

## Level of Stress, Coping, and Self-Acceptance among Patients with Systemic Lupus Erythematosus

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### Abstract

**Background:** Systemic Lupus Erythematosus (SLE) is an autoimmune disease accompanied by an invasion of tissues in most of the body organs and causes permanent inflammations and system failure. This chronic disease can lead to psychological problems such as stress and negative coping as well as difficulty to accept the disease process. **Aim of the study:** This study aimed to assess the level of stress, coping, and self-acceptance among patients with systemic lupus erythematosus. **Setting:** The study was conducted at Urology and Nephrology Center (UNC) which is affiliated to Mansoura university hospitals. **Subjects:** This study comprised a Convenience sample, with a total number of 200 patients with SLE. **Tools:** Four tools were used tool I: Patient's sociodemographic characteristics & health assessment. Tool II: Patient stress questionnaire, tool III: Coping strategies questionnaire, and tool IV: Self-acceptance scale. **Results:** The study results revealed that about half of the 49.5% of the studied patients had moderate levels of stress followed by mild stress 34% which was one-third, more than half 55% of the studied patients had a low ability to cope with the disease process. Furthermore, about more than half 56.5% of them had a low level of self-acceptance followed by less than one-third among 27.5% of them with a moderate level of self-acceptance. There is a statistically significant negative correlation between patients' stress with their coping patterns and their self-acceptance (significant P Value =0.001). **Conclusion:** This study revealed that the studied patients with SLE suffered from a moderate level of stress, had low abilities to cope with the disease and low levels of self-acceptance. **Recommendation:** Continuous psycho-educational programs for patients with systemic lupus erythematosus in order to improve their psychological health, coping, and their quality of life.

**Keywords:** Systemic Lupus Erythematosus, Stress, Coping strategies, Self-acceptance.

### Introduction

Systemic lupus erythematosus (SLE) is a multisystem autoimmune disease that invades healthy organs and tissue in the body with an unknown cause. It is a life-impending condition and, there is no recovery but medical treatment and improving quality of life can control the disease process. (Ribeiro et al., 2019). SLE can affect people of all ages, including females in the childbearing period between 15 to 44 years. Women of all ages are at high risk for SLE than men, ranging from 4 to 12 women for every 1 man (Billino & Pilz 2019; Anders, et al., 2020).

Hence SLE symptoms can vary and deteriorate over time. Physical symptoms

include; severe fatigue, and rash on the cheeks and nose, which is called a "butterfly rash". In addition, psychological symptoms include; anxiety stress, depression, lowered self-esteem, lack of self-acceptance, and, suicidal thoughts are common among patients (Jolly et al., 2019; Bevra, 2020).

Major stressful life events and negative disengaging coping styles in patients with SLE may contribute to decreased physical function as well as to psychological distress (Signorini et al., 2020). One of the main reasons for psychological and physical changes in humans, whether healthy or sick, is stress. So, stress is a major cause of anxiety, depression, and other mental illnesses. Also speaking of

systemic lupus, stress may contribute to the disease or increase its severity (Debesay et al., 2019).

Some patients with SLE reported that stress and stressful events are considered contributing factors to this disease, which results in the person's inability to deal with and adapt to this situation. Reducing stress and anxiety by adopting coping techniques is the most important factor in improving the psychological and physical condition of patients with SLE (Ben-Menachem, 2019).

Thus, patients with SLE can be helped through the use of behavioral and psychological coping and coping techniques to master, tolerate, or reduce stressful events. This could be done by changing some behaviors and more understanding of the illness. So, changing behavior using coping mechanisms, which focus on emotion and problem-focused adaptation could help such group of patients (Gire, 2019).

Accepting the patient's body and his/her shape as well as the changes that occurred as a result of the disease are important aspects of psychological well-being. Self-protection from negative judgments and comments from others is an important part of self-acceptance (Aringer et al., 2019).

Therefore, self-acceptance is positively linked to various positive aspects of mental health, such as high self-esteem and personal satisfaction. In contrast, self-acceptance has been negatively associated with various psychological diseases such as depression and anxiety. So, a lack of self-acceptance could interfere with the patients' rehabilitation and adjustment to his disease (Elera-Fitzcarrald et al., 2019).

