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The Relationship Between Nursing Staff Performance Regarding Systemic Lupus Erythematosus and Patient's Outcomes

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Abstract

Background: (SLE), is a disease that immune system attacks tissue in body. Nurses play a role in control and management of SLE, **aim** assess nurses' performance regarding care of patients. **Research Design:** Descriptive design was utilized in study. **Settings:** study has been conducted in Tanta University Hospital. **Sample:** convenience sample of all available (50) nurses worked at words and (50) patients **Tools:** Tool (1): Self structured questionnaire includes. **Part I& Part II:** Nurses and patients' demographic data. **Part III:** Nurses knowledge assessment questionnaire. Tool (II): Observational checklist to assess Nurses' practice**.** Tool III: SLE patient reported outcomes **Results:** study finding for nurse's knowledge about care of patient with systemic lupus, 75% of nurses had a satisfactory level of knowledge, while 25% of them had an unsatisfactory level. **Conclusion:** In light of the current study, it can be concluded, three quarters of the studied nurses had unsatisfactory level of total knowledge regarding fair of patients, while one-quarter of them had satisfactory level. **Recommendations:** educational standards should be applied to develop the nurses' skills by giving chance to nurses to participate with training sessions in developed country.

Key words: *Nurses' performance, systemic lupus*.

Introduction

Systemic lupus erythematosus (SLE), is an autoimmune disease in which the body's immune system mistakenly attacks healthy tissue in many parts of the body. Symptoms vary among people and may be mild to severe. Common symptoms include painful and swollen joints, fever, chest pain, hair loss, mouth ulcers, swollen lymph nodes, feeling tired, and a red rash which is most commonly on the face. Often there are periods of illness, called flares, and periods of remission during which there are few symptoms**(Murphy , et al.,2022).**

The cause of systemic lupus erythematosus is not clear. It is thought to involve a combination of genetics and environmental factors. Among identical twins, if one is affected there is a 24% chance the other one will also develop the disease. Female sex hormones, sunlight, smoking, vitamin D deficiency, and certain infections are also believed to increase person's risk. The mechanism involves an immune response by autoantibodies against person's own tissues. These are most commonly anti-nuclear antibodies and they result in inflammation **(Handout, 2019).**

Systemic lupus does run in families, but no single causal gene has been identified. Instead, multiple genes appear to influence a person's chance of developing lupus when triggered by environmental factors. The human leukocyte class I, class II, and class III genes are associated with SLE, but only classes I and II contribute independently to increased risk of SLE **(Martens, et al.,2020).**

Since systemic lupus edematous is associated with many genetic regions, it is likely an oligogenic trait, meaning that there are several genes that control susceptibility to the disease. SLE is regarded as a prototype disease due to the significant overlap in its symptoms with other autoimmune diseases. They have less organ systems involved, and the disease is mild in them, but the progress and natural course, for some unknown reasons, is bad **(Prokunina , et al., 2020).**

Some of the more serious complications include; kidney inflammation, which can affect the body's ability to filter waste from the blood, which can damage the kidneys to the point of needing dialysis or a kidney transplant and lead to a disease called nephritis. "Inflammation of the nervous system and brain, which can cause brain fog, headaches, and strokes. Hardening of the arteries or a buildup of deposits on artery walls, which can lead to a heart attack **(Tugwell P,2020).**

There is no cure for systemic lupus erythematosus, but there are experimental and symptomatic treatments. It includes hydroxychloroquine, and methotrexate. Although corticosteroids are rapidly effective, long-term use results in side effects. Alternative medicine has not been shown to affect the disease. Life expectancy is lower among people with SLE, but with modern treatment, 80-90% of patients can have a normal life span. SLE significantly increases the risk of cardiovascular disease with this being the most common cause of death. While women with lupus have higher risk pregnancies, most are successful **(remold,2020).**

Nurses play an active role in the control and management of meningitis through early observation, diagnosis and by following a defense inverse infection technique. Therefore, nurses should be trained through continuous educational programs to upgrade their knowledge level and improve their practical skills regarding control and management of systemic lupus. Nurses needs to teaching program to increase the knowledge and skills and be able to deal with acute systemic patients **(Obaid et al., 2019).**

