	
• Yes	10 (09.7%)
• No	93 (90.3%)
Family history of psychiatric illness	
• Yes	20 (19.4%)
• No	83 (80.6%)
Family history of SLE	
• Yes	15 (14.6%)
• No	88 (85.4%)
Family history of rheumatological disease	
• Yes	33 (32.0%)
• No	70 (68.0%)

The prevalence of depression, anxiety and mental disorder indicators had been elaborated at table 7. Based on the

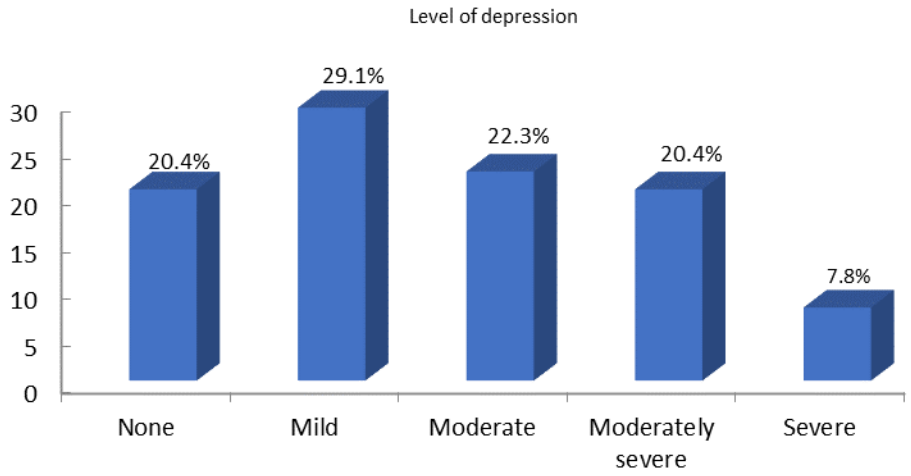
results, the mean of depression was 10.2 (SD 6.6) with an overall prevalence of depression revealed 82 yielding an overall percentage of 79.6% while the mean of anxiety shows 8.2 (SD 5.9) with an overall prevalence of anxiety revealed 70 accounted for 68%. The mean value of fatigue was 42.8 (SD 13.3) while the mean value of relationship satisfaction was 3.2 (SD 0.6) and the mean domain score of life satisfaction was 3.8 (SD 1.1).

Table 7: Prevalence of depression, anxiety and mental disorder indicators

Mental Disorder Indicators	N (%) (n=103)
Depression (mean ± SD)	10.2 ± 6.6
• Depressed	82 (79.6%)
• Not depressed	21 (20.4%)
Anxiety disorder (mean ± SD)	08.2 ± 5.9
• Anxious	70 (68.0%)
• Not anxious	33 (32.0%)
	Mean ± SD
Fatigue	42.8 ± 13.3
Relationship satisfaction †	03.2 ± 0.6
Life satisfaction	03.8 ± 1.1

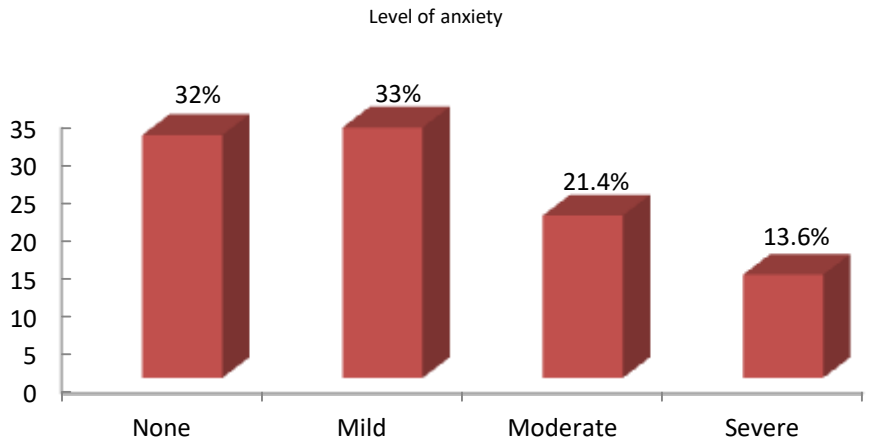
Level of depression revealed, 29.1% of the patients were having mild depression, followed by moderate depression with 22.3%, next moderately severe with 20.4 severe depression while on the hand 20.4 of them were without depression (Figure 1).

Figure 1: Distribution of level of depression



The distribution of level of anxiety shows, mild with 33%, followed by moderate with 21.4% and 13.6% were severe while 32% had no indication of anxiety (Figure 2).