Nurses have a key role in supporting patients with lupus, therefore centered on patient education, physical precautions, lifestyles, and psychological, behavioral, and emotional support. Nursing a key role in managing the disease as well as planning learning methods that enable the patient to expand his health knowledge, which influences his behavior and ability to provide self-care for

themselves to improve the psychological state and tension despite the continued activity of the disease (Matthew et al., 2020).

The increasing level of knowledge about the disease and the importance of medications is essential to control the disease and reduce the severity of its symptoms as apart of the nursing role (Angel et al., 2020). Furthermore, nurses and other health professionals who work on a continual basis with patients with lupus can have significant roles in improving the emotional and psychological status of patients as well as coping with the disease (Chin Med et al., 2019).

### Significance of the study

Systemic lupus erythematosus is becoming a serious health problem in Egypt lately. SLE is a complex autoimmune disease; that can affect various organs and sometimes cause organ damage and comorbidities (Costedoat-Chalumeau et al., 2019).

Lupus affects about 6.1/100.000 (1.2/100.000 males, 11.3/100.000 females) patients in Egypt. Based on statistics from the urology-nephrology Center, 590 new cases were registered annually from 2020-2021. Worldwide variation in the reported prevalence of SLE in all nationalities the overall prevalence ranging from 3.2/100.000 to 517.5/100.000 patient/year. It leads to death within 5 years of the onset of the disease at most due to kidney failure, but with early diagnosis and the presence of drugs that help to control it (Gheita & Eesa, 2019).

Stress a modifiable risk factor, has been implicated in the onset, course, or exacerbation of numerous illnesses, including those of a chronic nature. A high proportion of patients with SLE report that stressful life events provoke exacerbations of SLE symptoms (Frangou et al., 2019). In addition, a lack of self-acceptance has been also negatively affecting the disease process and is associated with different psychopathologies among patients with SLE, such as depression and anxiety (Kim et al., 2019).

So, the mental health of patients with SLE is an important issue. Patients are influenced by the kinds of coping strategies, social support, and the ability to deal with stress and negative emotions. Adequate coping strategies, social support, and the ability to deal with stress and negative emotions can enhance mental and physical well-being in patients with SLE. So this study was conducted to assess the level of stress, coping and self-acceptance among patients with systemic lupus erythematosus (Fanouriakis & Boumpas, 2019).

### **Aim of study**

The aim of this study is to assess the level of stress, coping, and self-acceptance among patients with systemic lupus erythematosus.

#### **Research questions:**

- What is the level of stress experienced by patients with systemic lupus erythematosus?
- What are the coping patterns dealt with among patients with systemic lupus erythematosus?
- What are the various attitude of self-acceptance among patients with systemic lupus erythematosus?

### **Subjects and Methods**

#### **I- Technical design**

##### **Research design:**

A descriptive correlational design was used in the current study to provide static pictures of situations as well as establish the relationship between different variables of study.

##### **Setting:**

The current study was conducted in outpatient, inpatient, and ICU in Urology and Nephrology center (UNC) affiliated to Mansoura university hospitals. This center is located in Mansoura City, the center consists of (224) beds, classified as internal departments, an intensive care unit, and hemodialysis. Also, there are outpatient clinics, consist of urology

clinics, kidney clinics, and kidney transplantation.

#### **Subject:**

A Convenience sample, all patients with SLE in the previously mentioned settings with a total number of 233, the actual number collected is 200 patients after their approval to share in the study.

#### **Tools of the study:**

**Four tools of data collection were used as follows:**

##### **I- Patient Interview Questionnaire:**

It was designed by the researcher and translated into simplified Arabic language after reviewing the related literatures. **It was divided into two parts:**

**Part 1: Socio-Demographic data:** it consists of 10 items. includes age, gender, marital status, residence, level of education, occupation, housing condition, number of family members, and monthly income.

**Part 2: Patient's health condition:** it consists of 13 items. It included: the patient medical history (chief complaint), patient's present & past medical history, previous hospitalization, symptoms associated with lupus, and neurological symptoms.

