

Effect of Nursing Guidelines about Pruritus on Patients with Skin Diseases

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Abstract

Background: Chronic pruritus is a frequent grievance among patients with skin diseases, which has an effect on the quality of life. **Aim:** To evaluate the effect of nursing guidelines about pruritus on patients with skin diseases. **Design:** A quasi-experimental research design was used. **Setting:** The study was carried out at the department of dermatology and the outpatient clinic of dermatology at Beni-Suef University Hospital. **Sample:** Convenience sample encompassed of 80 patients with chronic pruritus. **Tools:** Three tools were utilized; **(I):** A structured interviewing questionnaire to assess studied patients' demographic characteristics, clinical data and level of knowledge about pruritus. **(II):** Pruritus Area Severity Index (PASI) for assessing severity of pruritus & **(III):** Dermatology Life Quality Index (DLQI) to assess the health-related quality of life of adult patients suffering from a skin disease. **Results:** Nursing guidelines implementation showed a significant difference on level of knowledge, severity of pruritus and quality of life among patients with skin diseases ($P < 0.05$). Also, there was highly statistically significant correlation between Knowledge level, Dermatology Life Quality Index and Pruritus Area Severity Index level ($P < 0.001$). **Conclusion:** Application of nursing guidelines are appropriate way to improve patients level of knowledge, quality of life and decreasing severity of chronic pruritus among patients with skin diseases. **Recommendations:** Implementation of nursing guidelines about pruritus as part of the routine primary care service provided for patients with skin diseases.

Key words: Nursing guidelines, Pruritus, Skin Diseases

Introduction:

Chronic Pruritus (CP) refers to pruritus that lasts more than six weeks. CP could be idiopathic or may be induced by numerous specific reasons not only from xerosis and dermatologic diseases but also from several systemic problems. Diabetes, arteriosclerosis, hyperthyroidism, uremia, liver illness, cancer, pernicious anemia, and several mental health issues can all trigger it (**Chung et al., 2021**).

Chronic pruritus is a debilitating symptom that is connected to numerous dermatologic, neurological, and systemic diseases. It frequently resists therapy and can significantly lower quality of life. Patients' Health Related Quality of Life (HRQOL) is significantly impacted by the intensity of their itching. For example, it was discovered that the effects of CP on patients' emotions and functioning were mediated by two features of severity: length and intensity. Thus, it is necessary to investigate severity as well as how it affects quality of life (**Roh et al., 2021 & Theunis et al., 2022**).

As a result, skin diseases have an immense negative impact on people's lives. Additionally, the psychological and physical consequences of skin diseases have a detrimental influence on patients' relationships with friends, family, and coworkers as well as their working productivity. The quality of life of

patients is also impacted by sexual difficulties and partners' acceptance of their illness (**Abdelsamed et al., 2021**).

Nurses play a crucial role in providing patient education, organizing nursing actions aimed at eradicating pruritus' repercussions, and enhancing patients' quality of life through efficient care. A typical part of a nurse's job is applying educational interventions. Additionally, the nurse needs to take care for skin conditions like erythema, vesicles, scaling, and rashes. The nurse should find out about any behavioral patterns (such as friction, anxiousness, and environmental exposures) that cause itching (**Meiner, 2019**).

The role of the nurse is crucial in teaching and assisting patients in adhering to their therapeutic regimen. Nurses can also provide nursing management to patients experiencing pruritus, assisting them in better understanding their disease and developing self-care skills to enhance compliance and quality of life (**Mohamed et al., 2020**).

Significance of the study: -

Chronic pruritus could cause adverse consequences including irritation, disturbances of mood, attention, sleep impairment, altered body image, eating habits, sexual function, and accompanying disorders such as insomnia, anxiety, and depression (**Lipman et al.,**

2021).

Aim of the study:

This study aimed to evaluate the effect of nursing guidelines about pruritus on patients with skin diseases.

Research hypothesis:

H(1). Nursing guidelines about pruritus will improve health status, knowledge, and quality of life of patients with skin diseases.

H(2). Nursing guidelines about pruritus will reduce the severity of itching among patients with skin diseases.

Subject and methods

Research design:

A quasi-experimental research design (pre and post-test) was utilized to achieve the aim of this study.

