

## Biopsychosocial Needs among Patients with Systemic Lupus Erythematosus

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### Abstract

**Background:** Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that affects different body organs and causes extensive and serious complications that lead to damage to the connective tissues, blood vessels, and membranes. **Aim of the study:** This study aimed to assess the biopsychosocial needs among patients with systemic lupus erythematosus. **Research design:** A descriptive exploratory research design was utilized to achieve the aim of the present study. **Subject:** A purposive sample of 90 adult patients with SLE was included in this study. **Setting:** The current study was carried out in special medicine department at El Fayoum university hospital. **Tools of data collection:** (1) Patient interview questionnaire. (2) Biopsychosocial needs assessment tool. **Results:** The results of this study revealed that 22.2% of patients had a moderate level of dependency, 20% showed a mild level of dependency in performing activities of daily living, 48.8% of patients had extremely severe level of depression, 55.6% of patients had anxiety and 33.3% suffer from stress and 73.3% of patients had no social dysfunction. **Conclusion:** It was concluded that less than one quarter of patients had able to perform activity of daily living with mild and moderate dependency, nearly half of patients under study had extremely severe depression and more than half of them had extremely severe anxiety. While one third of patients had extremely severe stress, approximately three quarters of patients under study had no social dysfunction. While, few of the studied patients had mild and moderate social dysfunction. **Recommendations:** Regular follow up for patients with SLE to evaluate their health conditions and to detect complications early. Further studies are needed to assess factors affecting biopsychosocial problems of patient with SLE.

**Key words:** Biopsychosocial needs –Systemic lupus erythematosus.

### Introduction:

Systemic lupus erythematosus (SLE) is a multisystem autoimmune disease associated with the presence of pathogenic autoantibodies and the overexpression of B cell-activating factor formerly known as B-lymphocyte stimulator. Self-reactive antibodies mediate tissue damage in multiple organs often in the form of acute flares which if left untreated can lead to fatal complications (van Vollenhoven & et al., 2020).

The worldwide incidence and prevalence of SLE vary greatly according to region and ethnicity, with an incidence range of 0.3 to 23.2 per 100,000 person-years and a prevalence range of 0 to 241 per 100,000 people. Despite the high regional and ethnic variation, one common feature of SLE epidemiology is that the disease predominantly affects women during their childbearing years. SLE occurs more often

in women, with a female to male ratio of 9:1. (Chung & et al., 2021).

SLE has no known cause and understanding of its etiology remains limited. It appears to arise from a complex interaction between genetic predisposition and environmental inputs that push an individual across the disease threshold. SLE is characterized by persistently active illness or alternating periods of exacerbations and remissions in which the immune system mistakenly attacks the body's tissues and organs (Dixon & et al., 2022).

Constitutional, muco-cutaneous and musculoskeletal signs represent the earliest and most common complaints reported by the majority of SLE patients. However, any organ including the skin, hematologic, renal, neuropsychiatric (NP), cardiovascular and/or respiratory systems, can be affected. Not all

manifestations perforce appear simultaneously, and a time interval of months or years may exist between the appearance of various symptoms (Basta et al., 2020).

Assessing biopsychosocial needs of patients with SLE is very important; helping them cope with any problems and understand human health and illness. The assessment should be undertaken for the purpose of adapting the home environment to facilitate recovery and attention should be paid to the willingness and ability of familial and social networks to provide support during rehabilitation. The need for rehabilitation therapies and advice should be tailored to meet the needs of the individual patient (Chun et al., 2019).

### **Significance of the study:**

Systemic lupus erythematosus is a chronic autoimmune disease that affects multiple organs. Individuals with SLE experience a myriad of physical and psychological comorbidities. Limitations in physical functioning most commonly emerge as limited or impaired mobility, fatigue, pain and skin rashes. As a result, patients with SLE experience broader impacts in their day-to-day activities relevant to work, daily functioning, and standard of living. These limitations can have serious impacts on patients' physical, social, psychological well-being (Chang et al., 2021). So there is a need to assess bio psychosocial needs for patient with systemic lupus erythematosus in order to provide information-based data that can promote the patient level of health and decrease mortality and morbidity and improve their quality of life.

