Original Article

Effect of Nursing Guidelines on Knowledge Level of Psoriatic Patients

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1. ABSTRACT

Background: Psoriasis is a chronic recurrent immune-mediated inflammatory disease with both a physical and psychosocial burden. Patient education is an integral part of comprehensive psoriasis management plan. **Aim:** To evaluate the effect of nursing guidelines on knowledge level of psoriatic patients. **Method:** A quasi-experimental research design was utilized. **Setting:** This study was conducted at Dermatology, Venereology and Andrology department and outpatient clinics at Mansoura University Hospital. **Subjects:** A purposive sample of 70 adult patients was recruited and divided randomly into two equal groups. **Tool:** One tool was used to gather data (I): A structured interview questionnaire sheet which is composed of three parts; Part (1): Demographic characteristics, Part (2):Health relevant data, and Part (3): Psoriasis knowledge questionnaire. **Results:** Study group who received nursing guidelines had higher levels of knowledge than the control group with statistically significant differences between both groups (p<0.001). **Conclusion:** This study confirmed the efficiency of nursing guidelines in improving psoriatic patient's knowledge. **Recommendation:** Availability of standardized colored booklet about psoriasis guidelines for patients.

*Keywords***:** *Knowledge, Psoriasis, Nursing guidelines.*

2. Introduction

Psoriasis is a chronic, non-communicable, painful, and disabling inflammatory skin disorder affecting about 200 million people worldwide. It can be identified by sharply demarcated erythematous scaling plaques that have a characteristic course of recurrence and remission (Teixeira et al., 2022). The disease's severity varies in relation to the body's surface area and may result in significant psychological impairment and a prolonged reduction in quality of life (Chalitsios et al., 2023). It was also linked to various disorders like cardiovascular disease, diabetes mellitus, elevated blood pressure, metabolic syndrome, and psoriatic arthritis (Parisi et al., 2020).

Phototherapy, topical medications, systemic immunosuppressants, and, nowadays, biologics are used to treat psoriasis. It cannot be completely cured, but can be controlled with the appropriate medication (Kumsa et al., 2021). Along with a lack of knowledge about the condition, many psoriasis patients are not satisfied with their current treatments, which can cause them to put off getting therapy and result in worse outcomes (Abdelsamed et al., 2021).

The fundamental reasons and triggers of psoriasis are not well understood by many people. There are certain myths that link contagiousness or poor hygiene, which can cause social stigma. Moreover, it is typical for psoriatic patients to treat their illness on their own without seeking medical advice by applying different topical creams or utilizing homemade therapies (Tian et al., 2024). Applying patient education guidelines and increasing awareness for optimal treatment options to improve knowledge and boost adherence is therefore necessary to address these concerns comprehensively (Awad et al., 2022).

The successful control of psoriasis requiring patients and nurses must collaborate to understand the best ways to treat psoriasis while taking into account its severity, comorbidities, and any drug adverse effects. Nurses also have a lot of opportunity for educational activities and spend the most time interacting with patients and their families. In light of this, nurses may help patients' disease conditions improve by offering educational instructions that have a good effect on the patients' day-to-day lives (Elzehiri et al., 2022).

Consequently, health educational guidelines remains a key component of psoriasis management plan (Aldeen, 2023). Psoriatic individuals' knowledge and health competence is improved by the incorporation of their knowledge with self-care practices; this may have a beneficial effect on their coping with the disease, and involvement in health and work. Patients with psoriasis need to get education on coping mechanisms of this ongoing condition for minimizing stigmatization. They also ought to be knowledgeable about the factors that exacerbate psoriasis, skincare practices, and life-style modifications which are essential for reducing the severity of psoriasis such as reducing weight, modifying diet, exercising, smoking cessation, and stress management (Moselhy & Abdallah, 2022; Murray et al., 2022).

2.1 Aim of the Study

The study aimed to evaluate the effect of nursing guidelines on knowledge level of psoriatic patients.

2.2 Research Hypothesis

H1: After implementing nursing guidelines, the study group's level of knowledge will be higher than the control group.

3. Method

3.1 Research Design

A quasi-experimental research design was used.

3.2 The setting of Study

The study was done at Dermatology, Venereology and Andrology department and outpatient clinics at Mansoura University Hospital.

3.3 Sampling

A purposive sample of 70 adult psoriasis patients was involved and randomly divided into 2 groups (35 patients for each):

(I) Study group: was provided nursing guidelines alongside routine hospital care.

(II) Control group: was provided only routine care of hospital.

Inclusion criteria

- Adult patients aged from 20-60 years of both gender.
- Willingness to engage in that research.