Significance of the Study:

The disease of systemic lupus can attack people of all age, races, both males, and female. But it has been observed that more than 90% of new patients having SLE are woman in their conceiving words. The prevalence of SLE, which has been reported recently is 20-150 per 100,000. Data from the United Stated stipulated the prevalence to be 104-107 per 100,000 woman **(Hurwtiz, 2020).** The number of cases who suffer from SLE which was admitted to medical units of Tanta university hospital from the beginning of January 2023 until now was 200 cases **(Xia, et al., 2020).**

Aim of study:

This study aims to assess relationship between nursing staff performance regarding to systemic lupus erythematosus and patient's outcomes.

Research question :

1- Assess nurse's knowledge regarding care of patient undergoing systemic lupus erythematosus.
2- Assess nurse's practices regarding systemic lupus erythematosus.
3- Assess patient's outcome regarding systemic lupus erythematosus.

Operational definition:

Patient's outcome: Systemic lupus erythematosus patient reported outcomes (lupus PRO) through questions to measure health- related quality of life (HRQOL) and non- health- related quality of life (NRQOL) aspects pertinent to SLE disease **(Tool 3).**

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Subject and method:

The subjects and methods for this study was portrayed under the four main items as follows:

I-Technical item. II - Operational item.

III- Administrative item. IV- Statistical item.

1-Technical Item:

The technical item includes research design, setting, subject and tools for data collection.

Research design:

A descriptive correlational design was utilized in this study. It is a type of research method that involves dealing two variables in order to establish a statistically corresponding relationship between them **(Prutah Bhandari, 2021).**

Setting:

The current study was conducted in intensive care unit of Tanta university hospital.

Sampling:

A convenience sample of all available nurses from both sex working in the medical units who provide care for patients undergoing systemic lupus and who are willing to participate in the study and convenience sample from patients that are suffering from systemic lupus erythematosus.

Tools for data collection:

Data were collected using the following three tools:

The first Tool: Self-administered interviewing questionnaire

It was designed by the investigator based on reviewing related literature review and was written in simple Arabic language to gather data regarding the following parts:

Part I: Personal characteristics of nurses such as age, gender, marital status, level of education, years of experience and training courses.
Part II: Personal characteristics of patients such as age, gender, marital status, level of education, occupation and comorbid disease.
Part III: Knowledge assessment questionnaire:

This tool was developed by the investigator written in Arabic language based on related literatures (**Stromberg, 2018) & (Rezaei, 2022),** it used to assess nurses' knowledge regarding care of patients' undergoing systemic lupus erythematosus.

The second tool: Observational checklist to assess Nurses' practice regarding care of patients undergoing SLE:

Tool III: Systemic lupus erythematosus patient reported outcomes (lupus PRO) through questions to measure health- related quality of life (HRQOL) and non- health- related quality of life (NRQOL) aspects pertinent to SLE disease.

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II-Operational item: -

The operational design includes preparatory phase, tools validity and reliability, pilot study and field work.

A) Preparatory phase:

It was included reviewing of related literature and theoretical knowledge of various aspects of the study using books, articles and internet's periodicals and journals to develop tools for data collection. During this phase the investigator also visited the selected place to get acquainted with the personnel and the study setting.

B) Tool validity and Reliability (Appendix III):

Content validity was ascertained by a panel of five experts (1 Assistant professors and 4 lecturer of medical surgical nursing) from Faculty of Nursing, Helwan University. The expertise reviewed the tools for clarity, relevance, comprehensiveness, simplicity, and applicability; minor modifications were done and the final forms were developed. Internal consistency and reliability were measured by using Cronbach's alpha-coefficient test.

Nursing staff knowledge regarding care of patient with systemic lupus erythematosus		
Questionnaire	**No of items**	**Alph Cronbach test**
Total	**38**	**0,992**

Nursing staff practice regarding care of patient with systemic lupus erythematosus		
Questionnaire	**No of items**	**Alph Cronbach test**
Total	**36**	**0.984**

C) A pilot study:

A pilot study was carried out on 10% (5 nurses) of sample size to test the applicability, clarity and efficiency of the tools. The pilot study had also served to estimate the time needed for each subject to fill in the study tools. Depending on the results of the pilot study no modifications or refinements were done and the patients were included in the actual study sample.

