

Health Belief Model among Patients regarding Prevention of Systemic Lupus Erythematosus Complications

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Abstract

Background: Health Belief Model is beneficial to assess the patients' beliefs regarding prevention of systemic lupus erythematosus complications to improve their beliefs and change their behaviors about the disease. **Aim of study:** To assess health belief model among patients regarding prevention of systemic lupus erythematosus complications. **Research design:** A descriptive design was utilized in this study. **Setting:** This study was conducted at Rheumatology Outpatient Clinics of Benha University Hospital and Benha Teaching Hospital. **Sample:** A purposive sample was used which included 83 patients with systemic lupus erythematosus. **Tools of data collection:** Two tools were used. **1):** A structured interviewing questionnaires which included three parts: **Part I:** Socio-demographic data of patients with systemic lupus erythematosus. **Part II:** Medical history of patients with systemic lupus erythematosus. **Part III:** Concerned with patients' knowledge about **a)** systemic lupus erythematosus disease and **b)** prevention of systemic lupus erythematosus disease. **2):** Health belief model scale to assess patients belief regarding systemic lupus erythematosus disease. **Results:** 72.3% of the studied patients were female, 94% of them had not enough monthly income, 89.2% of them had lupus flare due to sun exposure, 82% of them had medications' commitment about disease, 73.5% of them had complications from disease, 22.9% of them had poor total knowledge level regarding systemic lupus erythematosus, 43.4% of them had high total belief regarding prevention of systemic lupus erythematosus complications, there were a statistical significant relation between the total beliefs of patients with systemic lupus erythematosus and their place of residence about socio-demographic data $P < 0.05$. **Conclusion:** There was no statistical significant correlation between the total knowledge and the total beliefs of patients --with Systemic Lupus Erythematosus. **Recommendation:** Design and implement educational programs based on health belief model for systemic lupus erythematosus patients and regarding to prevention of complications.

Key words: Health belief model, Prevention of complications, Systemic lupus erythematosus.

Introduction

Systemic Lupus Erythematosus (SLE) is a systemic autoimmune disease with a worldwide distribution. Although both men and women of all age groups can be affected, women outnumber men almost 10 fold and the typical lupus patient is a young woman during her reproductive years. Clinically, lupus is a disease with an unpredictable course involving flares and remissions, where

cumulative damage over time significantly interferes with the quality of life and adversely affects organ function. Multiple cells, tissues, and organs can be affected in this disease, and the clinical picture can vary greatly between patients. Indeed, even in the same patient the clinical picture may not be consistent over time. Organ systems most commonly involved in lupus patients include joints, skin and mucous membranes, blood

cells, brain, and kidney (**Putterman et al., 2022**).

Systemic lupus erythematosus is a chronic systemic autoimmune disease of variable severity and course, characterized by a tendency for flare. In SLE, both innate and adaptive immune responses are involved. Interaction of genes with environmental factors leads to numerous immunologic alterations that culminate into persistent immune responses against autologous nucleic acids. Tissue damage caused by autoantibodies or immune-complex depositions occurs in kidneys, heart, vessels, central nervous system, skin, lungs, muscles and joints leading to significant morbidity and increased mortality (**Bertsias et al., 2020**).

The common symptoms include swollen or painful joints, unexplained fever, skin rash, fatigue, and kidney problems. Lupus can be treated effectively, but there is no cure. People with lupus experience periods of exacerbation of symptoms, which are termed 'flares', as well as periods of remission. Nurses need to have a good understanding of the disease to provide patients with appropriate support and advice about how to maintain wellbeing (**Koroma, 2019**).

Systemic lupus erythematosus has a negative effect on various aspects of a patient's life, such as mental health, quality of life, and daily functioning, which may lead to decrease employment rates and heavy economic burden. According to previous studies, patients with high level of self-care might achieve better health outcomes, so the patient needs to acquire self-care knowledge and skills and must find suitable ways to manage surrounding environments to maintain optimal health. As the leading causes of death from SLE are the complications of the disease, such as end stage renal disease and cardiovascular disease, rather than SLE itself, another complications

included complications of the blood, lung complications, central nervous system complications, gastrointestinal complications, joint, muscle and bone complications, Raynaud's phenomenon and eye complications (**Kusnanto et al., 2018**).