Setting:

The study was conducted at the department of Dermatology and the outpatient clinic of dermatology at Beni-Suef University Hospital.

Subjects:

The study comprised a Convenience sample of 80 patients suffering from chronic pruritus attending the previously mentioned health settings through six months.

Tools of data collection:

Three tools were used for data collection as:

Tool I: A structured- interviewing questionnaire: It was written in plain Arabic and created by the researchers following a thorough examination of the literature. This comprised the subsequent three parts:

Part (1): To assess personal characteristics of the studied patients such as age, gender, marital status, level of education, place of residence, and job.

Part (2): Clinical data: - To assess health condition of studied patients such as presence and type of chronic diseases, body mass index, dermatological diseases, duration of dermatological diseases, patients' previous hospitalization for dermatological diseases, and suffering from complications from dermatological problems.

Part (3): To assess patients' knowledge regarding chronic pruritus, it included ten questions about definition, characteristics, causes, risk factors, sign and symptoms, diagnosis, complications, treatment, prevention and how to maintain skin healthy.

Scoring system:

The questions were assigned a score (2) for correct and complete answer, and a score (1) for correct and incomplete answer, while a score (0) for don't know before and after implementation of nursing guidelines. The total knowledge score (20) divided into the following categories: If the percentage $\geq 60\%$ (≥ 12 point) the knowledge considered satisfactory; and if $< 60\%$ (< 12 point) considered Unsatisfactory knowledge.

Tool (II): Pruritus Area Severity Index (PASI) was adopted from (Nabhan, 2021); this tool was used to measure the severity of pruritus and the area affected into a single score in the range 0 (no disease) to 72 (maximal disease). The body is divided into four sections **Head (H)** (10%) **Skin; Arms (A)** (20%); **Trunk (T)** (30%); **Legs (L)** (40%). Each of these areas is scored by itself, and then the four scores are converted into the final PASI.

Scoring system:

Severity	Score
Mild	Less than 7
Moderate	7 to 15
Severe	More than 15

Tool (III): - Dermatology Life Quality Index (DLQI); this tool was adopted from Basra et al., (2008), and was used to assess the health-related quality of life of adult patients being affected by a skin disease. It is a simple 10- questions, each question refers to the effect of the skin disease on the patient's life over the past week. covering the 6 domains related to various aspects of a person's QOL as the following questions 1&2 for symptoms and feeling, 3&4 for daily activities, 5&6 for leisure, 7 for work and school, 8&9 for personal relationships and 10 for treatment.

Scoring system:

Dermatology Life Quality Index using (Very much =3 marks, A lot =2 marks, A little =1 marks, Not at all =0 marks). The DLQI was calculated by summing the score of each question resulting in a maximum of 30 marks and a minimum of 0 marks. The higher the score, the more the quality of life is impaired.

DLQI	Score
No effect at all on patient's life	0 – 1
Small effect on patient's life	2 – 5
Moderate effect on patient's life	6 – 10

Very large effect on patient's life	11 – 20
Extremely large effect on patient's life	21 – 30

Methods

1. After outlining the goal of the study, an official permit was granted by the Beni- Suef University, Faculty of Nursing and sent to the directors of the hospital and outpatient clinics to gain permission to visit the clinic and conduct the study.

2. Patients were told that the study was voluntary and that they could resign from it at any time with complete respect.

3. The results would be given as aggregate data; no participant's personal information would be retained.

4. Tool I was designed by the researchers based on a recent review of relevant literature then; Tools II, III were translated by the researchers into Arabic. The Arabic version of all these tools underwent content validity testing by five (5) experts in the related fields (medical and surgical Nursing and Community Health Nursing). After making the required adjustments and deleting a few elements, the final fieldwork schedule was created.

5. The reliability of knowledge was 0.852, tool II PASI was 0.893 while, the reliability of tool III DLQI was 0.912 and 10 patients with chronic Pruritus was tested to measure the internal consistency of these tools by using Cornbrash's alpha test.

Ethical considerations:

Each patient gave their informed consent after being informed of the study's purpose.

Confidentiality of the collected data was maintained.

The right to withdraw at any moment, privacy, and anonymity were guaranteed.