### **Aim of the study:**

This study aimed to assess the biopsychosocial needs among patients with systemic lupus erythematosus through:

- 1- Assessment of physical needs among patients with systemic lupus erythematosus.
- 2- Assessment of psychological needs among patients with systemic lupus erythematosus.
- 3- Assessment of social needs among patients with systemic lupus erythematosus.

### **Research questions:**

- 1- What are the physical needs among patients with systemic lupus erythematosus?

- 2- What are the psychological needs among patients with systemic lupus erythematosus?
- 3- What are the social needs among patients with systemic lupus erythematosus?

### **Subjects and Methods:**

#### **Research design:**

A descriptive exploratory research design was utilized to achieve the aim of the present study.

#### **Setting:**

The current study was carried out in special medicine department at El Fayoum university hospital.

#### **Subjects:**

A purposive sample of 90 adult patients with SLE was included in this study based on the following criteria:

Inclusion criteria: Adult patients from both sexes who are diagnosed with systemic lupus erythematosus, able to communicate verbally, and willing to participate in the study.

Exclusion criteria: Psychiatric patients, pediatric patients, comatose patient and patient with cognitive impairment.

#### **Tools for data collection:**

Two tools were used in this study:

#### **1- Patient interview questionnaire:**

This tool was developed by the researcher in an Arabic language based on the related literatures (Fanouriakis et al 2019; Janice, et al., 2018; Sullivan, 2016). It aimed to assess knowledge of patients suffering from systemic lupus erythematosus. It consists of 56 questions in form of closed, open ended and multiple-choice questions, matching questions and true and false questions. The tool consisted of three parts:

#### **Part I: Patients' demographic data:**

This part aimed to assess patients' demographic data such as patients' age, gender, marital status, family member, educational level, occupation, monthly income, residence and treatment costs. It contains nine questions in form of multiple-choice questions and closed ended questions.

#### **Part II: Patients' medical history:**

This part aimed to assess patients' medical history that includes information about present history, duration of the disease, past history, previous hospitalization and family history of systemic lupus erythematosus. It contains 14 questions in form of closed, open

ended and multiple-choice questions.

### **Part III: Patients' knowledge assessment regarding SLE:**

This part aimed to assess patients' knowledge regarding systemic lupus erythematosus. It consisted of 33 questions. It includes questions about definition and causes of systemic lupus erythematosus (Q1-Q4), signs and symptoms (Q5-Q8), diagnostic test (Q9-Q11), complications (Q12-Q16), treatment (Q17-Q21), diet (Q22 - Q26), activity and life style (Q27-Q29) in form of multiple-choice question and infection control measures (Q30-Q33) in form of true and false question .

#### **❖ Scoring system:**

- The tool consisted of 33 questions.
- The response for each question was by choosing the correct answer.
- The correct answer was given one grade, the incorrect answer was given zero.
- The total grade for this part was 33 grade.
- The total score of the patients' knowledge assessment tool for every patient was calculated.
- After that the total score of all patients were calculated as number and percentage.
- The result was classified into 2 categories:
  - Satisfactory level of knowledge if scores >60% (20-33 degree).
  - Unsatisfactory level of knowledge if scores <60% (<20 degree).

### **2- Biopsychosocial needs assessment tool:**

This tool was designed to assess biopsychosocial needs of patients with systemic lupus erythematosus. It includes three categories of patients' needs as follows:

#### **A) Patients' physical needs assessment**

##### **Part 1: Body systems assessment:**

This part was developed by the researcher to assess patients' physical needs. It was written in an Arabic language. It was guided by (Williamson et al., 2015; Dekker et al., 2012). It includes systemic assessment of patient's body systems which included respiratory system (4 items), cardiac system (4 items), nervous system (6 items), gastrointestinal system (7 items), musculoskeletal system (5 items), elimination (6 items), integumentary system (4 items), blood status (4 items), sleep and rest (4 items).

#### **❖ Scoring system:**

- This tool consisted of 44 questions.
- Each system includes many symptoms or disorder.
- Each positive symptom/ disorder was given one grade.
- Each negative symptom/ disorder was given zero.
- The response for each question was by selecting yes or no answer.
- The total score for each system alteration was scored 1 or 2 if system alterations equal or more than 60% of total system alteration.