Exclusion criteria

- Patients with any mental disorders.

Sample size calculation

To determine the sample size for a dependent t test to detect a difference between two dependent means (two groups), the following data was entered into the G power program: effect size 0.8, α error prop 0.05, one tail, power (1-β err prop) 95%. There were 70 individuals in total, 35 in each group.

3.4 Data collection Tools:

Tool I: A structured Interview Questionnaire Sheet

This tool had been designed by researcher after a review of the most recent relevant literature (Cingöz, Gündüz, & İnanır, 2021; Kumar, et al., 2021) to determine patients' demographic, health relevant data and knowledge level. It made up of the three parts listed below:

Part I: Demographic Characteristics

It comprised of gender, age, residence, marital status, level of education and occupation.

Part II: Health Relevant Data

It involved disease's duration, type, family history of psoriasis, other chronic diseases, current symptoms, and the current treatment regimens.

Part III: Psoriasis Knowledge Questionnaire

This part has five main sections, each with a subset of questions. There was a total of 39 yes/no questions distributed as follows: psoriasis facts (9 questions), causes and risk factors (13 questions), symptoms and sites (8 questions), complications of psoriasis (3 questions) and psoriasis treatment (6 questions).

Scoring System

One point was given for every right response, while zero was given for every wrong response. Summing the points assigned to each of its responses yielded the final score. All scores were transformed into level using this formula:

Score% is calculated as (the observed score / the maximum score) x 100. After that, score percentage was sorted into categories:

Rating scale	Percentage (%)	Score
Poor	< 50%	< 19
Fair	50% - < 75%	19 - 28
Good	≥ 75%	≥ 29

3.5 Ethical Considerations

Official consent has been obtained from hospital administrative authorities, while ethical approval was received from the Mansoura University Faculty of Nursing Ethical Committee. The scope and goal of the study were explained to the participants, and they were advised that their

involvement was entirely voluntary and private. Throughout this study, participants were guaranteed anonymity, privacy, safety, and discreetly. They also had the option to withdraw at any moment. Prior to taking part in the research, participants gave their informed consent. All things considered, these precautions guarantee the study's integrity, rigor, and ethical behavior, strengthening the validity of its conclusions and defending the participants' rights and welfare.

3.6 Data Collection

Data collection took six months to complete from February 2023 till July 2023.

(1) Assessment phase

The researcher presented herself to patients, gave an overview of the purpose of the study and collected data from both groups individually to assess demographic characteristics, health relevant data and knowledge level by using tool I as pre-test.

(2) Implementation phase

The nursing guidelines was delivered for each patient included in study group individually in form of three sessions. Each session took about 20 to 30 min as follow:

- ✓ First session was covered the following knowledge about psoriasis (definition; risk factors, causes; signs & symptoms and types).

- ✓ Second session included information about complications, different treatment modalities and the value of treatment compliance.

- ✓ Third session included information about self-care practices relating to personal hygiene, skin care; and diet regimen must be followed along disease process.

- • Various teaching media were used during the sessions, such as videos; hand out, and color guide pictures.

- • Colored booklet was distributed to the study group for reinforcement.

(3) Evaluation phase

The effect of nursing guidelines on patient's knowledge level was evaluated through comparison of data between both groups as follow:

- ✓ The 1st time: one month after applying nursing guidelines as (post-test).

- ✓ The 2nd time: two months after the posttest as (follow up).

3.7 Statistical Analysis

The computer was fed data, and IBM SPSS software package version 20.0 was used for analysis. (IBM Corp, Armonk, NY). The data was assessed for normality using the standard deviation (less than 25% of the mean) and skewness (<1). To ensure that there were no outliers, Q-Q and box plots were also employed. Utilizing percentages and numbers, the qualitative data was described. The terms terms mean, standard deviation, and range (lowest and maximum) were utilized to characterize quantitative data. The results were deemed significant at the 5% level.

4. Results

In **Table 1,** More than one third of the participants were from the age group of 30 > 40 years. Males were more prevalent in the both groups, they constituted (62.9%) of the study group and (54.3%) of the control group. Around half of respondents in study group and control group had a secondary education (51.4% and 45.7%) respectively. About two-thirds of patients in both groups were working (60.0% and 65.7%).

According to **Table 2,** Approximately 50% of the participants suffered from psoriasis from one year to > five years. It can be observed that most of both study and control groups had no family history of psoriasis (85.7% and 88.6%) respectively. While the table denotes that plaque psoriasis was the most prevalent psoriasis kind (85.7% study group) and (94.3% control group).

