



EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PSORALEN PLUS ULTRAVIOLET-A RADIATION PHOTOTHERAPY AMONG PATIENTS WITH PSORIASIS IN SELECTED HOSPITALS IN GWALIOR.

Rini Joby

Associate Professor, Department of Medical-Surgical Nursing, Kamala College of Nursing, Hebbal, Bengaluru, Karnataka, India.

<https://doi.org/10.47211/idcij.2026.v13i03.003>

ABSTRACT

Psoriasis is a chronic inflammatory skin disorder. It often requires long-term treatment and patient adherence. Proper knowledge regarding Psoralen and Ultraviolet A (PUVA) therapy is very important for effective treatment outcomes. This study aimed to evaluate the effectiveness of a Structured Teaching Programme (STP) on the knowledge regarding PUVA therapy among patients with psoriasis in selected hospitals of Gwalior.

A pre-experimental one-group pre-test and post-test research design was used. The conceptual framework was based on Stufflebeam's CIPP Evaluation Model. Using purposive sampling, 55 psoriasis patients were selected from District Civil/KDJ Hospital, Gwalior. Data were collected through a self-administered structured knowledge questionnaire. It consisted of demographic variables and 41 knowledge-related items.

The findings revealed that most participants were aged 31–40 years (36.4%), male (69%), educated up to secondary level (30.9%), labourers (47.3%), and from rural areas (63.6%). The post-test knowledge scores showed significant improvement compared to pre-test scores in all aspects of PUVA therapy. The paired t-test demonstrated a statistically significant increase in knowledge at $p < 0.05$, confirming the effectiveness of the Structured Teaching Programme. Significant associations were found between pre-test knowledge scores and selected demographic variables, namely occupation, residence, and source of information ($p < 0.05$). No significant association was found with age, gender, religion, family history, family income, duration of illness, or previous exposure to therapy.

The study concluded that the Structured Teaching Programme was effective in increasing the knowledge of psoriasis patients regarding PUVA therapy and can be used as an educational intervention to improve patient awareness and treatment.

Keywords: Psoriasis, PUVA Therapy, Structured Teaching Programme, Knowledge, Health Education, Nursing Intervention, Gwalior.

INTRODUCTION

Psoriasis is non-contagious, chronic skin disorder. It happens when the human body reproduces new skin cells at a faster than normal rate, causing the cells to pile up on the surface.

Psoriasis is a skin disorder driven by the immune system, especially involving a type of white blood cell called a T cell. Normally, T cells help to protect the body against infections and diseases. People with psoriasis may notice that there are times when their skin worsens called flares, then improves. Conditions that cause flares include infections, stress and changes in climate that dry the skin. Psoralen and ultraviolet A phototherapy (PUVA): This treatment combines oral or logical administration of a medicine called psoralen with exposure to ultraviolet A (UVA) light. UVA has a long wavelength that penetrates deeper into the skin than ultraviolet B.

Psoriatic arthritis is a type of arthritic inflammation that occurs in about 15 percent of patients with psoriasis. The particular arthritis can affect any joint in the body and symptoms vary from person to person like psoriasis, psoriatic arthritis symptoms flare and subside and even change locations in the same person over time.

There is a growing member of population-based studies providing worldwide prevalence estimates of psoriasis. Localised psoriasis can usually be managed by topical therapy but more widespread psoriasis will require stronger treatment such as ultraviolet light or various therapies. The patient needs to have informed about the various available options. The treatments for psoriasis Are based on empirical experience and diverse scientific theories. These range from topical medications such as tar, anthralin phototherapy and photo chemotherapy. Investigators found that awareness among the psoriasis patients about the psoralen plus ultraviolet radiation therapy is insufficient. So this study is essential in providing better information about the therapy.



RESEARCH METHODOLOGY

Research Approach

An evaluative research approach was adopted to assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding Psoralen plus Ultraviolet A (PUVA) therapy among patients with psoriasis in selected hospitals of Gwalior.