#### **Part 2: Barthel Index Scale:**

This scale was used to assess the patient's ability to perform activities of daily living independently. It was adopted from (Mahoney & Barthel, 1965). It was translated into an Arabic language and back translated into English. It consists of 10- items (feeding, bathing, grooming, dressing, bowels (stool elimination), bladder (urination), toilet use, transferring, mobility and stairs climbing). The response for each question was by choosing the correct statement that correspond with the patient status and the ability to perform each activity. Each item was rated on a scale ranged from 0-15 where 0 is the lowest score and 15 is he highest score (bathing and grooming range from 0-5, while feeding, dressing, bowels, bladder, toilet use and stairs climbing range from 0-10, transferring and mobility range from 0-15). The total grades for this scale is 100 grades that represent 100%.

#### **❖ Scoring system;**

- 0-20 indicates total dependency.
- 21-60 indicate severe dependency.
- 61-90 indicate moderate dependency.
- 91-99 indicates mild dependency.
- 100 indicates total independency.

#### **B) Depression, Anxiety Stress Scale (DASS):**

This scale was used to assess negative emotional states (depression, anxiety, stress) of the patients with systemic lupus erythematosus. It was adopted from (Basha & Kaya, 2016; Gomez, 2012). It was translated into an Arabic language and back translated into English. It consists of 42- statements. Each individual is required to indicate the presence of a symptom.

The response of patients to each item was on a scale ranged from 0-3 where:

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

#### **DASS 42 scoring system:**

The total score of each item was categorized as follows:

DASS 42 scoring	Depression	Anxiety	stress
<b>Normal</b>	0-9	0-7	0-14
<b>Mild</b>	10-13	8-9	15-18
<b>Moderate</b>	14-20	10-14	19-25
<b>Severe</b>	21-27	15-19	26-33
<b>Extremely Severe</b>	28-42	20-42	34-42

#### **C) Social Dysfunction Rating Scale:**

This scale was used to measure the dysfunction aspects of social adjustment of the patients with systemic lupus erythematosus. It was adopted from (Linn et al., 1969). It was translated into an Arabic language and back translated into English. It consists of 21- items classified under three main categories which includes, self-confidence (4 items), interpersonal system (6 items) and performance system (11 items).

#### **❖ Scoring system:**

The response of patients to each item was on a scale ranged from 0-5 where: 0 = very severe, 1= severe, 2= moderate, 3= mild, 4= very mild and 5= no.

The total score is (100) and divided as follows;

- $0 \leq 20$ : Very high level of social dysfunction.
- $20 \leq 40$ : High level of social dysfunction.
- $40 \leq 60$ : Moderate level of social dysfunction.
- $60 \leq 80$ : Mild level of social dysfunction.
- $> 80$ : No social dysfunction.

#### **Content validity:**

The validity of the developed tools was tested by a panel of five experts from medical surgical nursing department, faculty of nursing, Ain Shams University. The panel of experts was from different academic categories (two professors and three assistant professors). The experts reviewed the tools for clarity, relevance,

comprehensiveness, understanding, applicability and easiness for administration. According to their suggestions, some modifications were done in tool where two questions need to change distractor based on recommendations from the experts.

#### **Reliability:**

Testing reliability of the developed tool was done by cronbach's alpha test. It was 0.903 for knowledge questionnaire, 0.860 for total barthal scale, 0.988 for DAS scale and 0.958 for social dysfunction rating scale.

#### **Ethical consideration:**

- The research approval was obtained from the ethical research committee at Faculty of Nursing of Ain Shams University before initiating the study work.
- The researcher clarified the objectives and aim of the study to patients included in the study.
- Oral consent was obtained from patients before participation in the study.
- The researcher assured maintaining anonymity and confidentiality of subjects' data.
- Patients were informed that they are allowed to withdraw from the study at any time without giving any reasons and without penalty.

#### **Pilot study:**

A pilot study was carried out on 10% (9) of the patients under study to evaluate the applicability, clarity, efficiency and time needed to fill in each tool. Also, it help to find the possible obstacles and problems that might face the researcher and interfere with data collection. The necessary modifications were done, where some items and questions were omitted and others were added based on the result of the pilot study. The nine patients who included in the pilot study were excluded from the study subjects.