Figure 1 illustrates that, (80.0%) of the study group had poor knowledge level at pre-guidelines compared to more than three quarter of them had good level of knowledge in the posttest (80.0%) and about (85.7%) in the follow-up. On the other hand, the majority of the control group obtained poor overall knowledge in all phases of the study with a highly statistically significant difference between both groups where (p<0.001).

According to **Table 3**, a significant relation was found between the study group's patients' overall knowledge scores their educational achievement, the greater the education level, the greater the knowledge scores. Also, there was no significant relationship between their knowledge scores and any other demographic variables.

Table 1. Distribution of Studied Sample Regarding Demographic Characteristics (n=70).

	Study (n = 35)		Control (n = 35)		χ2	p
	n	%	n	%		
Age (years)						
20 < 30	6	17.1	3	8.6		
30 < 40	13	37.1	14	40.0	1.913	MCp= 0.589
40 < 50	10	28.6	11	31.4		
50-60	6	17.1	7	20.0		
Gender						
Male	22	62.9	19	54.3	0.530	0.467
Female	13	37.1	16	45.7		
Marital status						
Single	8	22.9	9	25.7		
Married	25	71.4	20	57.1	2.786	MCp= 0.379
Widowed	0	0.0	1	2.9		
Divorced	2	5.7	5	14.3		
Level of education						
Illiterate	7	20.0	13	37.1		
Primary/Preparatory	5	14.3	0	0.0	6.883	MCp= 0.073
Secondary	18	51.4	16	45.7		
University	5	14.3	6	17.1		
Occupation						
Working	21	60.0	23	65.7	0.245	0.621
Not working	14	40.0	12	34.3		
Residence						
Rural	18	51.4	19	54.3	0.057	0.811
Urban	17	48.6	16	45.7		

χ^2: **Chi square test**   MC: **Monte Carlo**

p: p value for comparing between the two studied groups

*: Statistically significant at $p \leq 0.05$

Table 2. Distribution of Studied Groups According to Health Relevant Data (n=70).

Health relevant data	Study (n = 35)		Control (n = 35)		χ2	p
	n	%	n	%		
Duration of disease						
< 1 year	16	45.7	13	37.1		
1 year < 5 years	18	51.4	19	54.3	2.220	MCp= 0.594
5 years < 10 years	1	2.9	1	2.9		
≥ 10 years	0	0.0	2	5.7		
Family history of psoriasis						
Yes	5	14.3	4	11.4	0.128	0.721
No	30	85.7	31	88.6		
If yes	(n = 5)		(n = 4)			
Relatives of the first	4	80.0	1	25.0	2.723	FEp= 0.206
Relatives of the second	1	20.0	3	75.0		
Type of psoriasis						
Plaque	30	85.7	33	94.3		
Guttate	0	0.0	0	0.0		
Inverse	1	2.9	0	0.0	1.734	MCp= 0.430
Erythrodermic	4	11.4	2	5.7		
Pustular	0	0.0	0	0.0		
Comorbidity						
Yes	18	51.4	15	42.9	0.516	0.473
No	17	48.6	20	57.1		
If yes	(n = 18)		(n = 15)			
Hypertension	10	55.6	5	33.3	1.630	0.202
Heart diseases	1	5.6	4	26.7	2.836	FEp=0.152
Diabetes mellitus	10	55.6	6	40.0	0.793	0.373
Renal diseases	0	0.0	1	6.7	1.238	FEp=0.455
Liver diseases	3	16.7	0	0.0	2.750	FEp=0.233
Rheumatoid arthritis	11	61.1	8	53.3	0.203	0.653
Other	1	5.6	0	0.0	0.859	FEp=1.000
Current symptoms						
Scales	29	82.9	31	88.6	0.467	0.495
Itching and burning	31	88.6	29	82.9	0.467	0.495
Redness and irritation	26	74.3	21	60.0	1.619	0.203
Dry, cracked skin	27	77.1	25	71.4	0.357	0.550
Joint pain and swelling	11	31.4	8	22.9	0.650	0.420
Other	0	0.0	0	0.0	–	–
Current Treatment regimen						
Local	35	100.0	35	100.0	–	–
Phototherapy	7	20.0	9	25.7	0.324	0.569
Systemic	27	77.1	28	80.0	0.085	0.771