Research Design

A pre-experimental one-group pre-test and post-test design was used.

$O_1 \rightarrow X \rightarrow O_2$

Where:

- O_1 = Pre-test assessment of knowledge regarding PUVA therapy
- X = Administration of Structured Teaching Programme
- O_2 = Post-test assessment of knowledge regarding PUVA therapy

Variables

- **Independent Variable:** Structured Teaching Programme on PUVA therapy.
- **Dependent Variable:** Knowledge regarding PUVA therapy among psoriasis patients.
- **Extraneous Variables:** Age, gender, income, pre-exposure to therapy, other diseases, and source of information.

Setting of the Study

The study was conducted at District Civil/KDJ Hospital, Gwalior, a tertiary care hospital affiliated with JA Medical College, Gwalior.

Population and Sample

The target population comprised patients with psoriasis. The sample consisted of 55 psoriasis patients selected through non-probability purposive sampling.

Description of the Tool

The self-administered structured questionnaire consisted of:

Part I: Demographic data (12 items).

Part II: Knowledge questionnaire on PUVA therapy (41 items) covering:

- Information regarding psoriasis (18 items)
- Description of PUVA therapy (8 items)
- Instructions before, during and after PUVA therapy (9 items)
- Uses of PUVA therapy (6 items)

Scoring Procedure

Each correct response was awarded one mark and each incorrect response zero.

- Inadequate Knowledge: <50%
- Moderate Knowledge: 51–75%
- Adequate Knowledge: >75%

Validity and Reliability

The tool was validated by six experts comprising nursing educators, a dermatologist, and a biostatistician. Reliability was established using the Split-Half Method and Spearman-Brown formula ($r = 0.84$).

Structured Teaching Programme

The STP was developed based on literature review and expert opinion. It included information on psoriasis, types, causes, clinical manifestations, pathophysiology, PUVA therapy, procedural instructions, and uses of PUVA therapy.

Data Collection Procedure

Data were collected during January 2019 after obtaining permission from the hospital authorities. A pre-test was conducted, followed by administration of the STP. The post-test was conducted on the 10th day using the same questionnaire.

Data Analysis

Data were analysed using descriptive and inferential statistics.

RESULTS

SECTION I

Demographic Characteristics of Psoriasis Patients

Table 1. Frequency and Percentage Distribution of Respondents According to Demographic Variables (N = 55)

S. No.	Characteristics	Category	n	%
1.	Age in years	Below 20 years	3	5.5
		21-30	17	30.9
		31-40	20	36.4
		>40 years	15	27.3
2.	Gender	Male	38	69.1
		Female	17	30.9
3.	Education	Primary	15	27.3
		Secondary	17	30.9
		Higher Secondary	16	29.1
		Graduate	7	12.7
4.	Occupation	Labourer	26	47.3
		Housewife	18	32.7
		Working	4	10
		Any other	0	0
5.	Duration of illness	<1 Week	3	5.5
		1 Week	0	0
		6 Months	25	45.5
		>1 Year	27	49.1
6.	Family History	Yes	6	10.9
		No	49	89.1
7.	Religion	Hindu	10	18.2
		Muslim	45	81.8
8.	Residence	Urban	20	36.4
		Rural	35	63.6
9.	Income	Less than Rs. 1000	0	0
		Rs.1000-3000	23	41.8
		Rs.3000-6000	19	34.5
		Above Rs.6000	13	23.6
10.	Pre exposure to therapy	Yes	55	100
		No	0	0
11.	Other diseases	Yes	15	27.3
		No	40	72.7
12.	Health Information	Television and Radio	0	0
		News paper	0	0
		Health professionals	36	65.5

Table 1 presents the demographic characteristics of the respondents. The majority of the patients were aged 31–40 years (36.4%), male (69.1%), educated up to secondary level (30.9%), and labourers (47.3%). Nearly half of the respondents had been suffering from psoriasis for more than one year (49.1%), while 89.1% reported no family history of psoriasis. Most participants were Muslims (81.8%) and resided in rural areas (63.6%). The majority had a monthly family income of Rs. 1000–3000 (41.8%), had previous exposure to therapy (100%), and were free from other diseases (72.7%). Health professionals were the major source of information regarding PUVA therapy (65.5%).