##### **II- Patient Stress Questionnaire:**

It was adapted by a researcher from **Stephen & Moss (2017)**. It was designed to measure the level of stress experienced by patients with lupus and its effect on all aspects of their lives. It included 28 questions as was divided into three sections:

**Section (1):** It was designed to measure the effect of stress on the general patients' life aspects. It included questions from 1-15 (Little interest/pleasure in doing work or daily routine, Feeling down/depressed /hopeless, Difficult falling or staying asleep).

**Section (2):** It was designed to stress symptoms as frightening, horrible, or upsetting, in the past month. It included questions from 16-19 (“Were constantly on guard/thinking easily startled?”, “Felt numb or detached from others/ activities or your surroundings?”).

**Section (3):** It was designed to measure symptoms of stress on patients within 6 months. It included questions from 20-28 (Do these mood swings occur without cause? Have you ever used drugs more than you meant to? Have you felt you wanted or needed to cut down on your drug use?).

#### ❖ Scoring system:

The first section including 15 items were rated on a 4-point Likert scale :0= Not at all 1= several days / 2 = More than half the days 3= Nearly Every day. The total score ranged from 0 to 45.

The remaining 13- items in sections 2 and 3 were rated on a 2- point scale: Yes= 0/No=1. The total score ranged from 0 to 4 in section two, and from 0-9 in section 3. The overall score ranged from 0 to 58 and was divided as follows:

- Low level of stress = 0- 20
- Moderate level of stress=21-39
- High level of stress= 40-58.

### III- Coping Strategies Questionnaire:

It was developed by **Tobin, Holroyd, Reynolds & Kigal, in (1989)** and the adaptation was done by **Cano, Rodríguez & García, (2006)**. It was designed to assess patients’ abilities to cope with SLE disease in all aspects. It consists of 30 items such as ‘I try to find distance and rest’, ‘I try to distract myself and to recover’, ‘I pick myself up through prayer’, ‘I follow the medical advice very closely’, ‘I have doubts that my medical treatment is good enough’.

#### ❖ Scoring system

Each item was rated on a 5 – point Likert scale ranging from 0= not at all / 1= a little / 2= a lot / 3= very much / 4= completely. The negative items were "6, 10, 11, 12, 15, 16, 20, 23, 27, 28, and 29" took reverse scoring. The total score ranged from 0 to 120 and was divided as follows:

- Low level of coping= 0-40.
- Moderate level of coping= 41- 80.
- High level of coping= 81-120.

### IV- Self-acceptance Scale:

It was developed by **Carson & Langer, (2006)** and modified by **Morgado,(2014)** and then adapted by the researcher. It was designed to assess the patient’s acceptance of all of his/her characteristics, whether weak or strong. The scale consists of 18 items distribute in three main attitudes. The first attitude is “body acceptance which consists of 6 items, such as “expressing comfort with and love for the body, despite not being completely satisfied with all aspects of the body. The second attitude is “self-protection from negative judgments evaluated from others, it consists of 4 items. The third attitude focuses on “feeling and believing in one’s capacities”, it consists of 8 items such as recognizing, appreciating, and developing positive thoughts and feelings about one’s capacities and realizations.

#### ❖ Scoring system

Each item was rated on a 2-point a Dichotomous scale Yes = 1 / No = 2. It consists of 18 items. The negative items were" 11, 12, 15, 17, and 18" and took reverse scoring. The total score ranged from 18: 36 and was divided as follows:

- Low level of self-acceptance= 18-24
- Moderate level of self-acceptance= 25- 30
- High level of self-acceptance= 31-36

### II- Administrative design:

An official permission was issued from the Dean of the Faculty of Nursing at Ain Shams University to the General Director

Urology & Nephrology Center affiliated to Mansoura University, and Scientific Research Ethical Committee in the Faculty of Nursing as approval to conduct this study.

### **Ethical considerations:**

- Written Informed consent was obtained from each study subject after an explanation of the aim of the study.
- The anonymity and confidentiality of patients' responses were assured.
- The participants were informed that their participation was not obligatory and they had the right to refuse participation in the study.
- The patients were informed study at any time.that they have the right to withdraw from the

### **III- Operational design:**

#### **Preparatory phase:**

The researcher reviewed the literature using textbooks, scientific journals, and the internet to select the data collection tool, and for acquiring in-depth knowledge about the subjects. The whole questionnaire was translated into Arabic and re-translated to English to ensure its accuracy, i.e., the translation-back-translation technique was used.