6. A pilot study was carried out to determine the study's viability, the tools' applicability, and the approximate amount of time required for data collecting. This was conducted on 8 patients who represented 10% of total sample (80 patients) according to the selection criteria. No modifications were done, so patients who took part in the pilot research were included in the final analysis because no changes were made.

Fieldwork:

This study was carried out through successive phases: interviewing and assessment phase, planning phase, implementation phase and evaluation phase. The study covers a period of 6 months

from the start of October 2021 until the end of March 2022.

Interviewing and Assessment Phase:

The researchers conducted individual interviews with patients who had chronic pruritus using instruments ranging from I to III in order to obtain the baseline data, knowledge about Pruritus & measure the severity of Pruritus and health related to DLQL (pre-test). Depending on the interviewers' comfort and knowledge level, the interview lasted between 30- 45 minutes. This phase covered a period of one month. This phase was conducted in the outpatient clinic at Beni Suef University Hospital. The telephone numbers of all patients were taken to arrange for program's sessions.

Planning phase:

Objectives of the nursing guidelines were to improve patients' level of knowledge, quality of life and reducing severity of itching among studied patients with chronic pruritus through using nursing guidelines.

Implementation Phase:

The proposed program was carried out on groups bases, two groups included from 7 or 8 patients, also the two main groups include four subgroups (A, B, C &D), The

nursing guidelines was conducted 4 days a week (on Sunday& Wednesday for the first 2 subgroups A& B) & (Monday & Tuesday for the other 2 subgroups C & D) at the outpatient clinic from 9.00 AM to 12:00 PM and another one session for following up by the researchers through telephone at home. Each session was conducted in about 40 min only 5 sessions were conducted.

Prior to the program sessions beginning, the researchers make sure that the hospital's outpatient clinic has a private waiting area that is peaceful, comfortable for each group member, and has enough illumination.

The researchers used group discussion, brainstorming and modified lecture as methods of teaching during the sessions. In relation to teaching media, the researcher used handouts, PowerPoint presentation, pictures and illustrated videos. Positive feedback was given during sessions in the form of affection and encouragement. The aim of the study and expected outcomes were explained in the first session.

Session 1: The researchers introduced themselves to the patients. Then studied patients gained an overview about the nursing guidelines, its objectives and outlines of the guidelines. It also included an assessment of the studied patients' level of knowledge, severity of itching and QOL through using interviewing questionnaire, medical

record, and quality of life, (which consider the pre assessment prior to nursing guideline implementation).

Based on the analysis of the data collected, patients' needs were identified and the Program booklet was developed.

Program booklet

An Arabic handout booklet was developed based on patients with CP identified needs, designed to be easy and clear to read and apply, contains pictures to support and clarify the content. This is in a sound scientific framework in order to provide the patient to the optimum level of knowledge that positively reflects on their quality of life. A copy of the booklet was distributed to each patient to be as an educational reference during the guideline implementation.

The booklet content includes:

- An introduction about the nursing guidelines.
- Nursing guidelines goals.
- An introduction about skin.

- Definition of chronic pruritus.
- Causes of CP.
- Risk factors of CP.
- Age that is most susceptible to catch the disease.
- Symptoms of CP.
- Complications of CP.
- Diagnostic methods of CP.
- Methods of treatment of CP.
- Methods of prevention of CP.
- Quality of life for patients with CP.
- References.

Session 2: It included explanation of the theoretical background regarding chronic pruritus which included (introduction about the skin anatomy, definition, risk factors, causes, signs & symptom of chronic pruritus).

Session 3: It included explanation of the theoretical background regarding complications, diagnosis, and treatment of chronic pruritus, ways of prevention and how to maintain skin healthy.

Session 4: It included how to improve quality of life of patients among different types of QOL symptoms and feeling, daily activities, leisure, work and school, personal relationships and treatment.

Session 5: It included reassessment of studied patients' level of knowledge, severity of pruritus and their quality of life through filling the study tools of data collection including the interviewing questionnaire and dermatology life quality index (DLQI) (assessment post nursing guideline implementation).

The evaluation phase:

This phase stressed on estimating the effect of applying nursing guidelines on patients' level of knowledge, severity of pruritus and quality of life among patients through a comparison between the pre & post-assessment and after three months as follow up.