#### **Field work:**

- The collection of data of the current study starting from the beginning of January 2022 until the end of May 2022.
- Oral consent was obtained from patients after explaining the aim of the study.

- The purpose of the study was simply explained to patient under study prior to any data collection.
- The researcher started the interview with each patient individually using the data collection tools.
- The researcher visited the study setting 4 days per week (Sunday, Tuesday, Wednesday and Thursday) from 9 am to 3 pm to gather data using the previously mentioned tools.
- The time consumed to fillin the tool by the researcher was 20 minutes for patients' knowledge assessment tool and 30 minutes for the biopsychosocial needs assessment tool.

#### Data analysis:

Data collected and coded to facilitate data manipulation and double entered into Microsoft Access and data analysis performed using the Statistical Package of Social Science (SPSS) software version 22 in windows 7. Independent samples t test and One-way ANOVA test was used to find the association between variables of quantitative data. The bivariate Pearson correlation test was used to test the association between variables. Cronbach's alpha test of reliability, the P-value < 0.05 considered as statistical significant.

#### Results:

**Table (1):** Showed that the mean age of the studied patients was (35.2±10.8) years. As regard to gender, table 1 revealed that 88.9% of patients were females and 11.1% were males. Regarding marital status, it was revealed that 71.1% of patients were married and 24.4% were single. In relation to educational level, the result showed that 51.1% of patients had basic education and 13.3% of them had higher education. Regarding occupation; it shows that 88.9% of patients do not work and 11.1% of them are working. Concerning residence, 82.2% of patients under the study are living in rural inhabitation and 17.8% of them from urban areas. This table also shows that 84.4% of patients had insufficient income as they reported. In relation to treatment cost coverage, 75.6% of patients are treated at expenses of the state, 13.3% of them had health insurance and 11.1% of them are treated at their own expense.

**Table (2):** illustrated that all patients had high level of physical needs regarding SLE.

**Table (3):** illustrated that 8.9% of patients had sever dependency level during activities of daily living, 22.2% had a moderate level of dependency, 20% showed a mild level of dependency, while 48.9% were totally independent with total mean score 91.9±13.1.

**Table (4):** illustrated that 48.8% of patients had extremely sever level of depression, 55.6% of patient had extremely sever anxiety and 33.3% suffer from extremely severe stress. While the severe level of depression represented 6.7% of patients, 4.4% and 13.3% had severe anxiety and stress respectively. This table also showed that 17.8% of patients suffer from moderated level of depression.

**Table (5):** illustrated that 73.3% of patients under study had no social dysfunction, 2.2% had a high level of social dysfunction, 11.1% showed a moderate level, 13.3% had a mild level of social dysfunction.

**Table (6):** illustrated that there was a statistical significance difference between total depression score of patients under study and their age and income, where patients who age above 40 years old and those who had insufficient income got higher mean score than others with sufficient income where p-value= 0.003. This table also showed that there was no statistical significance difference between depression score and patient's gender, marital status, educational level, occupation, residence and source of treatment cost with p-value > 0.05.

**Table (7):** illustrated that there was a statistical significance difference between total social dysfunction score of SLE patients under study and marital status, income, and sources of treatment cost coverage. Patients who were widow, with sufficient income, and treated under health insurance coverage got a higher mean score than others with p-value (0.004, 0.004, and 0.007) respectively. In addition, there was no statistical significance difference between total social dysfunction score and patient's age, gender, educational level, occupation and residence with p-value > 0.05.

**Table (1):** Frequency and percentage distribution of demographic characteristics of patients under study (n=90).

Variables	Mean $\pm$ SD	Study group (n=90)	
		No.	%
<b>Age group</b>	<b>35.2<math>\pm</math>10.8 range (19-56)</b>		
15-30 years old		32	35.6%
31-40 years old		22	24.4%
>40 years old		36	40%
<b>Gender</b>			
Male		10	11.1%
Female		80	88.9%
<b>Marital status</b>			
Single		22	24.4%
Married		64	71.2%
Widow		2	2.2%
Divorced		2	2.2%
<b>Education level</b>			
Can't read and write		32	35.6%
Basic education		46	51.1%
University		12	13.3%
<b>Occupation</b>			
Work		10	11.1%
Not work		80	88.9%
<b>Income</b>			
Sufficient		14	15.6%
Not sufficient		76	84.4%
<b>Residence</b>			
Urban		16	17.8%
Rural		74	82.2%
<b>Treatment cost covered by</b>			
At expenses of the state		68	75.6%
Health insurance		12	13.3%
At his own expense		10	11.1%