#### **Tools validity and reliability:**

The face and content validity and reliability of tools were done by seeking the opinions of a jury group consisting of three professors of psychiatric mental health nursing to judge their clarity, comprehensiveness, accuracy, relevance, and whether they elicited the type of information sought. The tools were modified and rephrased based on the jury's opinions. This phase took three weeks' duration. The Cronbach Alpha test for the interview questionnaire was 0.88, Patient Stress Questionnaire was 0.90, Coping Strategies Questionnaire was 0.89, and Self-Acceptance Scale was 0.89.

#### **Pilot study:**

It was carried out for one week to evaluate the reliability and applicability of the tools to find the possible obstacles that might be faced during data collection. 10% of the total

sample (20 cases) was included from the previously mentioned setting, then later excluded from the sample. There were no major modifications found after the pilot study. The pilot also served to assess the reliability of the scale by examining its internal consistency.

#### **Field of work:**

Data were collected from November 2021, till the end of January 2022, covering three months for data collection. The researcher met the patients in the waiting areas of the nephrology clinic in the outpatient clinics to collect data. As for the patients of the internal departments. The interview took place daily from 9.00 a.m. to 4 p.m., five days/ week. An interviewing questionnaire took about 5- 10 minutes to be completed, besides patients' stress, coping strategies and self-acceptance questionnaire took about 20–40 minutes. In addition, the researcher explained and clarified each point and question in each questionnaire to make it easier for the patient to fill it out.

#### **VI- Statistical design:**

- They were analyzed using the statistical package for social sciences, version 22.0 (SPSS Inc., Chicago, Illinois, USA).
- Quantitative data were expressed as mean  $\pm$  standard deviation (SD).
- Qualitative data were expressed as frequency and percentage.
- Pearson's correlation coefficient [r] to assess the degree of association between two sets of variables.
- The confidence interval was set to 95% and the margin of error accepted was set to 5% so, the p-value was considered significant as the following:
  - ❖ Probability (p-value)
    - P-value  $\leq$  0.05 was considered significant.
    - P-value  $\leq$  0.001 was considered as highly significant.
    - P-value  $>$  0.05 was considered insignificance.

#### **Result:**

**Table (1):** shows that 70.0 % of patients with systemic lupus erythematosus were in age from 20 to 39 years with a mean age of

32.53±7.39 years and 70% were males, 51% were married and 60.5% of them came from urban areas. Furthermore, all the studied subjects were educated (37.5% have an institutional level, 36% had a diploma and 23% are highly educated). 31% of studied patients were housewives and about 57.5% of them had 4 – 6 members of the family. Regarding their housing condition, it was found that 83% of them lived in good housing conditions. 51% of the studied subjects are satisfied with their monthly income.

**Table (2):** Reveals that, 69.5% of studied subjects had a skin rash, followed by extreme fatigue and unexplained fever (64%). Kidney failure prevailed among patients which constitute 62% followed by kidney infection (34.5%). Furthermore, 51% of them were previously hospitalized once a year or more.

As regards symptoms associated with SLE, **table 3** represents that, 86.5% of studied the subjects had butterfly-shaped rashes on the face, and 69.0% of them had sensitivity to light. Regarding neurological symptoms, (75%) of the studied subjects had continuous headaches, and all of them (100%) have kidney dysfunction with permanent hemodialysis (69.5%).

Furthermore, 94.0% of the studied subjects have swelling.

**Table (4):** Clarifies that 49.0% of the studied subjects had moderate levels of stress from their general patients' life aspects and near to one quarter had high levels (23.5%). In addition, 61.0% among them had moderate levels of stress in the last month and (65.5%) had moderate stress in the past 6 months.

**Figure (1):** shows that 49.5% of studied subjects had moderate levels of stress, and 16.5% had high levels of stress.

**Figure (2):** Shows that (55%) of the studied subjects had low levels of coping, and 21.5% has moderate levels.

**Figure (3):** Shows the level of self-acceptance among patients with systemic lupus erythematosus and found that 56.5% of them had a low level of self-acceptance.