IV. Statistical Design

Data entry and data analysis were performed using SPSS version 22. Descriptive statistics were used (e.g., frequency, percentages, mean and standard deviation). Test of significance (chi-square, t test), Pearson correlation coefficients were used. The p value was considered a highly statistically significant when $p < 0.01$, and statistically significant at $p < 0.05$.

Result

Table (1): Distribution of studied patients according to their personal characteristics, (n=80).

Personal characteristics	No.	%
- Age (years)		
<35	15	18.8
35- <60	37	46.2
60 or more	28	35.0
Mean SD	49.57±6.23	
- Gender		
Male	18	22.5
Female	62	77.5
- Marital status		
Single	14	17.5
Married	56	70.0
Widow/Divorced	10	12.5
- Education level		
Basic education	8	10.0
Secondary	42	52.5
Higher	20	25.0
Post-graduate	10	12.5
- Place of residence		
Urban	35	43.8
Rural	45	56.2
- Job		
Employee	44	55.0
Housewife	23	28.7
Pension	8	10.0
Does not work	5	6.3

Table (1): Shows that; 46.2 % of studied patients their age ranged between 35 to less than 60 years with mean age 49.57±6.23, and 77.5% & 70% of them were females and married, respectively. As regard to

their level of education; 52.5% & 56.2% of them had secondary education and were living in rural area respectively, moreover, 55% of them were employees.

Table (2): Distribution of the Clinical Data among studied patients with chronic pruritus, (n=80).

Clinical Data	No.	%
Patients having chronic diseases:		
- Yes	35	43.8
- No	45	56.2
If yes, type of disease @#		
- Hypertension	21	60.0
- Diabetes Mellitus	13	37.1
- Arthritis	10	28.6
- Kidney problems	15	42.8
- Lung diseases	3	8.6
- Eye disease (cataract)	5	14.3
BMI:		
- Under weight	4	5.0
- Normal	15	18.7
- Overweight	32	40.1
- Obese	29	36.2
Mean±SD	28.94±4.19	
Dermatological diseases:		
- Eczema/Urticaria	25	31.3
- Tenia	15	18.7
- Psoriasis	40	50.0
Duration of dermatological diseases:		

- < 5 years	22	27.5
- 5 to 10	38	47.5
- > 10	20	25.0
Patient hospitalization for dermatological diseases during the previous year:		
- Yes	15	18.7
- No	65	71.3
Suffering from complications from dermatological problems:		
- Yes	5	6.3
- No	75	93.7

@Percentage calculated from those mentioned yes. # More than one answer

Table (2): Represents that; 43.8% of studied patients suffered from chronic disease, most common prevalent disease among them was hypertension followed by kidney disease and 40.1% of them had overweight. Regarding dermatological diseases; 50% of them had Psoriasis, 47.5% of them had dermatological diseases from 5 to 10 years and 18.7% of them had previous hospitalization at previous year as result of dermatological disease. Also; 93.7% of them had complications from dermatological problems.

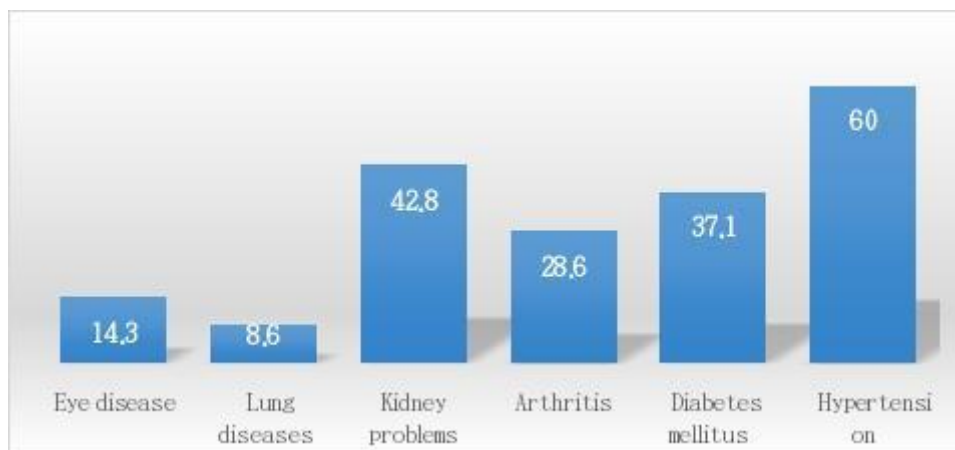


Figure (1): Percentage distribution of studied patients with chronic diseases

This figure reveals that; 60% of the studied patients suffered from hypertension, and 42.8% of them had kidney problems, while only 8.6% of them had lung diseases.