**Table (2):** Frequency and percentage distribution of the studied patients' total physical needs levels (n=90).

Physical needs	NO	Study group (n=90)	
			%
Low physical needs <60	0		0%
High physical needs >60	90		100%

**Table (3):** Frequency and percentage distribution of patients' total level of daily activities according to Barthel scale (n=90).

Variables	Study group (n=90)	
	No.	%
<b>Total score</b>		
Mean $\pm$ SD		91.9 $\pm$ 13.1
Range		50-100
<b>Categories</b>		
Totally dependent	0	0%
Sever dependency	8	8.9%
Moderate dependency	20	22.2%
Mild dependency	18	20%
Totally independency	44	48.9%

**Table (4):** Frequency and percentage distribution of the studied patients' psychological needs (n=90).

DASS score	Depression	Anxiety	stress
<b>Total score</b>			
Mean $\pm$ SD	31.4 $\pm$ 25.5	29.2 $\pm$ 26.4	28.9 $\pm$ 26.4
Range	0-84	0-84	0-84
<b>Levels</b>			
Normal levels	24(26.7%)	26(28.9%)	40(44.4%)
Mild levels	-----	8(8.9%)	6(6.7%)
Moderate levels	16(17.8%)	2(2.2%)	2(2.2%)
Severe levels	6(6.7%)	4(4.4%)	12(13.3%)
Extremely severe levels	44(48.8%)	50(55.6%)	30(33.4%)

**Table (5):** Frequency and percentage distribution of the total social dysfunction of the studied patients' (n=90).

Variables	Total score	Study group (n=90)
Mean $\pm$ SD		85.8 $\pm$ 20.7
Range		36-105
<b>Social dysfunction level</b>	<b>No.</b>	<b>%</b>
Very high	0	0%
High	2	2.2%
Moderate	10	11.1%
Mild	12	13.3%
No	66	73.3%

**Table (6):** Relation between total psychological needs (DASS) of the studied patients and their demographic characteristics (n=90).

Variables	DAS scale	Depression	F test T test	p-value
	Mean	SD		
<b>Age</b>				
15-30 years old	23.9	23.8	3.5	0.03*
31-40 years old	28.8	20.7		
>40 years old	39.6	27.7		
<b>Gender</b>				
Male	37	32.1	0.74	0.4
Female	30.7	24.7		
<b>Marital status</b>				
Single	31.6	29.4	1.3	0.3
Married	30.3	24.2		
Widowed	28	0		
Divorced	66	0		
<b>Education level</b>				
Illiterate	38	28.4	1.8	0.2
Basic education	28.5	21.5		
University	24.7	29.8		
<b>Occupation</b>				
Work	23.8	27	-1	0.3
Not work	32.4	25.3		
<b>Income</b>				
Sufficient	13	11.3	-3.1	0.003*
Not sufficient	34.8	25.9		
<b>Residence</b>				
Urban	23.6	20.2	-1.3	0.2
Rural	33.1	26.4		
<b>Treatment cost covered by</b>				
At expenses of the state	30.4	23.4	1.7	0.2
Health insurance	25.7	29.1		
At his own expense	44.8	32.5		

**Table (7):** Relation between total social dysfunction score of the studied patients and their demographic characteristics (n=90).