**Table (5):** Shows a statistically significant strong negative correlation between the total score of patients' stress and their total score of coping strategies and total score of Self-acceptance ( $P < 0.001$ ).

**Table (1):** Frequency and percentage distribution of patients' socio-demographic data (N=200).

<b>Socio-Demographic</b>	<b>No.</b>	<b>%</b>
<b>Age (years)</b>		
≤19 years	13	6.5
20-29 years	73	<b>36.5</b>
30-39 years	67	<b>33.5</b>
≥40 years	47	23.5
-		
$\bar{x} \pm SD$	32.53±7.39	
<b>Gender</b>		
Male	140	<b>70</b>
Female	60	30
<b>Marital Status</b>		
Single	72	36
Married	102	<b>51</b>
Divorced	13	6.5
Widowed	13	6.5
<b>Residence</b>		
Urban	121	<b>60.5</b>
Rural	79	39.5
<b>Education</b>		
Illiterate	0	0
Secondary school Diploma	72	36
Technical Institute diploma	75	<b>37.5</b>
Bachelor high education	46	23
Postgraduate	7	3.5
<b>Occupation:</b>		
Office clerk	34	17
Technical	13	6.5
Craft professions	18	9
Free Business	20	10
Housewife	62	<b>31</b>
Student	27	13.5
Teacher	26	13
<b>House condition (space, ventilation, special room)</b>		
Poor	20	10
Good	166	<b>83</b>
Very good	14	7
<b>Number of family members</b>		
1-3	65	32.5
4-6	115	<b>57.5</b>
7-9	20	10
<b>Monthly income</b>		
Satisfying	102	<b>51</b>
Average	84	42
Unsatisfying	14	7

**Table (2):**Frequency and percentage distribution of Studied patients' medical history (N=200).

<b>Patient medical history:</b>	<b>No.</b>	<b>%</b>
<b>*Chief complaint</b>		
Skin rash, including a butterfly-shaped across the cheeks and nose	139	<b>69.5</b>
Prolonged or extreme fatigue	128	<b>64.0</b>
Unexplained fever	128	<b>64.0</b>
Swollen joints (arthritis)	107	53.5
Mouth or nose sores	79	39.5
Sensitivity to the sun and/or other light	78	39.0
Swollen joints (arthralgia)	76	38.0
Hair loss	69	34.5
Pain in the chest when breathing deeply.	58	29.0
Pale or purple fingers or toes from cold or stress	40	20.0
<b>Present diagnosis</b>		
Lupus erythematosus (kidney failure)	124	<b>62.0</b>
Lupus erythematosus (kidney infection)	69	<b>34.5</b>
Lupus erythematosus (nephritis)	7	3.5
<b>Previous hospitalizations</b>		
1 : 3 months	27	13.5
3 : 5 months	38	19.0
1 year or more	102	<b>51.0</b>

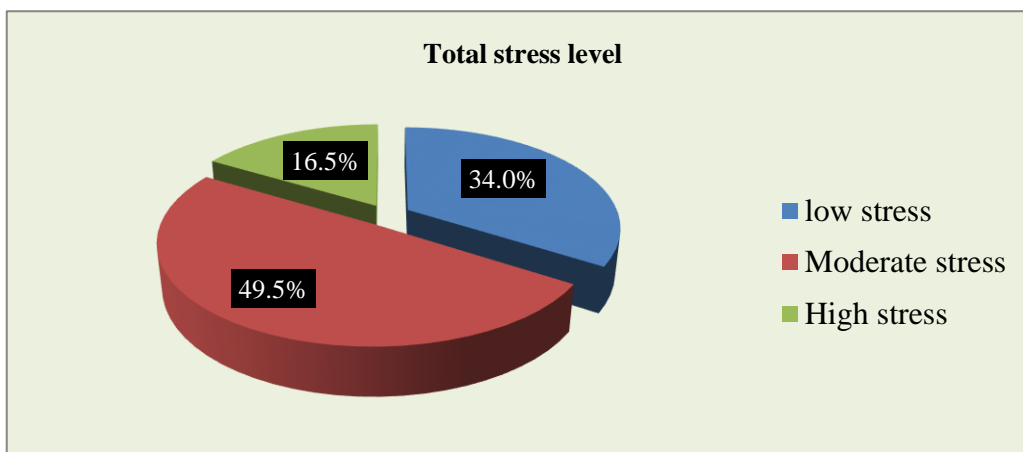
**Table (3):**Frequency and percentage distribution of studied patients' symptoms (N=200).