Health Belief Model (HBM) is a psychological model that is utilized to predict and change health behaviors and spotlights on an individual's beliefs and attitudes. It is "value-expectancy model" based on the willingness of individuals through change their health behavior (**Al-Nomani et al., 2020**). It is considered to be one of the most influential models in the health promotion practice. Use of the HBM as a frame work is helpful in identifying perceptions and behaviors associated with SLE treatment (medication and healthy life style adherence). Education is one of the most basic tools and efficient methods of intervention to prevent SLE complications, integrating health beliefs into educational interventions may improve patients lifestyle (**Pauline & Olanike, 2020**).

The role of the Community Health Nurse (CHN) in improving systemic lupus erythematosus control has expanded over the past 50 years, complementing and supplementing that of the physician. SLE requires long-term supervision. CHN involvement began with patient education regarding self-management, behavior change, and medication compliance, and has expanded to become one of the most effective strategies to improve SLE control (**Robinson et al., 2021**).

Significance of the study

The prevalence of SLE ranged from 5.8 to 130 per 100,000 population in USA, whereas the prevalence in UK and Japan was approximately 40.7 and 19.1 per 100,000 population. In China, the prevalence of SLE ranged from 31 to 70 per 100,000 population (**Yang et al., 2018**). Systemic lupus

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erythematosus is a significant global public health problem. The estimated incidences of the systematic lupus in Egypt, is 1/100,000 population. (Mohamed et al., 2022).

Aim of the study

The study aimed to assess health belief model among patients regarding prevention of systemic lupus erythematosus complications.

Research questions

- What is the level of patients' knowledge regarding prevention of SLE complications?
- What are the patients' beliefs regarding prevention of SLE complications?
- Is there a relation between socio-demographics data of studied sample, knowledge and their health beliefs regarding prevention of SLE complications?
- Is there a correlation between patients' knowledge and their health beliefs regarding prevention of SLE complications?

Subjects and Method

Research design:

Descriptive design was utilized in conducting this study.

Setting:

This study was conducted at Rheumatology Outpatient Clinics of Benha University Hospital and Benha Teaching Hospital, where the highest flow rate of patients with systemic lupus erythematosus attend this place due to the presence of clinics specialized in rheumatic and autoimmune diseases, and the availability of medications.

Sampling:

Purposive sample of patients with SLE attended the previously mentioned settings was taken within 6 months from June 2022 to December 2022 within 2 days /week. It was

included 83 patients; 62 of them from Benha Teaching Hospital and 21 of them from Benha University Hospital were diagnosed with SLE that represent the total number.

Tools of data collection:

Two tools were used to collect the data. It was developed by the researchers, based on reviewing related literature and it was written in simple clear Arabic language.

Tool (I): An interviewing questionnaire which included three parts:

Part I: Socio-demographic data of patients with SLE included 8 questions about; age, gender, marital status, level of education, occupation, place of residence, monthly income and number of family member.

Part II: Medical history of patients with SLE included 8 questions about; onset of disease, flare symptoms, flare causes, lupus flare time, follow up, diagnostic tests, medications and complications).

Part III: concerned with patients' knowledge.

a) Knowledge of patients about SLE disease included 7 questions covering; meaning of SLE, causes, risk factors, signs and symptoms, complications, diagnostic tests and treatment.

b) knowledge of patients regarding prevention of SLE disease included 9 questions covering; Measures to prevent SLE complications, prevention of sun allergy, prevention of kidney inflammation, prevention of anemia, prevention of cerebral stroke, prevention of pulmonary diseases, recommended foods to prevent SLE complications and the forbidden foods to prevent complications of SLE.

Scoring system:

The scoring system for patients' knowledge (except source of information) was calculated as follows (2) score for complete correct answer, while (1) score for incomplete correct

and (0) score for incorrect answer or don't know.

The total score of knowledge=30 points; the total score considered good if $\geq 75\%$ (22.5 points), considered average if=50%- 75% (15- < 22.5) and considered poor if < 50 (15 points).