Table (3): Distribution of studied patients according to their total knowledge level about chronic pruritus, (n=80).

Knowledge level	Preprogram		Post-program		P-value
	No.	%	No.	%	
Satisfactory	30	37.5	65	81.3	0.000**
Unsatisfactory	50	62.5	15	18.7	

****p value < 0.001 is high significant**

Table (3): Demonstrates that; 62.5% of the studied patients had unsatisfactory knowledge level before implementing the nursing guidelines, while after nursing guidelines implementation; 81.3% of them had **satisfactory** knowledge about chronic pruritus. Finally, there was a highly statistically significant difference between Knowledge level pre and after applying the nursing guidelines with P-value = (0.000 **).

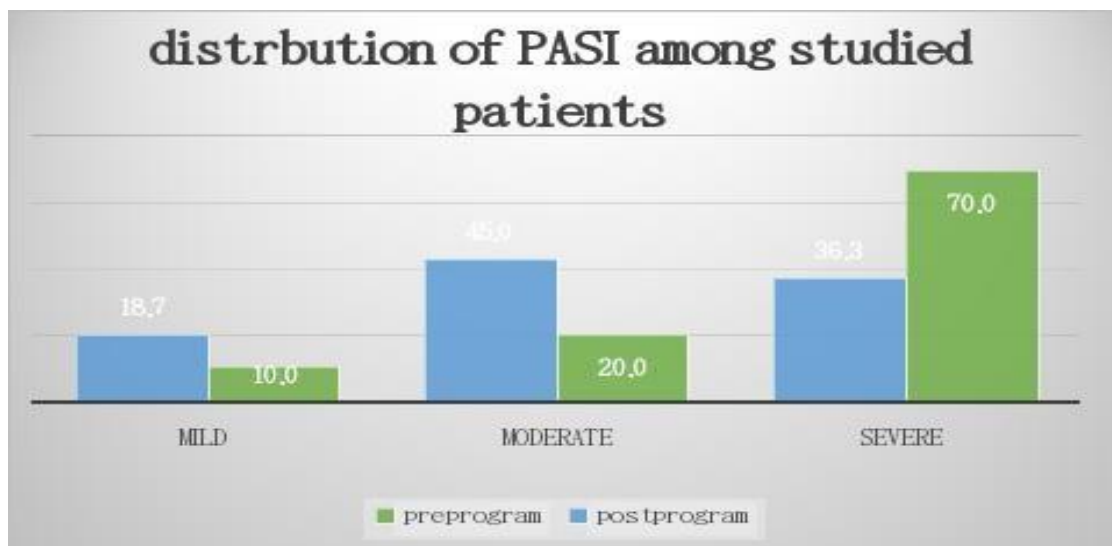


Figure (2): Percentage distribution of PASI level among studied patients

This figure demonstrates that; 70% of the studied patients had severe level of PASI pre nursing guidelines, while after applying the nursing guidelines; 45% of them had moderate level.

Table (4): Distribution of total level of Dermatology Life Quality Index (DLQI) for patients with pruritus, (n=80).

Total of DLQI	Preprogram		Post-program		P-value
	No	%	No	%	
Extremely	40	50.0	10	12.5	<0.05*
Very large	25	31.2	30	37.5	
Moderate	7	8.7	30	37.5	
Small	5	6.3	7	8.7	
No effect	3	3.8	3	3.8	

*p value< 0.05 is significant

Table (4): Shows that; 50% of studied patients had extremely effect on DLQI pre nursing guidelines, while after applying the nursing guidelines, only 12.5% of them had extremely effect on DLQI, in addition, there was a statistically significant difference between total DLQI after applying the nursing guideline with $p = (<0.05^*)$.

Table (5): Relation between personal characteristics of studied patients and their total knowledge level after nursing guidelines implementation, (n=80).