<b>Health Assessment:</b>	<b>No.</b>	<b>%</b>
<b>Symptoms with lupus</b>		
Butterfly-shaped rash on the face	173	86.5
Sensitivity to light	138	69.0
Skin ulcers	127	63.5
Inflammation of the joints	123	61.5
Chest pain	99	49.5
Dryness in the eyes	89	44.5
Increase in weight	79	39.5
<b>Neurological symptoms</b>		
Continuous headache	151	<b>75.5</b>
Convulsions	58	29.0
Loss of concentration and memory	20	10.0
<b>Kidney symptoms</b>		
kidney dysfunction	200	<b>100.0</b>
Swelling (Face - hands - feet - abdomine- around the eyes)	188	<b>94.0</b>
Permanent hemodialysis	139	69.5
Hypertension	127	63.5
Chronic kidney failure	107	53.5
Change in the amount of urine	98	49.0
Presence of blood or protein in the urine	85	42.5
Change in the color of urine having foam	38	19.0
Acute kidney failure	33	16.5

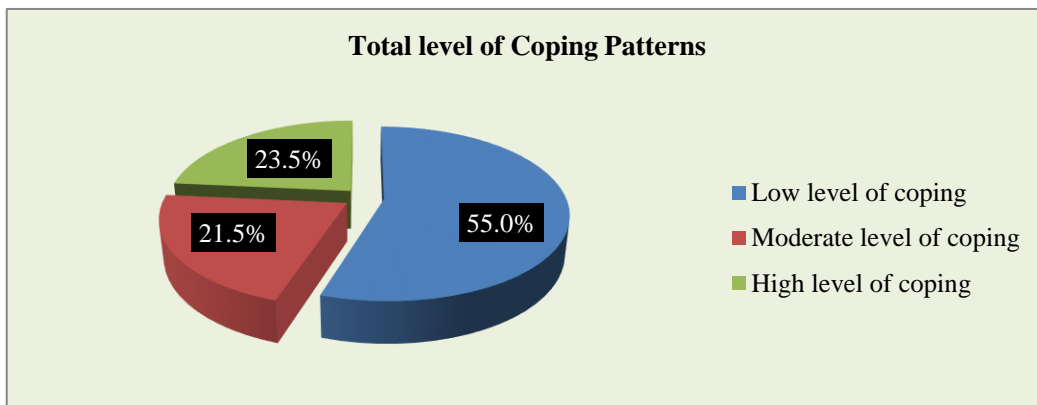


**Table (4):** Distribution of stress symptoms among studied patients with SLE (N=200).

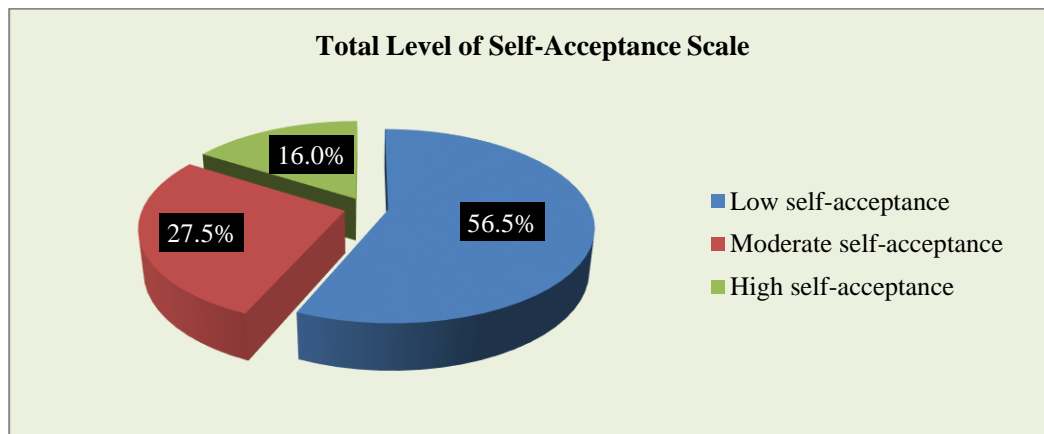
Sections	Low Stress		Moderate Stress		High Stress	
	No.	%	No.	%	No.	%
- Stress from the general patients' life aspects	55	27.5	98	49.0	47	23.5
- Patients' stress in the past month	49	24.5	122	61.0	29	14.5
- Patients' stress in the past 6 months	47	23.5	131	65.5	22	11.0