D) Field work:

An approval was obtained from a scientific, ethical committee of the faculty of nursing at Helwan University. The investigator introduced herself to the studied nurses and explained the purpose of the study to nurses included in the study. The actual work of this study started and completed within six months from beginning of January (2023) to the end of Jun (2024). Observational checklist for assessment of

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nurses' practice regarding care of patients' undergoing systemic lupus erythematosus was being filled by the investigator. Direct and indirect observation for each nurse during care of patient undergoing SLE each nurse take time.

Results:

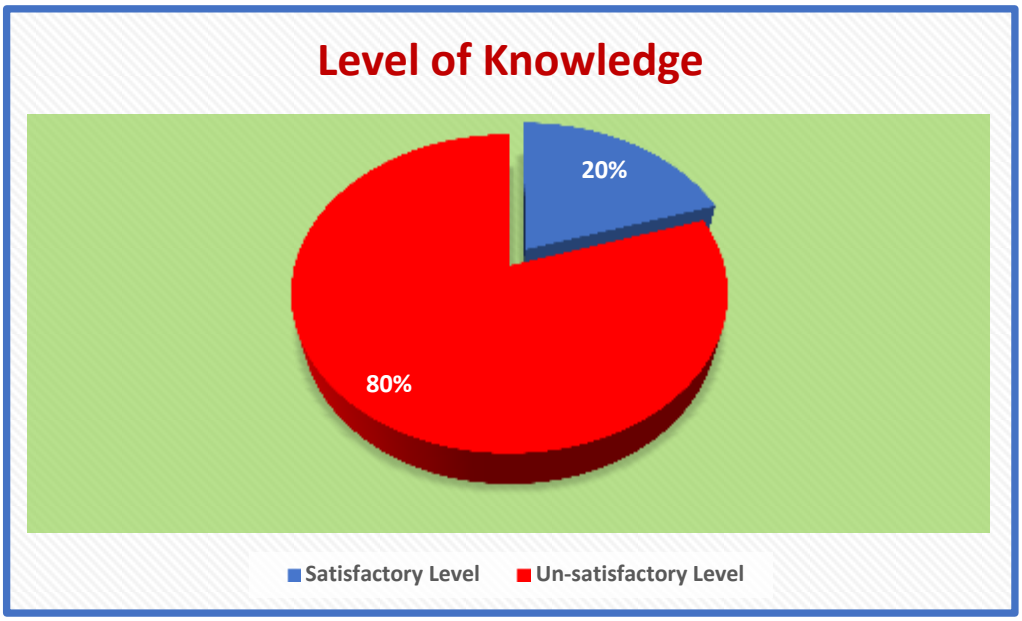

Figure (1): Frequency wide of the made mild team space regarding fair for affected with organ press phrase (n=50).

Figure (1): illustrates that **(80% & 20%)** of the studied nursing staff hadn't unsatisfactory knowledge regarding care for patient with systemic lupus erythematosus and a satisfactory level respectively. In addition to the presence of a highly statistically significant difference between satisfactory and unsatisfactory level, at P = 0.000.