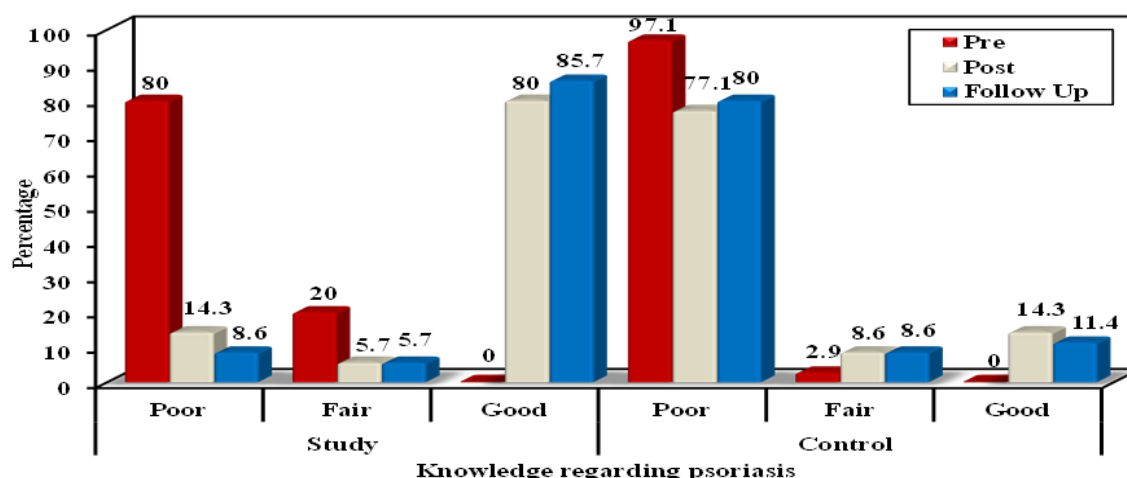χ^2: **Chi square test**   MC: **Monte Carlo**   FE: **Fisher Exact**

p: p value for comparing between the two studied groups

*: Statistically significant at p ≤ 0.05

Figure (1). Comparison of the Overall Knowledge Levels of the Two Study Groups (Pre, Post, and Follow up of Guidelines).

Table 3. Relationship Between the Study Group's Knowledge and Demographic Variables (n = 35).

Demographic characteristics	Total score For Knowledge					
	Pre		Post		Follow Up	
	Mean ± SD.	Median	Mean ± SD.	Median	Mean ± SD.	Median
Age (years)						
20 < 30	12.17 ± 8.42	11.50	33.33 ± 13.88	39.0	35.0 ± 9.80	39.0
30 < 40	13.85 ± 9.93	18.0	34.85 ± 9.83	39.0	36.0 ± 9.38	39.0
40 < 50	5.60 ± 7.31	3.50	30.90 ± 13.16	38.50	34.60 ± 9.13	39.0
50-60	6.50 ± 4.14	5.0	33.50 ± 13.47	39.0	36.17 ± 6.94	39.0
H (p)	6.074 (0.108)		2.118 (0.548)		0.457 (0.928)	
Sex						
Male	7.59 ± 7.35	4.50	33.05 ± 11.43	39.0	35.68 ± 7.85	39.0
Female	13.92 ± 9.71	18.0	33.54 ± 12.69	39.0	35.08 ± 10.19	39.0
U (p)	87.50 (0.057)		135.00 (0.801)		130.00 (0.674)	
Marital status						
Single	8.88 ± 8.24	4.0	23.88 ± 17.19	30.50	28.63 ± 14.06	37.0
Married	9.16 ± 8.39	5.0	35.76 ± 8.37	39.0	37.36 ± 5.28	39.0
Divorced	24.0 ± 2.83	24.0	39.0 ± 0.0	39.0	39.0 ± 0.0	39.0
H (p)	3.947 (0.139)		3.276 (0.194)		5.376 (0.068)	
Level of education						
Illiterate	2.86 ± 1.07	3.0	13.14 ± 12.92	6.0	22.0 ± 12.53	22.0
Primary /Preparatory	6.40 ± 4.56	6.0	38.60 ± 0.89	39.0	39.0 ± 0.0	39.0
Secondary	14.56 ± 9.27	16.0	38.61 ± 1.42	39.0	38.94 ± 0.24	39.0
University	6.80 ± 6.98	4.0	36.60 ± 4.83	39.0	38.20 ± 1.79	39.0
H (p)	13.792[*] (0.003[*])		22.002[*] (<0.001[*])		21.885 (<0.001[*])	
Occupation						
Working	8.43 ± 8.82	4.0	33.10 ± 12.19	39.0	35.48 ± 8.38	39.0
Not working	12.21 ± 8.40	12.0	33.43 ± 11.45	39.0	35.43 ± 9.35	39.0
U (p)	108.000 (0.198)		135.000 (0.702)		144.500 (0.934)	
Residence						
Rural	10.50 ± 9.94	5.50	30.28 ± 14.47	39.0	33.0 ± 11.31	39.0
Urban	9.35 ± 7.51	5.0	36.35 ± 7.06	39.0	38.06 ± 3.01	39.0
U (p)	150.000 (0.935)		127.000 (0.405)		117.500 (0.245)	