**Figure (1):** Percentage distribution of total stress level among studied patients (N= 200).



**Figure (2):**Percentage distribution of total level of coping strategies among studied patients (N=200)



**Figure (3):** Percentage distribution of total level of self-acceptance among studied patients with SLE (N=200).

**Table (5):** Correlation between studied patient's stress with their coping patterns and self-acceptance (N=200).

Variables	Total Stress	
	Pearson correlation coefficient	P-Value
Total Coping Patterns	-0.642	0.001***
Total Self-Acceptance Scale	-0.847	0.001***

\*\*\* Correlation is significant at the 0.001 level

### Discussion:

Systemic lupus erythematosus (SLE) is a chronic and unpredictable disease, for many patients results in considerable physical disability and psychological distress. The mental health of patients with SLE is an important issue. Major stressful life events and negative disengaging coping styles in patients with SLE may contribute to decreased physical function, psychological distress, and ways of accepting themselves (Signorini, 2020; Dianati et al., 2022). So the present study aimed to assess the level of stress, coping, and self-acceptance among patients with systemic lupus erythematosus.

As regards to the age of the studied patients, the current study result shows that more than two-thirds of patients with systemic lupus erythematosus were in age 20 to 39 years with a mean age of (32.53±7.39). This may be due to the prevalence of Systemic lupus erythematosus (SLE) most common in this age. The present study result was supported by (Rafael – Hennemann, (2017) who applied a

study entitled "Age of onset influences on clinical and laboratory profile of patients with systemic lupus erythematosus" and found the mean age of (33.6 ± 14.3) in adult-onset.

The present study result shows that a high percentage of the studied patients were males. This may be due to attendance in males gender more than females. This result was contrasted with Case et al., (2021) who applied a study entitled "Patient experiences and strategies for coping with SLE" and found that a low percentage of the studied patients were males.

Regarding medical history among studied patients, the present study result reveals that more than two-thirds of studied subjects had a skin rash, followed by nearly two-thirds of them having extreme fatigue and unexplained fever respectively. This result was supported by Holloway et al., (2014) who applied a study entitled "Patient-reported outcome measures for systemic lupus erythematosus clinical trials: A review of content validity, face validity, and

psychometric performance and found that from 50 to 90% of patients with SLE experience constant fatigue and consider it the most common symptom of the disease.

Furthermore, less than two-thirds have kidney failure prevailed among patients followed by more than one-third of them who had a kidney infection. This may be due to Systemic lupus erythematosus SLE effects on the urinary systems.

This analysis was supported by **Fonseca et al., 2014** who conducted the study titled *Silent Burdens in Disease: Fatigue and Depression in SLE*, and found that all of the patients with SLE had different signs and symptoms depending on the affected organ.

Concerning health assessment among studied patients, the present study result showed that three-quarters of the studied subjects had a headache, all of them had kidney dysfunction with permanent hemodialysis among studied subjects. This might Systemic Lupus Erythematosus association with different physical and psychological symptoms.