Personal characteristics	Total knowledge						
	Satisfactory		Unsatisfactory		Total	Chi-square	
	No	%	No	%		X ²	P-value
Age (years)							
<35	12	80.0	3	20	15	2.183	0.535
35- <60	28	75.7	9	24.3	37		
60 or more	25	89.3	3	10.7	28		
Gender							
Male	10	55.5	8	44.5	18	10.139	<0.001**
Female	55	88.7	7	11.3	62		
Marital status							
Single	10	71.4	4	28.6	14	3.352	0.340
Married	47	83.9	9	26.1	56		
Widow\ divorced	8	80.0	2	20.0	10		
Education level							
Read and write	2	25.0	6	75.0	8	19.305	<0.001**
Intermediate	35	83.3	7	16.7	42		
Higher	18	90.0	2	10.0	20		
Post-graduate	10	100.0	0	0.0	10		
Place of residence							
Urban	19	54.3	16	45.7	35	2.936	0.087
Rural	36	80.0	9	20.0	45		
Job							
Employee	37	84.1	7	15.9	44	3.069	0.381
Housewife	21	91.3	2	8.7	23		
Pension	5	62.5	3	37.5	8		
Does not work	2	40.0	3	60.0	5		

(*) Statistically significant at ≤ 0.05

(**) Highly statistically significant at ≤ 0.001

Table (5): Presents the relation between personal characteristics and total level of knowledge after nursing guideline application, it was noticed that there was a statistical significance relation between gender & level of education and total level of knowledge of studied patients with p value = ($<0.05^*$), while, there was no statistical significance relation between total level of knowledge and other personal characteristics with p value = (>0.05).

Table (6): Relation between clinical data and level of PASI among studied patients, (n=80).

Clinical data	Level of PASI							P-value
	Mild		Moderate		Sever		Total	
	No (8)	%	No (16)	%	No (56)	%	No	
Patients suffering from chronic diseases:								
- Yes	2	5.7	3	8.6	30	85.4	35	0.050*
- No	6	13.4	13	28.8	26	57.8	45	
BMI:								0.098
- Under weight	1	25.0	2	50.0	1	25.0	4	
- Normal	6	40.0	3	20.0	6	40.0	15	
- Overweight	1	3.1	5	15.6	26	81.3	32	
- Obese	0	0.0	6	20.7	23	79.3	29	
Dermatological diseases:								0.172
- Eczema/Urticaria	2	8.0	5	20.0	18	72.0	25	
- Tenia	2	13.3	6	40.0	7	46.7	15	
- Psoriasis	2	5.0	5	12.5	31	77.5	40	
Duration of dermatological diseases:								0.001**
- < 5 years	6	27.3	12	54.5	2	18.2	22	
- 5 to 10	2	5.3	4	10.5	32	84.2	38	
- > 10	0	0.0	2	10.0	18	90.0	20	
Suffering from complications dermatological:								0.002**
Yes	5	6.7	15	20.0	55	73.3	75	
No	3	60	1	20.0	1	20.0	5	

(*) Statistically significant at ≤ 0.05

(**) Highly statistically significant at ≤ 0.001

Table (6): Shows that there was a statistical significance relation between chronic diseases and Level of PASI among studied patients with p value = ($<0.05^*$), and there were a highly statistically significant relation between duration of dermatological diseases & the dermatological complications and Level of PASI with p value = (<0.001), while there was no statistical significance relation between Level of PASI and other clinical data with p value = (>0.05).

Table (7): Logistic Regression Analysis for Factors That Predict patients with Dermatology disorders quality of life, (n=80).

Items	Unstandardized	Standardized	T	P. value
	Coefficients	Coefficients		
	<i>B</i>	<i>B</i>		
Age	-0.210	-0.178	-4.039	.012*
Sex	-1.080	-0.962	-0.962	0.344
Residence	-1.991	-0.341	-1.931	0.063
Hypertension	-1.468	-0.247	-1.729	.002**
Diabetes mellitus	-0.768	-0.132	-0.713	0.023*
Kidney diseases	-0.892	-0.114	-2.621	0.014*
Complications of dermatological diseases	-4.453	-0.423	-3.041	0.005**
Nursing intervention program	0.624	0.274	2.272	0.028*