Tool (II):- Health belief model scale to assess patient belief regarding SLE disease as likert scale and included 6 elements; perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy and cues to actions (Abd El Rhman et al., 2020). The questionnaire was measured on a likert scale type of (agree, agree to some extent and disagree). It was translated into arabic by researchers.

Scoring system:

The scoring system was calculated as follows (2) score for high, while (1) score for moderate and (0) score for low.

The total score of beliefs= 98 points categorized as follow: high if total score $\geq 75\%$, moderate if total score 50%- < 75% and low if total score < 50%.

Content validity:

Tools validity test was done through five experts from the staff of Community Health Nursing department, Faculty of Nursing, Benha University who reviewed the tool for clarity, relevance, comprehensives, and applicability.

Reliability of tools:

Testing reliability of proposed tool was by Cronbach's alpha test it was calculated to assess reliability that indicated that tools consisted the relatively homogenous items as indicated by the moderated to high reliability. It was found that the reliability of knowledge was 0.841, reliability of health belief scale was 0.909.

Ethical considerations:

Formal consent was obtained from each patient before conducting the interview and

given a brief orientation to the purpose of the study. They were also reassured that all information gathered would be confidential and used only for the purpose of the study and informed that there participation was voluntary and they had the right to withdraw from the study at any time. No names were required on the forms to ensure confidentiality.

Pilot study:

The pilot study was carried out on 8 patients who represented 10% of the total sample size. The pilot study was conducted to assess tools clarity and applicability. It has also served in estimating the time needed for the filling the form of the study and detecting any possible obstacles that might face the researchers and interfere with data collection. No modification were done so, the pilot study sample was included to the total sample.

Fieldwork:

The actual field work was carried out over a period of six months from the beginning of June 2022 to the end of December 2022. The researchers visited Rheumatology Outpatient Clinics of Benha University Hospital and Benha Teaching Hospital. From 9 am to 12 pm two days per week to collect data from the patient with SLE. Rheumatology Outpatient Clinics was the place of interview. The researchers introduced herself and explained the aimed of the study, the collection of data conducted by the researchers using the study tools. The average time needed for the tools was around 30 minutes, the average number of patient interviewed were one to two patients per day.

Statistical analysis:

All collected data were organized, categorized, tabulated, and analyzed. Data were presented in tables and charts using SPSS (the Statistical package for Social Science for windows) version 20.0. Qualitative data were expressed as numbers

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and percentages, Chi square test (X^2) was used to examine the relation between the qualitative variables. Person correlation (r) was used to detect association between quantitative variables.

Statistical significance was considered at:

- Non – significant if $P > 0.05$.
- Significant if $P < 0.05$.
- Highly significant if $P < 0.001$.

Results:

Table (1): Shows that 43.4% of patients aged from 30-40 years old with mean age in years was 35 ± 7.52 . 72.3% of them were female. 49.4% of patients with SLE were married. 36.1% of them had secondary education. 72.3% of patients didn't work. 71.1% of them were living in a rural area. 94% of patients' monthly income was not enough and 74.7% of them had 4-6 family members.

Table (2): Shows that; the disease duration in 49.4% of patients with SLE was less than 5 years. 59% of them complained from lupus flare in the summer. 49.4% of them made complete blood count as a diagnostic tests. 90.4% of them took immunosuppressive drugs.

Figure (1): Describes that; 100% of studied patients complained from fatigue, 96.4 % of them had allergy from sun and 92.9% had flushed face.

Figure (2): Describes that; 39.8% of the studied patients had good total knowledge level regarding SLE disease and prevention of SLE complications, while 37.3% of them had average total knowledge and 22.9% of them had poor total knowledge level.

Table (3): Describes that 56.6% of the studied patients had high belief regarding perceived efficacy, while 45.78% of them had moderate belief regarding perceived barriers and 37.35% of them had low belief regarding perceived severity.

Table (4): Shows the relation between total beliefs of patients with SLE and their socio-demographic data, there were statistical significant relation between the total beliefs of patients with SLE and their place of residence $P < 0.05$, while there were no statistical significant relation between the total beliefs and their age, gender, marital status, educational level, occupation, and monthly income $P > 0.05$.

Table (5): Shows that, there was negative correlation between total knowledge score and total belief score of the studied patients with SLE.