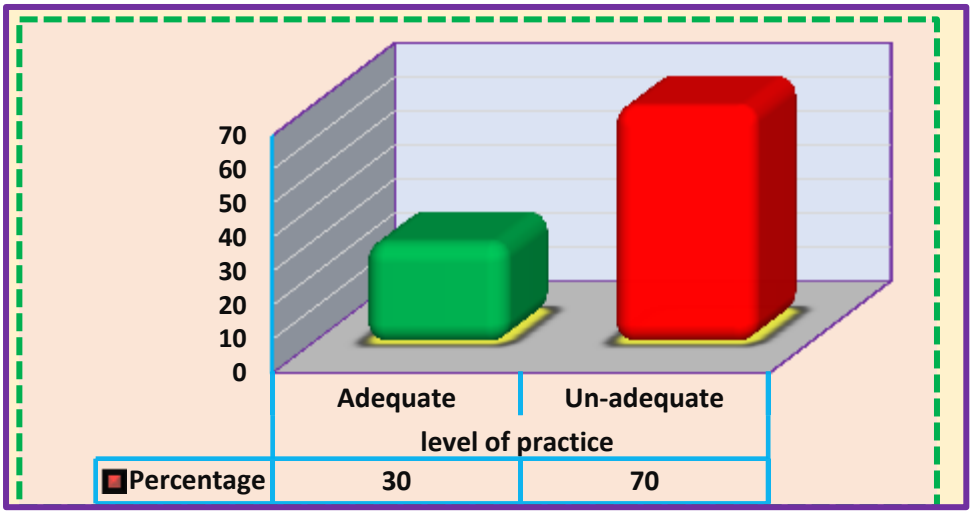

Figure (2): Frequency wide of the made mild team space regarding fair for affected with organ press phrase (n=50).

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Figure (2): illustrates that **(70% & 30%)** of the studied nursing staff hadn't adequate practice regarding care for patient with systemic lupus erythematosus and adequate practice respectively. In addition to the presence of a highly statistically significant difference between adequate and inadequate level, at P = 0.005.

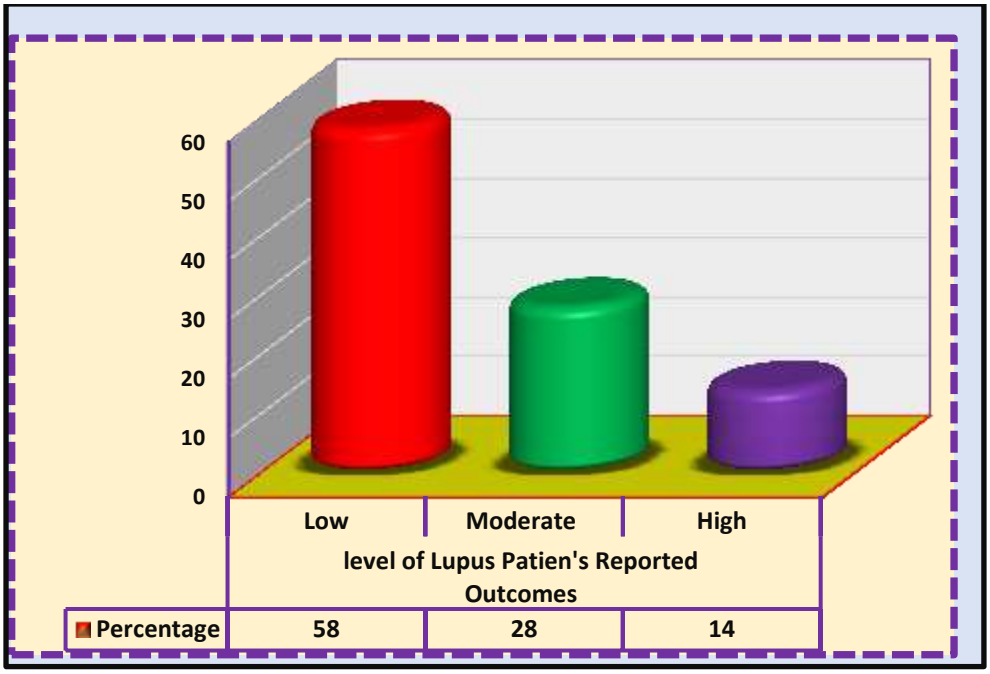

Figure (3): Frequency wide of Press PRO among the made affected with organ press phrase (n=50).

Figure (3): illustrates that nearly two thirds **(58%)** of the studied patients with systemic lupus erythematosus had low level of Lupus PRO. While **(14%)** of them had a high level of Lupus PRO. In addition to the presence of a highly statistically significant difference between low, moderate and high level, at P = 0.001.

Discussion:

Demographic characteristic among the studied patients:

The present study finding stated that half of the studied patient ranged in age between thirty to less than forty years old, with a total mean age of 34.10 ± 6.74 years. Similarly, a study conducted by **Mohamad et al., (2020)** entitled "Effect of Nursing Education on Knowledge and Self Care for Patients with Systemic Lupus Erythematosus" and reported that most of the studied patients their age ranged from 35 to 45 years old. Conversely, a study performed by **Elghareeb & Mahmoud, (2022)** to evaluate influence of self-management instruction on outcomes of health for Systemic Lupus Erythematosus patients and reported that the mean age of studied patients was 21.66 ± 13.01 years.