SECTION II

Existing Knowledge Regarding PUVA Therapy Among Psoriasis Patients

Table 2. Aspect-wise Mean Pre-test Knowledge Scores on PUVA Therapy (N = 55)

S. No.	Knowledge Aspects	Items	Max.Score	Knowledge score		
				Mean	Mean(%)	SD
I	Section 1	18	18	7.3	40%	3.4
II	Section 2	8	8	2.5	31%	1.8
III	Section 3	9	4.9	4.2	46%	3.0
IV	Section 4	6	6	2.1	35%	1.8
	Combined	41	41	16.1	39%	8.6

Table 3. Distribution of Respondents According to Pre-test Knowledge Level on PUVA Therapy (N = 55)

S. No.	Knowledge Level	Category	Frequency and Percentage of Respondents	
			Pre Test	
			n	%
1.	Inadequate	<=50%score	36	65.5
2.	Moderate	51-75% score	19	34.5
3.	Adequate	>75%score	0	0
	Total		55	100

Tables 2 and 3 reveal that the overall mean pre-test knowledge score was 16.1 (39%), indicating inadequate knowledge regarding PUVA therapy. Among the respondents, 36 (65.5%) had inadequate knowledge and 19 (34.5%) had moderate knowledge. None of the respondents demonstrated adequate knowledge before the administration of the Structured Teaching Programme.

SECTION III

Effectiveness of Structured Teaching Programme on Knowledge Regarding PUVA Therapy

Table 4. Aspect-wise Effectiveness of Structured Teaching Programme on PUVA Therapy (N = 55)

S. No.	Knowledge Aspects	Patients Knowledge Score						Paired 't' test
		Pre Test		Post Test		Enhancement		
		Mean%	SD	Mean%	SD	Mean%	SD	
	Section 1	40%	3.4	85%	1.8	45%	1.6	13.52
	Section 2	31%	1.8	74%	4.2	43%	2.4	11.60
	Section 3	46%	3.0	78%	1.1	32%	1.9	6.03
	Section 4	35%	1.8	85%	0.9	50%	0.9	9.98
	Combined	39%	8.6	81%	3.1	38.66	0.82	12.01

Table 5. Comparison of Pre-test and Post-test Knowledge Levels on PUVA Therapy (N = 55)

S. No	Knowledge Level	Category	Frequency and Percentage Distribution of Respondents.			
			Pre test		Post Test	
			n	%	n	%
1	Inadequate	< 50% Score	36	65.5%	0	0
2	Moderate	51-75% Score	19	34.5%	10	18.2%
3	Adequate	>75% Score	0	0%	45	81.8%
	Total		55	100%	55	100%

Table 4 shows that the Structured Teaching Programme significantly improved the knowledge of psoriasis patients regarding PUVA therapy. The overall mean knowledge score increased from 39% in the pre-test to 81% in the post-test, with an enhancement of 42%. The calculated paired t-test value ($t = 12.01$) was significant at the 0.05 level, indicating the effectiveness of the intervention.

Table 5 further reveals that before the intervention, 65.5% of respondents had inadequate knowledge and none had adequate knowledge. Following the Structured Teaching Programme, 81.8% of respondents achieved adequate knowledge, while only 18.2% had moderate knowledge. These findings demonstrate a substantial improvement in knowledge after the educational intervention.