Table (1): Frequency distribution of the studied patients with systemic lupus Erythematosus regarding their socio-demographic data (n=83).

Items	No.	%
Age		
20 < 30	22	26.5
30 < 40	36	43.4
40 < 50	25	30.1
Mean ± SD = 35 ±7.52		
Gender		
Male	23	27.7
Female	60	72.3
Marital status		
Single	21	25.3
Married	41	49.4
Divorced	9	10.8
Widowed	12	14.5
Level of education		
Cannot read or write	12	14.5
Primary education	20	24.1
Secondary education	30	36.1
High education	21	25.3
Occupation		
Employee	20	24.1
Freelancers	3	3.6
Don't work	60	72.3
Place of residence		
Rural	59	71.1
Urban	24	28.9
Monthly income		
Enough	5	6
Not enough	78	94
Number of family member		
2 < 4members	10	12
4 < 6 members	62	74.7
≥7 members	11	13.3

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Table (2): Frequency distribution of studied patients with systemic lupus erythematosus regarding their medical history (n=83).

Medical history	No.	%
Disease duration		
< 5 years	41	49.4
5-10 years	22	26.5
>10 years	20	24.1
Flare causes *		
Infection	67	80.7
Stress	53	63.9
Sun exposure	74	89.2
Pregnancy	2	2.4
Stopping medication	32	38.6
Lupus flare time		
Summer	49	59
Winter	29	35
Spring	2	2.4
Autumn	3	3.6
Diagnostic tests *		
Complete blood count	41	49.4
Chest x-ray	39	47
Urine analysis	55	66.3
Anti-ANA	31	37.3
Anti-DNA	83	100
Anti-antigen SM	27	32.5
Immune complements	64	77.1
Medications *		
Anti-inflammatory drugs.	72	86.7
Anti-malarial drugs.	51	61.4
Immunosuppressive drugs.	75	90.4

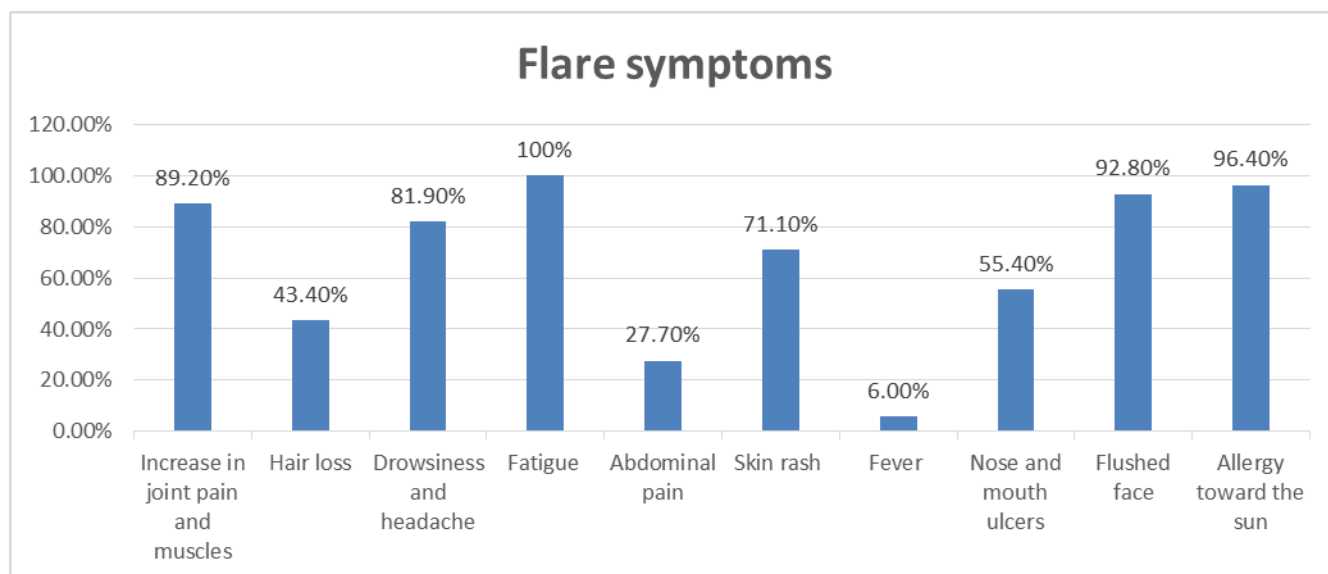


Fig (1): Percentage distribution of the studied patients regarding to their flare symptoms about prevention of SLE complications (n=83).