Variables	Social Dysfunction Rate Scale		F test	p-value
	Mean	SD	T test	
<b>Age</b>			<b>F test</b>	
15-30 years old	87.6	18.7		
31-40 years old	88.3	18	0.67	0.5
>40 years old	82.7	23.9		
<b>Gender</b>			<b>T test</b>	
Male	86.8	24.9		
Female	35.7	20.3	0.16	0.8
<b>Marital status</b>			<b>F test</b>	
Single	81.2	21.7		
Married	88.4	19.02	4.8	0.004*
Widow	100	0		
Divorced	40	0		
<b>Education level</b>			<b>F test</b>	
Illiterate	80.1	23.2		
Basic education	87.8	19.1	2.3	0.1
University	93.5	17.1		
<b>Occupation</b>			<b>T test</b>	
Work	88.6	27.8		
Not work	85.5	19.8	0.45	0.7
<b>Income</b>			<b>T test</b>	
Sufficient	100.1	5.6		
Not sufficient	83.2	21.4	2.9	0.004*
<b>Residence</b>			<b>T test</b>	
Urban	92.5	12.7		
Rural	84.4	21.9	1.4	0.2
<b>Treatment cost covered by</b>			<b>F test</b>	
At expenses of the state	87.6	19.9		
Health insurance	91.2	16.2	5.3	0.007*
At his own expense	67	22.2		

## Discussion:

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that leads to a variety of negative impact on quality of life that result from inflammation in various organ systems. This chronic disease, by involving vital organs of the body, has a detrimental effect on a person's physical health, and causes pain, stress, sleep disorders, depression, anxiety and other psychological disorders. These disorders further reduce the patient's ability to perform daily activities, which in turn causes limitations and social problems (**Zahiri, et al., 2022**).

Socio-demographic characteristics of the patients under the study showed that nearly half of patients under study, their age was more than 40 years old with mean age  $35.2 \pm 10.8$ . This result is contradicted with **Román Ivorra, et al., (2019)** who reported that the mean age of the studied patients was  $47.23 \pm 13.43$  in a study titled "Health-related quality of life in patients with systemic lupus erythematosus: a Spanish study based on patient reports". But this result not in the same line with **Gokmen, et al., (2022)** who mentioned that the mean age of the studied patients was  $41.85 \pm 12.97$  years.

In relation to gender, the current study's result indicated that majority of patients under study were females and few of them were males. These results may be due to the fact that systemic lupus erythematosus (SLE) is most prevalent in females of childbearing age with a female to male ratio of 9:1 based on scientific literature **Ratcliffe, (2019)**. In addition, SLE affects nine times as many women as men due to differences in the metabolism of sex hormones (effects of estrogen and decreased androgen levels, hyperprolactinemia, and differences in gonadotropin-releasing hormone (**Martin-Mercado, 2022**). These results comes in agreement with **Mendoza-Pinto, et al., (2021)** who revealed that more than three quarters of the study subjects were females and less than one quarter of subjects were males in a study titled "Medication adherence is influenced by resilience in patients with systemic lupus erythematosus".

Regarding to marital status, the study results showed that less than three quarters of patients were married and one quarter of patients were single. These results may be due to that systemic lupus erythematosus is most common in women whose ages ranged from 15 to 44 years and usually by this age they are becoming married. In addition, that lupus is more common in women during their childbearing years when estrogen levels are highest (**Martin-Mercado, 2022**). These results is in the same line with **Sayadi, et al., (2021)** who revealed that more than half of patients were married and less than one quarter of them were single in a study that titled "The relationship of lifestyle with disease activity among patients with systemic lupus erythematosus: a descriptive-correlational study".

As regards to daily living activities, the result of the current study revealed that less than one quarter of patients had able to perform activity of daily living with mild and moderate level of dependency respectively. This result may be due to the effect of chronic SLE disease over time, because the disease started in the ages 15 years for patients under study, which negatively affects the patients' physical abilities. This result is similar to **Duca, et al., (2022)** who reported that less than one quarter of patients with SLE have problem with self-care. While more than one quarter of patients have problem for mobility.

In relation to psychological needs assessment, the result of the current study revealed that nearly half of patients under study had extremely severe depression and more than half of them had extremely severe anxiety. While one third of patients had extremely severe stress. This result may be due to the long term effect of the disease and lower income level. In addition to the long term side effect of cortisone medication.

This result is agree with **Shenavandeh et al., (2021)** who reported that more than one quarter of patients had moderate to very severe depression in a study that titled "Medication adherence of patients with systemic lupus

erythematosus and rheumatoid arthritis considering the psychosocial factors, health literacy and current life concerns of patients". While the finding is disagree with **Tee, et al., (2020)** who reported that most of the respondents had mild anxiety symptoms, mild stress symptoms and mild depression symptoms in a study that titled "Psychological state and associated factors among filipinos with rheumatoid arthritis or systemic lupus erythematosus".