(*) Statistically significant at ≤ 0.05

(**) Highly statistically significant at ≤ 0.001

Table (7): Clarifies that Nursing guideline is the only statistically significant positive predictor of the studied patients with Dermatology quality of life with ($\beta= 0.624$, $p= 0.028$). Conversely, age, Hypertension, Diabetes Mellitus, Kidney diseases and Complications of dermatological diseases were statistically significant negative predictors of Dermatology quality of life with ($\beta= -0.210$, $p= 0.012^*$) ($\beta= -1.468$, $p= .002^{**}$), ($\beta= -0.768$, $p= 0.023^*$), ($\beta= -0.892$, $p= 0.014^*$) & ($\beta= -4.453$, $p= 0.005^{**}$) respectively. Additionally, this table also showed that age and residence were negative predictors of Dermatology quality of life but not statistically significant.

Table (8): Correlation between Knowledge score, DLQI and PASI score among studied patients

Variables		Knowledge level	PASI level	(DLQI)
Dermatology life quality Index (DLQI)	r	0.537	-0.320	
	P-value	<0.001**	0.009*	
PASI level	r	0.727	0.661	0.562
	P-value	<0.001**	<0.001**	<0.001**

(*) Statistically significant at ≤ 0.05

(**) Highly statistically significant at ≤ 0.001

Table (8): Reveals that there was a highly statistically significant correlation between Knowledge level, dermatology life quality Index (DLQI) and PASI level with p-value was $<0.001^{**}$

Discussion:

Pain, numbness, and a burning sensation are just examples of the uncomfortable subjective experience known as pruritus. It is a well-known systemic and dermatological ailment that can be alleviated by scratching. It is difficult to describe, but it is clear that when it is chronic, it can be bothersome, and when therapy fails, the effect on the patients is greater and more profound. According to reports, the psychosocial impact of dermatological illnesses is positively correlated with the severity of pruritus (Erturk et al., 2012).

As regard to personal characteristics, the present study revealed that less than

half of the studied patients their age ranged between 35 to less than 60 years old, about three quarters of them were females & married, as regard to level of education, more than half of them had secondary education and were living at rural areas respectively. Moreover, more than half of them were employees. These findings were in the same line with Sharaf & Ibrahim, (2017) who studied quality of life of patients with Psoriasis in Alexandria- Egypt, and showed that majority of the studied patients their age ranged between 35 to less than 60 years old and married. Moreover, these results supported by Riad et al. (2021), who evaluated the effect of asynchronous mobile health nursing intervention on medications adherence and quality of life among patients with psoriasis, and mentioned

that more than half of the studied patients were females and had secondary education, and majority of them married. On other hand, these findings disagreed with the study done by **Mohamed et al. (2020)**, entitled effect of uremic pruritus educational intervention on knowledge level for hemodialysis patients, in Egypt, and showed that most of the studied sample had illiterate level and not working. This might be due to Female patients are more likely to reveal their illness to a doctor, or female-related hormonal and psychological factors may have an impact on pruritus symptoms.

Concerning the chronic diseases among the studied patients, the present study illustrated that less than two thirds of them suffered from hypertension, while less than tenth of them had lung diseases. This result consistent with study done by **Rehman et al. (2018)**, who conducted research on prevalence of chronic kidney disease-associated pruritus, and association with sleep quality among hemodialysis patients in Pakistan, and found that the Hypertension was the most common co-morbidities observed among patients with pruritus.

Related to dermatological diseases, the current study revealed that half of the studied patients had Psoriasis. This finding agreed with **Fazio et al. (2022)**, who used therapies for generalized pruritus and found that Psoriasis is the most

common among studied patients had chronic pruritus. This might be due to pruritus is caused by dermatologic conditions such as psoriasis and atopic dermatitis.

Concerning the duration of dermatological diseases, the current study illustrated that nearly half of them had dermatological diseases from 5 to 10 years. This outcome was consistent with **Abdelsamed et al. (2021)** who conducted research on perceived severity and quality of life of Egyptian Psoriasis patients, and revealed that less than two-thirds of the studied patients had skin diseases for 10 years.