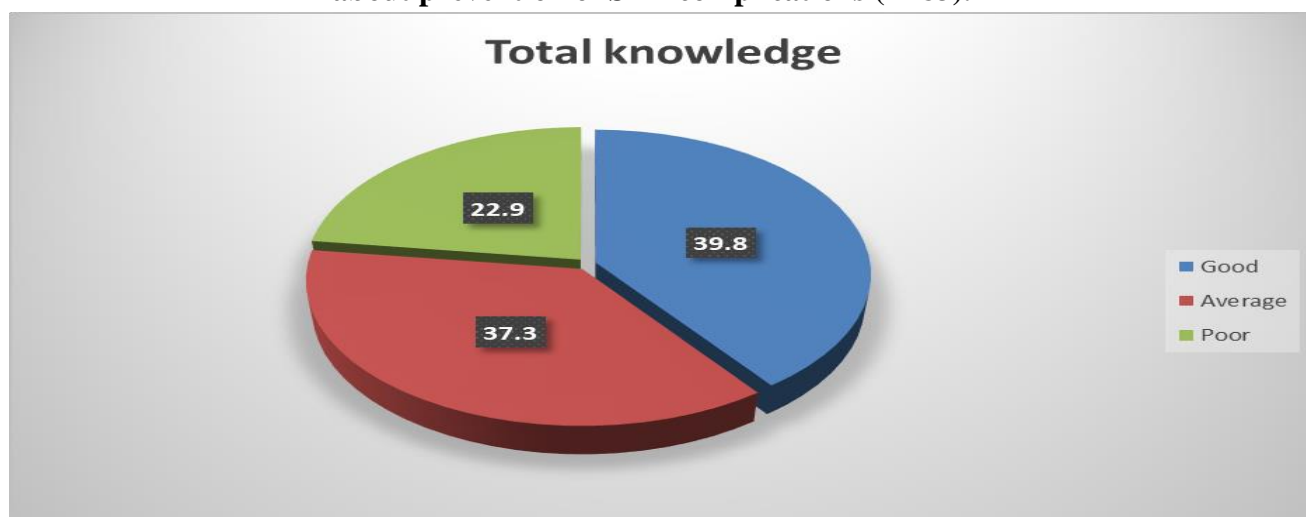


Fig (2): Percentage distribution of the studied patients regarding to their total knowledge level about SLE disease and its prevention of complications (n=83).

Table (3): Frequency distribution of the studied patients regarding to their total beliefs items about prevention of SLE complications (n=83).

Total beliefs items	High		Moderate		Low	
	No	%	No	%	No	%
Total belief about Perceived Susceptibility	31	37.4	25	30.1	27	32.5
Total belief about Perceived Severity	29	34.9	23	27.7	31	37.4
Total belief about Perceived benefits	39	47.0	21	25.3	23	27.7
Total belief about Perceived barriers	29	34.9	38	45.8	16	19.3
Total belief about Perceived efficacy	47	56.6	15	18.1	21	25.3
Total belief about Cues to actions	43	51.8	20	24.1	20	24.1

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Table (4): statistical relation between total beliefs of the studied patients and their socio-demographic data (n=83).