This result was supported by **Mathian et al., (2020)** who applied study entitled "Clinical course of coronavirus disease 2019 (COVID-19) in a series of 17 patients with systemic lupus erythematosus under long-term treatment with hydroxychloroquine" noted that low percentage of the studied patients had kidney failure while highly percentage of them had kidney diseases

Regarding the level of stress among patients with SLE, the present study result found that about half of them had moderate levels of stress, and a small percentage had a high level. This might be due to ongoing stress being associated with worse outcomes in SLE, including increased perceived disease activity and symptom severity as more than half of them suffered from chronic kidney failure. In addition, the studied patients with SLE reported in the stress questionnaire that more than two-

thirds suffered from moderate to severe stress resulting from their general life aspects affected by the nature of the disease. The studied patients' stress percentage more in the past month as well as in the past 6 months.

Likewise, the present study results were in accordance with **Peralta-Ramírez et al., (2018)** who applied a study about the "Association between perceived level of stress, clinical characteristics and psychopathological symptoms in women with SLE" and found that patients with SLE have higher levels of perceived stress and more exposure to life-threatening events or major adversity than individuals without SLE.

Concerning the response of patients with systemic lupus erythematosus according to their coping, the present study result found that, that more than half of the studied patients reported that they had a low level of coping this may be due to the studied patients submitted low scores in the coping questionnaire items regarding inability to talk about the disease whether to their families or their friends, had doubts that their medical treatment is good enough, and they had a negative view about their cure, furthermore, most of them did not seek contact with other people who have experienced a similar situation.

The result of the current study was supported by **Jordan et al., (2019)** who applied a study entitled "Relationships among organ damage, social support, and depression in African American women with systemic lupus erythematosus" mentioned that the studied patients had a low level of coping strategies by not talking to their families and friends about their disease. This result also was in agreement with **Li et al., (2019)** who applied a study entitled "Illness uncertainty, social support, and coping mode in hospitalized patients with systemic lupus erythematosus in a hospital in Shaanxi, China" and noted that compared with general patients, hospitalized SLE patients had lower scores of facing, but higher scores of avoiding and yielding, indicating that the

patients could not actively face their conditions and avoid to take appropriate action to seek help.

Regarding level of self-acceptance among the studied patients with SLE, the present study result found that more than half of them had a low level of self-acceptance. This may be due to nearly two-thirds of the studied patients reporting low scores in accepting their bodies and more than half of them attained low scores of self-protection from negative judgments. In addition, nearly half of the studied patients attained low scores in feeling and believing in one's capacities.

This result was in the same line with **Borges et al., (2021)** who applied a study entitled "Patients who experience systemic lupus erythematosus and leg ulcer: phenomenological approach and found that: the studied patients with systemic lupus erythematosus reported that they were negatively affected with prejudiced opinions of body changes related to SLE. Also, the present study results were in accordance with **Lestari et al., (2021)** who conducted a study entitled "Relationship between family support and stress levels of people with Lupus at the Kupu Parahita Indonesia Foundation" and found that a high percentage of patients suffering from negative self-acceptance.

As regards the correlation between studied patient's stress with their coping patterns and self-acceptance, the present study result showed that there was a statistically strong negative correlation between the total score of patients' stress, their total score of coping strategies, and total score of self-acceptance as evidenced by ( $P < 0.001$ ). This may be due to stress, coping patterns, and self-acceptance depending on each other.

As regards this study agreement with **Bricou et al., (2006)** who studied "Stress and coping strategies in systemic lupus erythematosus" and found that stress as a causal factor is not proven, but it seems to act as an

exacerbating factor in disease activity and to have a negative impact on the quality of life. The study also asserted that coping strategies are more consistently associated with quality of life than disease activity process.

## Conclusion

**In the light of the current study findings, it can be concluded that,**

About half of the studied patients had moderate levels of stress. Also, more than half of them had a low ability to cope. Furthermore, more than half of the studied patients had a low level of self-acceptance. Additionally, there was a statistically strong negative correlation between the total score of patients' stress and their total score of coping strategies, and the total score of self-acceptance at p-value ( $P < 0.001$ ).

## Recommendations

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

- Patient education and counseling is an important part of standard care; establishing a patient psycho-education program to improve patients with SLE, how to cope with, and accept the disease.
- Design a systematically continuous health promotion program for patients with SLE in hospitals and by media to help them in improving their health status.
- Qualitative research should be conducted to assess the patients' psychological reactions and experiences with the SLE.

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