Concerning social needs assessment, the result of the current study revealed that approximately three quarters of patients under study had no social dysfunction. While, few of the studied patients had mild and moderate social dysfunction. This result may be due to the changes in physical appearance and the other symptoms they suffer from such as joint swelling, general weakness, dyspnea and fatigue due to SLE that limit the social activities of patients. In addition, to the long term side effect of medication. The result is consistent with **Duca, et al., (2022)** who reported that more than one quarter of patients reported some degree of disability related to interpersonal relationships in a study that titled "WHODAS assessment feasibility and mental health impact on functional disability in systemic lupus erythematosus".

Regarding the relation between demographic characteristics and total psychological needs of patients under study, this study revealed that there was statistical significance relation between total psychological needs of patients under study and income. This might be due to that SLE is a chronic disease require monthly income to cover cost of treatment, so high income level positively reflect on psychological status of patient. This result is agree with **El Harch, et al., (2022)** who reported that there was statistically significant association between anxiety symptoms and advanced age, unemployment, low level of education, marriage in a study that titled "Prevalence and associated factors with anxiety and depression in patients with systemic lupus erythematosus in a Moroccan Region".

This result is in the same line with **Narupan, et al., (2022)** who reported that the household income insufficiency was significantly associated with depressive symptoms in patients with SLE and patients with different marital statuses tended to be associated with depressive symptoms.

On the other hands there was no statistical significant relation between total psychological needs and patients' sex, marital status, educational level, occupation, residence and source of treatment cost of patients under study. This result is in the same line with **Narupan, et al., (2022)** who reported that socio-demographic characteristics such as sex, age, religion, education, occupation, right to access health care, family characteristics, family members were not associated with depressive symptoms in patients with SLE.

This result is disagree with **Mohamed, et al., (2020)** who reported there was a significant relationship between level of education and gender with both anxiety and depression in which male patients experienced more anxiety and depression than female patients in a study that titled "Mental health status among systemic lupus erythematosus (SLE) patients at tertiary hospital in Malaysia".

Regarding the relation between demographic characteristics and total social needs of patients under study, this study revealed that there was statistical significance relation between total social needs of patients under study and patients' marital status, income, and treatment cost coverage source. This might be due to that patients' families, partners, children, and friends are considered as a source of social support for them. In addition, that income level is very important for enhancing social needs through work and allow patient to be more cooperative and communicate with others. This result is agree with **Xu, et al., (2019)** who reported that. age, marital status, income, and disease duration was statistically associated with intimate relationships and social support in a study that titled "Social support and management strategies for chronic disease in patients with systemic lupus erythematosus".

Moreover, there was no statistical significant relation between total social needs and patients' gender, educational level, occupation and residence of patients under study. This result is agree with **Strober, (2018)** who reported that age, sex, marital status, occupation, income and type of residence not statistically associated with the social and emotional health status of the multiple sclerosis patient in a study that titled "Quality of life and psychological well-being in the early stages of multiple sclerosis: Importance of adopting a biopsychosocial model".

### Conclusion:

Based on the findings of this study it can be concluded that:

- Less than one quarter of patients had able to perform activity of daily living with mild and moderate level of dependency.
- Nearly half of patients under study had extremely severe depression and more than half of them had extremely severe anxiety. While one third of patients had extremely severe level of stress.
- Approximately three quarters of patients under study had no social dysfunction. While, few of the studied patients had mild and moderate social dysfunction level.

### Recommendation:

Based on the findings of the present study, the following recommendations are suggested:

- Regular follow up for all patients with SLE to evaluate their health conditions and to detect complications early.
- Simple booklet written in an Arabic language should be developed for patients with SLE and includes all needed information.
- Replication of the study on a large probability sample selected from different geographical areas in Egypt is recommended to obtain more generalized data.
- Further research studies are needed to focus on studying factors affecting bio psychosocial needs of patient with SLE.
- Further researches should be conducted to raise awareness of patients about SLE .

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