Figure 2: Distribution of level of anxiety disorder



We used chi-square test as well as independent t-test at table 8 to evaluate the relationship between socio demographic and mental disorder characteristics among depression and anxiety group of patients with p-values which indicates whether the relationship is statistically significant where p-≤0.05 were used as the significant level for all statistical tests. Based on the results, socio demographic variables such as; age group in years, marital status, educational level and monthly income were having no significant relationship on both depression and anxiety disorder. On the other hand, fatigue has significant relationship on both depression (p-<0.001) and anxiety (p-<0.001) where the mean score of fatigue in depressed was relatively higher compared to not depressed while in anxiety also shows mean score of fatigue was higher an anxious as opposed to not anxious. There were significant difference found on relationship satisfaction for both depression (p-0.038) and anxiety (p-0.008) where the mean score was relatively closed for both groups of depression and anxiety. Strong positive relationship found at life satisfaction for both depression and anxiety where mean score was both higher on not depressed and not anxious.

Table 8: Relationship between depression and anxiety disorder among socio demographic and mental health characteristics of SLE patients

Factor	Depression		Anxiety	
	Depressed N (%) (n=82)	Not Depressed N (%) (n=21)	Anxious N (%) (n=70)	Not anxious N (%) (n=33)
Age group in years				
• 15 – 25 years old	16 (19.5%)	06 (28.6%)	16 (22.9%)	06 (18.2%)
• 26 – 35 years old	39 (47.6%)	10 (47.6%)	30 (42.9%)	19 (57.6%)
• >35 years old	27 (32.9%)	05 (23.8%)	24 (34.3%)	08 (24.2%)
P-value [a]	*0.580*		*0.372*	
Marital Status				
• Unmarried	37 (45.1%)	09 (42.9%)	32 (45.7%)	14 (42.4%)
• Married	45 (54.9%)	12 (57.1%)	38 (54.3%)	19 (57.6%)
P-value [a]	*0.852*		*0.754*	
Educational level				
• High school or below	34 (41.5%)	10 (47.6%)	28 (40.0%)	16 (48.5%)
• University	48 (58.5%)	11 (52.4%)	42 (60.0%)	17 (51.5%)
P-value [a]	*0.611*		*0.417*	
Monthly income (SAR)				
• <5,000	54 (65.9%)	15 (71.4%)	47 (67.1%)	22 (66.7%)
• 5,000 – 9,999	11 (13.4%)	02 (09.5%)	09 (12.9%)	04 (12.1%)

• ≤10,000	17 (20.7%)	04 (19.0%)	14 (20.0%)	07 (21.2%)
P-value [a]	*0.860*		*0.987*	
Fatigue	45.8 ± 12.1	30.5 ± 10.7	47.5 ± 11.8	32.4 ± 10.2
P-value [b]	*<0.001* ***		*<0.001* ***	
Relationship Satisfaction †	03.1 ± 0.6	03.5 ± 0.6	03.0 ± 0.6	03.5 ± 0.5
P-value [b]	*0.038* *		*0.008* **	
Life Satisfaction	03.6 ± 1.0	04.6 ± 1.1	03.5 ± 1.1	04.6 ± 0.8
P-value [b]	*<0.001* ***		*<0.001* ***	

[a] P-value has been calculated using chi square test. * Significant at p≤0.05 level. ** Significant at ≤0.01 level. *** Significant at ≤0.001 level.
[b] P-value has been calculated using independent t-test. † Excluded 46 single patients.

DISCUSSION:

In this study 104 participant was involved. 1% was the male and 99% was female and this is due to certain reasons, first: Systemic lupus erythematosus is more common in female than males, male to female ratio 1:10. Second, the supportive group mainly involved female rather than males, males are more seeker to word the health care providers rather than social and supporting groups. Depression and anxiety are the most common neuropsychiatric manifestation in SLE patients. This is due to biological background of SLE disease itself and inflammatory cascade that plays a role in the onset of depression and anxiety as well as some medication side effects such as Corticosteroids and immune suppressive therapy. On the other hand, different personality's as well as chronicity of the illness play an important value in the onset of depression and anxiety. In this study, the prevalence of depression in SLE patients estimated to be 79.6% around 82 participants with variable degree of depression compared to 20.4% around 21 participants as non-depressive according to PHQ-9 criteria for screening depression. On the other prevalence of anxiety in SLE patients estimated to be 68% with variable degree of anxiety around 70 participants compared to non-anxious 32% around 33 participants. Distribution of level of depression as following: 21% of the patients were having mild depression, followed by moderate depression with 22.3%, next moderately severe with 20.4 severe depression while on the hand 20.4 of them were without depression. The importance of this knowledge is that it is helpful in psychiatrist management to improve the quality of life, on the other and there is 20% of patients that they in need to emergent help and intervention for protect their life and enhance the life safety for them. While in anxiety, The distribution of level of anxiety shows, mild with 33%, followed by moderate with 21.4% and 13.6% were severe while 32% had no indication of anxiety this is valid in the knowing that mild anxiety can mixed between somatic and psychiatric point of view , and as much as we correct the psychiatric and mental health , it will be followed by somatic improvements. Regarding the Relationship between depression and anxiety disorder among socio demographic and mental health characteristics of SLE patients Based on the results, socio demographic variables such as; age group in years, marital status, educational level and monthly income were having no significant relationship on both depression and anxiety disorder. Though there are clinically significant differences between some parameters and depression and anxiety. For example, regarding age group we found that higher prevalence of depression and anxiety in the age group of 26-35 years. The prevalence of depression in this age group estimated to be 47.6% around 39 participants compared to 47% non-depressed around 10 participants. As well as prevalence of anxiety in SLE patient in this age group estimated to be 42.9% around 30 participants compared to 57.6% around 19 participants non-anxious. This due to functional age as well as pre-marriage age in our culture increase the risk of anxiety and depression. Married patient's had higher prevalence of depression and anxiety compared of unmarried. The prevalence of depression in married 54.9% with 45 participants compared to 45.1% in around 37 participants. While anxiety, the prevalence of anxiety in married 54.3% in around 38 participants compared to 45.7% in 32 participants un married. This is due to leak of health and mental awareness regarding the disease and how to cope with being lupus patients, difference in personality as well as higher expectation of marriage in our culture play a role in being un satisficed in their relationship. Higher educational patient's had higher prevalence of depression and anxiety compared to high school education or below. The prevalence of depression in SLE patients in higher educational level patients estimated to be 58.5% around 48 participants compared to 41.5% of high school educational level and below 41.5% around 34 participants. This is due to as long as there is higher level of medical, physical, social, and mental awareness of SLE there will be higher level of depression and anxiety of medical complication, physical impairment, social problems

and mental comorbidities. On the other hand, fatigue has significant relationship on both depression (p-<0.001) and anxiety (p-<0.001) where the mean score of fatigue in depressed was relatively higher estimated to be 45.8 which is consider as sever fatigue "cut off point 36" compared to not depressed estimated to be 30.5 ,while in anxiety the mean score of fatigue was higher estimated to be 47.5 an anxious compared to not anxious estimated to be 32.4. This is due to SLE as a disease, fatigue consider as the most common symptoms although it's subjective and not specific but systemic disease with major organ involvement have a positive backflow on general physical well-being along with other comorbidities such as anemia and other autoimmune disease that may be encounter in SLE patients as overlap. Mental illness should consider also, as fatigue maybe due to early symptoms of anxiety and depression disorders. Regarding relationship satisfaction, there were significant difference found on relationship satisfaction for both depression and anxiety estimated p value was 0.038 and anxiety estimated p value was 0.008. This is due to leak of physical, medical, and psychological and social supports mainly from partners. Being married to SLE patient is highly commitment, to be aware of all possible consequences as well as possibility of recurrent abortions, post-partum complications and fetal death. On the other hand, dealing with different pattern of personality with high marriage expectations effect of relationship satisfaction. Also, strong positive relationship found at life satisfaction for both depression and anxiety with estimated p value to be 0.001 in both depression and anxiety. This is due to, being lupus patient is destiny, it's affected general well-being as well as mental health, it's the one's decision either way to continue their lives but it has to be some drooped plan, some expectations that was not goes as planned. They are scarified themselves to survive, to avoid failure, to be what meant to be. It's not easy for them to be satisfied in their lives especially if they were not accepting the fact of being Lupus patient, chronic patient, physical and psychosocial impairment. This paper also assessed the relationship between socio demographic and mental health characteristics of SLE patients. Based on the results, we found significant relationship between fatigue, relationship satisfaction and life satisfaction for both depression and anxiety. However, no significant relationship found between age group, marital status, educational level and monthly income. Based on their findings, they also failed to prove the relationship between demographic data from the two groups of patients (with and without depression) which were identical to our study outcome.

RECOMMENDATION: A replication of this study discipline involving multi-center or bigger population is highly encourage in order to better understand the prevalence of depression and anxiety of SLE patient as well as the relationship between fatigue , life satisfaction , and relationship satisfaction in SLE patients.

ACKNOWLEDGEMENT: we would like to thank my colleague Dr.Abdullatif Alrashed , clinical microbiologist in KFUH for his great assistance with this study.

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