Socio-demographic characteristics	Total beliefs						X2	p- value
	Good (n=36)		Average (n=24)		Poor (n=23)			
	No	%	No	%	No	%		
Age								
20 < 30	10	27.8%	6	25.0%	7	30.4%	0.280	0.991
30 < 40	15	41.7%	11	45.8%	10	43.5%		
40 < 50	11	30.6%	7	29.2%	6	26.1%		
Gender								
male	9	25.0%	8	33.3%	5	21.7%	0.884	0.642
female	27	75.0%	16	66.7%	18	78.3%		
Marital status								
Single	11	30.6%	7	29.2%	4	17.4%	3.180	0.785
Married	17	47.2%	11	45.8%	13	56.5%		
Divorced	3	8.3%	2	8.3%	4	17.4%		
Widowed	5	13.9%	4	16.7%	2	8.7%		
Level of education								
Literate	8	22.2%	3	12.5%	1	4.3%	6.442	0.375
Primary	9	25.0%	8	33.3%	4	17.4%		
Moderate	10	27.8%	8	33.3%	11	47.8%		
High	9	25.0%	5	20.8%	7	30.4%		
Occupation								
Employee	8	22.2%	7	29.2%	5	21.7%	4.439	0.349
Professional	3	8.3%	0	0.0%	0	0.0%		
Unemployee	25	69.4%	17	70.8%	18	78.3%		
Residence								
Rural	10	27.8%	18	75.0%	15	65.2%	15.152	0.000**
Urban	26	72.2%	6	25.0%	8	34.8%		
Monthly income								
Enough	3	8.3%	2	8.3%	0	0.0%	2.039	0.360
Not enough	33	91.7%	22	91.7%	23	100.0%		

Table (5): Correlation between total knowledge score of the studied patients and their total health beliefs (n=83).

Total beliefs score	Total knowledge score	
	r	P value
	0.059	0.449

Discussion:

Systemic lupus erythematosus is a chronic inflammatory disease that can affect various organs of the body. It is multisystem autoimmune chronic disease with a complex pathogenesis resulting in abnormal immune response mainly affecting on women, particularly in reproductive age. SLE provides challenges in the pregnancy, for these women and for health care team who provide care. It can vary from mild to severe life-threatening. SLE presents with a diversity of symptoms including rash, arthritis, anemia, thrombocytopenia, seizures and/or psychosis. (Doherty et al., 2018).

People need to have strong health values if they intend to improve their behavior. They should be aware of health dangers, recognize how serious they are, and recognize the advantages of changing behavior. The level of health belief and its components can be used to assess the ability to enhance health behavior in a population group (Mohebbi et al., 2019).

Regarding to socio-demographic characteristics of studied patients with SLE. The finding of the present study showed that, about less than half of patients with SLE were aged from 30-40 years old with mean age 35 ± 7.52 , less than three quarters of the studied patients were females. Less than half of patients with SLE were married, more than one third of the studied patients had secondary education. Less than three quarters of studied patients were un employee, less than three quarters of studied patients with SLE were rural residents, the most of the studied patients with SLE had insufficient monthly income, and nearly three quarters of studied patients with SLE had 4<6 family member and more

than one third of studied patients had secondary education.

The current study showed that less than half of the patients with SLE complained from disease from less than five years. This result was on line with **Elsayed & Mesbah (2018)**, who studied “Effect of Health Education based Intervention on Self-care among Systemic Lupus Erythematosus Clients.” in Egypt” (n= 60) and stated that the onset of disease among 40% of study participants was from one to four years. On the other hand, this result disagreed with **Mohamed et al., (2018)** in a study entitled “Effect of Health Promotion Program on Quality of Life for Patients with Systemic Lupus Erythematosus in Egypt” (n= 70) who stated that 77% of the patients with SLE complained from disease from more than five years and less than ten years.

Regarding symptoms, the present study revealed that all studied patient with SLE complain from fatigue, more than four fifths of them complain from joint pain and muscles during flare period, and less than half of the patients had hair loss. These findings were consistent with **Constance et al., (2017)** who studied “Concordance of autoimmune disease in a nationwide Danish systemic lupus erythematosus twin cohort in Denmark 2017” (N= 44) and found that 93.1% of patients with SLE complain from fatigue, 87.7% had joint pain and 44.1% had hair loss during flare period. That was due to side effect of medication at long time and decrease patients’ immunity.

The current study showed that more than one third of studied patients with SLE had good knowledge. This result was consistent with **Elmetwaly et al., (2021)** who studied “Effect of nurse-led lifestyle intervention

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protocol on associated symptoms and self-efficacy among patients with systematic lupus erythematosus” and reported that only 38.7% of patients with SLE had good knowledge about disease. This result might be due to more than of studied patients had insufficient information regarding to SLE disease and its consequences related to moderate educational level.