5. Discussion

Psoriasis is an autoimmune disorder which can pose a major threat to the public's health, and contribute to increasing healthcare expenses, lowering people's ability to work and live a fulfilling life **(Reuter & Lee, 2021)**. Positive lifestyle behaviors can be strengthened by being aware of the things that aggravate the condition and by helping the patient understand the pathophysiology of psoriasis. To effectively manage their disease, they require enough education and assistance from the healthcare professionals **(Larsen et al., 2021)**. For psoriatic patients to utilize prescribed medicines safely and minimize potential side effect risks, nurses should provide customized information, guidance, and ongoing support; implementing innovative teaching techniques designed to encourage self-management in psoriatic people **(Eldesoky et al., 2023)**.

The study found that most of the patients studied were male, consistent with finding from **Tian et al., (2024)** who stated that close to half of studied psoriasis participants are males. Conversely, **Kara Polat et al. (2022)** who revealed that the majority of the participants in their study were women. The present research documented that the largest proportion of both groups was between the ages of 30 to less than 40 years. This finding has been consistent with **Mohamed et al. (2022)** who showed that most of subjects were 30-40 years old. This result is in conflict with **Adea et al. (2022)** who reported that the majority of studied patients were less than 25-year age.

The discrepancy in education levels among the studied populations highlights the variability that can exist across different studies. Almost fifty percent of the sample were secondary educated. Similarly, **Norlin et al., (2023)** who found that over fifty percent of included patients had medium education. In It contradicts finding of **Eldesoky et al., (2023)** who indicated that about half of sample were illiterate. This study demonstrated the two groups under observation were generally employed. That's agree with **Abza, (2023)** who illustrated that almost all of cases were government employees. Contrary to **Adea et al. (2022)** who said that a greater proportion of those enrolled in study were not workers.

In terms of psoriasis type, the highest percentage of studied sample had plaque psoriasis. This agree with **El-Komy et al. (2020)** who represented that plaque psoriasis was the most prevalent kind of psoriasis in the research. This is due to the fact that plaque psoriasis affects between 80% and 90% of psoriasis sufferers. 6.7 million adults are impacted by it **(Singhvi et al., 2020)**. Furthermore, regarding current complain, nearly all of the sample currently complained from itching and scales. This finding lines up with **El-Komy et al., (2020)** who discovered that itching was the most often reported symptom in their investigation.

Most research participants have inadequate knowledge regarding psoriasis at pre guidelines phase. These findings were supported by **Omar** and **Ramadan (2021)** who summarized that over sixty percent of studied participants exhibited a poor level of knowledge. This could be related to doctors' hectic schedules and heavy workloads brought on by an increase in the number of patients visiting the hospital and the consequent strain on staff, which leaves them with little time to explain the nature of a condition and the best method to manage it.

While there is a significant raise in the study group's level of knowledge in comparison with control group following the nursing guidelines' implementation. Similarly, this positive response to the offered information is consistent with the findings reported in a research carried out by **Riad et al. (2021)** who mentioned that mean knowledge score increased significantly after the guidance within study subjects and there were statistically significant variations between the two groups. This improvement in knowledge may be attributed to health instruction that given to patients throughout the nursing guidelines. In addition, proper education by written instructions with illustrations and using attractive media and booklet can improve patient's knowledge.

On studying the relation of different demographic characteristics of the study population on acquiring knowledge, the current study reported a significant increase of overall score of knowledge in the study group subjects who had higher level of education. This finding agreed with **Moselhy** and **Abdallah (2022)** who detected in their study that a highly statistically significant association between the educational attainment and total knowledge score of psoriatic patients. These findings may justify that the educational level of the patients could enhance their ability to read the printed material and learn about their health problems and have a higher chance to access much information from different media, as well they can communicate easily with health care providers to obtain adequate information.

who found a highly statistically significant association between the educational degree and

total knowledge score of patients with psoriasis in their study.

Conclusion:

Nursing guidelines has positive significant effect on psoriatic patient's knowledge level.

Recommendation:

- Availability of standardized colored booklet about psoriasis guidelines for patients is needed to improve knowledge.
- It is suggested that the study be repeated using a bigger random sample drawn from other regions of Egypt, and that longer intervention and assessment periods be necessary.

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