Regarding the studied nursing staff knowledge regarding identity and time-line of systemic lupus erythematosus, the present study indicated that more than two-fifths, more than half and about two-thirds of the studied nursing staff had a response of "don't knowing" in relation to the items of sun sensitivity is a

concern, patients can be caught by sharing items, lupus is diagnosed soon, hair loss is a symptom and "immune count test" is the one test used, respectively. This could be due to lack of appropriate courses in the curricula of institutions. This result was congruent with **Khaled et al, (2022)** who conducted a study reported that, the most of studied nurses had unsatisfactory level of knowledge about systemic lupus erythematosus.

Level of practice regarding care of patient with systemic lupus erythematosus among the studied nursing staff.

In relation to the studied nursing staff practice regarding administration of blood transfusion for patient with systemic lupus erythematosus, the present study demonstrated that more than four-fifths and about two-thirds of the studied nursing staff didn't wash hands and don appropriate PPE, didn't demonstrate double check for blood transfusion request and didn't check the expiry date and time on the unit of blood respectively. As well, more than two-thirds of the studied nursing staff didn't demonstrate appropriate documentation, evaluation and didn't adjust appropriately the blood transfusion rate.

Considering the studied nursing staff practice regarding oral ulcer care for patient with systemic lupus erythematosus, the present study revealed that about two thirds of them didn't instruct the client to avoid spicy or citrusy foods, didn't Instruct the client to rinse the mouth with half-strength hydrogen peroxide three times per day and didn't instruct the client to keep ulcerated skin clean and dry respectively. In relation to the total dimension of oral ulcer care, nearly two thirds of the studied nursing staff had inadequate practice regarding oral ulcer care for patient with systemic lupus erythematosus.

Level of Lupus patient reported outcomes (PRO).

Concerning Lupus PRO in relation to symptoms and cognition among the studied patient with systemic lupus erythematosus, the current study declared that equal or more than two fifths of the studied patients had loss of hair most of time and had a new or flare of previous lupus-related skin rashes sometimes. Additionally, in relation to PRO cognition, it described that more than one third of them had lack of concentration a little of the time.

Pertaining association between total level of knowledge regarding care of patient with systemic lupus erythematosus and demographic characteristics of the studied nursing staff, the present study declared that there was highly statistically significant association with gender, marital status, level of education, and attending training courses. This can be explained as male nurses, single nurses and those who have high level of education and attended training courses were more knowledgeable than others.

Pertaining to correlation between total score of nursing staff knowledge, practice, and Lupus PRO among the studied patient with systemic lupus erythematosus, the current study highlighted that there was a highly statistically significant positive strong correlation between total score of nursing staff knowledge as well as practice, and Lupus PRO among the studied patient.

Conclusion:

In light of the current study, it can be concluded that, four- fifth of the studied nurses had unsatisfactory level of total knowledge regarding care of patients with systemic lupus, while minority had satisfactory level. As well, more than two-thirds of the studied nurses had an inadequate level of total practice regarding systemic lupus erythematosus, while only more than one quarter of them had an adequate level. As well, more than two thirds of the studied patients with systemic lupus erythematosus had low level of lupus PRO, while the minority of them had a high level of lupus PRO. So, the study answered the research questions "What is the

level of nurses' knowledge regarding of patients care with systemic lupus?", "What is the level of nurses' practice regarding of patients care with systemic lupus?", "What is the level of patients outcomes of undergoing systemic lupus?

Recommendations:

Based on the findings of the study results, the following recommendations were advocated:

1. Global educational standards should be applied to develop the nurses' skills by giving chance to nurses to participate with training sessions in developed country to improve nursing skills and receiving updates concerning care.
2. Providing educational guidelines, posters and pamphlets about systemic lupus and should be available at each nursing stations in wards and encourage nurses to get use from them.
3. Encourage the nurses to participate in training courses about systemic lupus to update their knowledge.

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