The present study showed that more than half of studied patients with SLE had high belief regarding to perceived efficacy and perceived cues to action related to SLE. These results were inconsistent with **Gharouni et al., (2020)** who studied “Application of Freire’s adult education model in modifying the psychological constructs of health belief model in self-medication behaviors of older adults: a randomized controlled trial in Iran” (n= 66) and reported that 26% of study agree regarding to perceived efficacy and perceived cues to action.

Regarding to the relation between total beliefs of patients with SLE, and their socio-demographic data: the results of the present study showed that there was statistical significant relation between the total beliefs of patients with SLE and their place of residence, while there were no statistical significant relation between the total beliefs and their age, gender, marital status, educational level, occupation, and monthly income. These finding were against **Kotb et al., (2023)**, who reported that there was statistically non-significant difference between total perception and their age, gender, marital status, educational level, occupation, residence and monthly income. This might be due to the low socio-economic level.

The present study revealed that, there was no statistical significant correlation between the total knowledge, total beliefs of patients with SLE. This finding might be due to knowledge play important role for a change of beliefs.

Conclusion

More than half of the studied patients with SLE had less than 5 years of disease duration, majority of them had lupus flare due to sun exposure, less than two fifth of studied patients with SLE had good knowledge about SLE disease and prevention of SLE complications, around half of studied patients with SLE had high belief regarding to perceived benefits, perceived efficacy and perceived cues to action, the findings of the current study revealed no statistical difference between knowledge of patients with SLE and their age, gender, marital status, educational level, occupation, residence and monthly income, the findings of the current study proved statistically significant differences in total beliefs of patients with SLE according to place of residence, the findings of the current study revealed no statistical difference between the total knowledge and total beliefs.

Recommendations

- Design and implement different educational programs based on health belief model for SLE patients and regarding to regarding to prevention of complications.
- Colored illustrated booklet should be available and distributed for each patient with SLE about the complication of SLE and medications instructions.
- Provide care protocol for patients with SLE in the hospital departments to maximize their ability to manage themselves.

References:

Abd El Rhman, H., Abd El-Mobdi, S., & Abd El- Sattar, M. (2020). The Effect of Application Health Belief Model Amongst High Risk Hypertensive Client's, Egyptian Journal of Health Care, EJHC Vol. 11 No. 2.

Al-Nomani Bakhtiar, K., Gharouni, K., Gharouni, B., Bastami, F., Almasian, M., & Hosseintalai, M. (2020). DMFT and OHIS Indexs in the Pregnant Mothers: An Explanation Based on the Health Belief Model. J Commun Health Res.; 7(1):1–10.

Bertsias, K., Salmon, E., & Boumpas, T. (2020). Therapeutic opportunities in systemic lupus erythematosus: state of the art and prospects for the new decade. Ann Rheum Dis ;69:1603–11

Constance, J., Ulf, Jacob, S., Kirsten, O., Søren, J. & Morten, F. (2017). Family history of systemic lupus erythematosus and risk of autoimmune disease: Nationwide Cohort Study in Denmark 1977–2013, Rheumatology, Volume 56, Issue 6, June, Pages 957–964, <https://doi.org/10.1093/rheumatology/kex005>.

Doherty, Kronbichler , A., Brezina, B., Luis, F. & Quintana. (2018). Diagnosis, monitoring and treatment of systemic lupus erythematosus; review of clinical practice guidelines. Page 38–49, volume 15; Autoimmunity Reviews.

Elmetwaly, R., Ahmed, A. & Mohamed, Y. (2021). Effect of nurse-led lifestyle intervention protocol on associated symptoms and self-efficacy among patients with systematic lupus erythematosus,EJHC Vol.12 No.1.

Elsayed, D. & Mesbah, S. (2018). Effect of Health Education based Intervention on Self-care among Systemic Lupus Erythematosus

Clients.” American Journal of Nursing Research, Vol. (6), No. (3), P.p:105-112.

Gharouni, K., Ardalan, A., Araban, M., Ebrahimzadeh, F., Bakhtiar, K., Almasian, M. & Bastami, F. (2020). Application of Freire’s adult education model in modifying the psychological constructs of health belief model in selfmedication behaviors of older adults: a randomized controlled trial, Gharouni et al. BMC Public Health. 20:1350 <https://doi.org/10.1186/s12889-020-09425-7>

Koroma, A. (2019). Systemic lupus erythematosus: nurse and patient education. Nursing Standard. 26, 39, 49-57.