Regarding patients' total knowledge level about chronic pruritus, the current study found that less than two-thirds of the studied patients had unsatisfactory total knowledge level before implementing the guidelines, while after nursing guidelines application the majority of them had satisfactory total knowledge level about chronic pruritus, finally, there was a highly statistically significant difference between Knowledge level after applying the nursing guidelines with P-value = (0.000 **). This finding was supported by **Al-Kotb & Abdel-Aziz (2017)**, who evaluated the effect of standardized skin care guidelines on skin dryness among elderly people at Ismailia City, and found that the total knowledge score improved after the implementation of the standardized skin care guidelines and there was a highly statistically significant difference between

Knowledge level after applying nursing guideline with P-value = (0.000 **). This result might be due to the effectiveness of nursing guidelines in improving patient's knowledge.

Regarding Pruritus Area Severity Index (PASI), the present study showed that less than three quarters of studied patients had severe level of PASI pre nursing guidelines, while after applying the nursing guidelines, less than half of them had moderate level. This finding contradicted with **Zachariae et al. (2012)**, who studied itch severity and quality of life in patients with pruritus, and showed that a mean pruritus severity score is 7.4. This might be due to half of studied patients had psoriasis, and psoriasis is one of dermatological disease that cause severe pruritus.

Related to Dermatology Quality of Life Index, the current study showed that half of studied patient's had extremely effect on DLQI pre nursing guidelines, while after applying nursing guidelines, less than one fifth of them had extremely effect on DLQI, in addition, there was a statistically significant difference between total DLQI after applying the nursing guideline with p

= (<0.05*). This outcome was in the same line with **Tejada et al. (2011)**, who evaluated the impact on quality of life of dermatological patients in

southern Brazil and demonstrated a statistically significant difference between total DLQI after applying the intervention program with $p = (<0.05^*)$. This might be due to persistent pruritus resulted in worsening health related quality of life over time. Also, This demonstrate the effectiveness of nursing guidelines in improving severity of pruritus and this lead to improvement on the quality of life of studied patients.

Logistic regression analysis of this study identified a nursing guideline as a statistically significant predictor of DLQI. This might be explained by the fact that the nursing guideline included education about standardize skin care, apply olive oil on pruritus, healthy nutrition to improve skin condition and decrease severity of pruritus, which could improve the Dermatology life quality Index of the patients.

The findings of the current study found that age, hypertension, diabetes mellitus, kidney diseases and complications of dermatological diseases were statistically significant negative predictors of dermatology life quality ($\beta = -.210, p = 0.12^*$) ($\beta = -1.468, p = .002^{**}$), ($\beta = -0.768, p = 0.023^*$), ($\beta = -0.892, p = 0.014^*$) & ($\beta = -4.453, p = 0.005^{**}$) respectively. Additionally, sex and residence were negative predictors of Dermatology life quality but not statistically significant. This result matched with the study done by **Whang et al. (2021)**, who conducted a study on health-related QOL and economic burden of chronic

pruritus and reported that age and hypertension were statistically significant negative predictors of Dermatology life quality with p value = <0.05*.

The present study represented that there was highly statistically significant correlation between knowledge level, DLQI and PASI level when p-value was <0.001**. From researcher point view, this result might be due to knowledge necessary for patient to compliance with the management regimen. This outcome matched with study done by **Lipman et al. (2022)**, who conducted research on the association of chronic pruritus with patients' quality of life and showed that statistically significant negative correlation between Knowledge level, DLQI, and PASI level when p-value was <0.001**. Moreover, this result supported with **Germain et al. (2021)**, who studied stigma in visible skin diseases—a literature review and development of a conceptual model, and reported that there was highly statistically significant correlation between Knowledge level and DLQI with p value = <0.05*.

Conclusion:

The application of nursing guidelines improves patients' knowledge level, quality of life and decreasing the severity of chronic pruritus among patients with skin diseases.

Recommendations:

Based on the study's results, the subsequent recommendations are made:

1. Implementation of nursing guidelines about pruritus as part of the routine primary

care service provided for patients with skin diseases.

2. Conducting the study again with many patients from a large geographic area to enable greater generalization of the findings.
3. Training nurses working in the dermatological department to provide nursing guidelines for patients with skin disease.
4. Further examination should be done to be as predictors of pruritus among those groups of patients.

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Conflict of interest

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