Kotb, E., Abd El-Hameed, H. & Sabry, S.S. (2023). Health Belief Model among Patients with Vitiligo, Journal of Nursing Science - Benha University ISSN 2682 – 3934 Vol. (4) No. (1).

Kusnanto, K., Sari, N., Harmayetty, M., Kes, Efendi, F & Gunawan, J. (2018). Self-care model application to improve self-care agency, self-care activities, and quality of life in patients with systemic lupus erythematosus. J Taibah Univ Med Sci. Oct; 13(5): 472–478. Available at <https://www.ncbi.nlm.nih.gov/pmc/journals/3709/>

Mohamed, S., Ahmed, A, & Ahmed, A. (2022). Effect of Telenursing Instructions on Improvement of Awareness among Systemic Lupus Erythematosus Patients, Tanta Scientific Nursing Journal (Print ISSN 2314 – 5595) (Online ISSN 2735 – 5519) - Vol. 27. No. 4, November 2022.

Mohammed, S. (2018). Effect of Self-Management Guidelines on Awareness and Self-Efficacy for Patients with Systemic Lupus Erythematosus. Port Said Scientific Journal of Nursing, 5(2), 63-84. doi: 10.21608/pssjn.2018.33333.

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Mohebbi, B., Tol, A., Sadeghi, R., Mohtarami, S. F., & Shamshiri, A. (2019). Self-management Intervention Program Based on the Health Belief Model (HBM) among Women with Gestational Diabetes Mellitus: A Quazi Experimental Study. *Archives of Iranian Medicine (AIM)*, 22(4).

Pauline, E. & Olanike, A. (2020). The health belief model and compliance with hypertension treatment. Retrievefrom <https://www.ukessays.com/essays/health-and-social-care/health-belief-model-hypertension-treatment-3182.php?vref=1>.

Putterman, C., Caricchio, R., Davidson, A. and Perlman, H. (2022). Clinical and Developmental Immunology Volume 2022, Article ID 437282, 2 pages doi:10.1155/2012/437282.

Robinson, M., Cook, S & Currie, M. (2021). Systemic lupus erythematosus: A genetic review for advanced practice nurses. *J Am Acad Nurse Pract* ;23:629–637. doi: 10.1111/j.1745-7599.2011.00675.x.

Yang, H., Xie, X., Song, Y., Nie, A., & Chen, H. (2018). Self-care agency in systemic lupus erythematosus and its associated factors: a cross-sectional study. *Patient Prefer Adherence* 12: 607–613. available at <https://www.ncbi.nlm.nih.gov/pubmed/ter=yang>.

نموذج المعتقد الصحي لدى المرضى تجاه الوقاية من مضاعفات مرض الذئبة الحمراء

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يعتبر نموذج الاعتقاد الصحي مفيد لتقييم معتقدات المرضى فيما يتعلق بالوقاية من مضاعفات الذئبة الحمراء لتحسين معتقداتهم وتغيير سلوكياتهم تجاه المرض. لذلك هدفت الدراسة إلى تقييم نموذج المعتقدات الصحية بين المرضى فيما يتعلق بالوقاية من مضاعفات الذئبة الحمراء. وقد أجريت الدراسة في العيادات الخارجية لأمراض الروماتيزم بمستشفى جامعة بنها ومستشفى بنها التعليمي على 83 مريض. وقد كشفت النتائج أنه توجد علاقة ذات دلالة إحصائية بين المعتقدات الإجمالية لمرضى الذئبة الحمامية الجهازية ومكان إقامتهم حول البيانات الاجتماعية والديموغرافية كما توجد علاقة سلبية بين المعرفة الكلية والمعتقدات الكلية للمرضى المصابين بالذئبة الحمراء. كما أوصت الدراسة على تصميم وتنفيذ برامج تعليمية مختلفة على أساس نموذج المعتقدات الصحية لمرضى الذئبة الحمراء وفيما يتعلق بالوقاية من مضاعفات المرض.