SECTION IV

Association Between Knowledge Scores and Selected Demographic Variables

Table 6. Association Between Pre-test Knowledge Scores and Selected Demographic Variables (N = 55)

S. No.	Demographic Variables	Category	Sample	Knowledge Score				PX2value	Table value of X2
				Inadequate		Moderate			
				n	%	n	%		
1.	Age in years	Below 20 years	3	1	33	2	67	5.43 P=0.14.NS	<0.05
		21-30 yrs	17	13	77	4	23		
		31-40yrs	20	15	75	4	23		
		Above 40yrs	15	7	47	8	53		
2.	Gender	Male	38	28	74	10	26	3.68 NS P=0.06	3.84
		Female	17	8	47	9	53		
3.	Education	Primary	15	11	73	4	27	1.13 P=0.77 NS	7.81
		Higher Secondary	17	11	65	6	35		
		Collegiate	16	9	56	7	44		
		Degree and above	7	5	71	2	29		
4.	Occupation	Labourer	26	22	85	4	15	8.07 P=0.77 NS	<0.05
		House wife	11	5	45	6	55		
		Employee	18	9	50	9	50		
5.	Duration	Less than one week	3	3	100	0	0	2.11NS P=0.35	5.99
		6 months	25	17	68	8	32		
		More than one year	27	16	59	11	41		
6.	Family History	Yes	6	6	100	0	0	3.55NS P=0.06	3.84
		No	49	30	61	19	39		
7.	Religion	Hindu	10	7	70	3	30	0.12NS P=0.74	3.84
		Muslim	45	29	64	16	36		
8.	Residence	Rural	20	18	90	2	10	8.37 P<0.05,S	3.84
		Urban	35	18	51	17	49		
9.	Income per month	Rs.1000-3000	23	18	78	5	22	2.92 P=.23NS	5.99
		Rs.3000-6000	19	11	58	8	42		
		Above Rs.6000	13	7	54	6	46		
10.	Pre-exposure to therapy	Yes	55	36	65	19	35	-	-
11.	Other Diseases	Yes	15	11	73	4	27	0.57NS P=0.45	3.84
		No	40	25	62	15	38		
12.	Source Information	Health professional	36	27	75	9	25	4.20 P<0.05,S	3.84
		Books and magazines	19	9	47	10	53		

Table 6 shows the association between pre-test knowledge scores and selected demographic variables. Occupation, residence, and source of information were found to have a statistically significant association with knowledge scores at the 0.05 level of significance. However, age, gender, education, duration of illness, family



history, religion, monthly income, pre-exposure to therapy, and presence of other diseases showed no significant association with pre-test knowledge scores.

DISCUSSION

The findings of the study revealed that the majority of patients had inadequate knowledge regarding PUVA therapy before the intervention. After the administration of the Structured Teaching Programme, a significant improvement was observed in the post-test knowledge scores. The paired t-test demonstrated a statistically significant difference between pre-test and post-test scores, indicating that the educational intervention was effective in enhancing patients' knowledge regarding PUVA therapy.

The study also examined the association between pre-test knowledge scores and selected demographic variables. Significant associations were found with occupation, residence, and source of information, suggesting that these factors may influence patients' awareness and understanding of PUVA therapy. However, variables such as age, gender, religion, family history, family income, duration of illness, and previous exposure to therapy did not show a significant association with knowledge scores. These findings highlight the importance of providing structured educational programmes to all psoriasis patients irrespective of their demographic background to improve their understanding of treatment modalities.

CONCLUSION

Based on the findings of the study, it is found that the Structured Teaching Programme was effective in improving the knowledge of psoriasis patients regarding PUVA therapy. The significant increase in post-test knowledge scores demonstrates the value of planned educational interventions in enhancing patient awareness and promoting informed participation in treatment. Therefore, structured teaching programmes can be recommended as an integral component of patient education for individuals undergoing PUVA therapy.

REFERENCES

1. General information about psoriasis, My Food, My Health Online Weekly meal planner, Easy way to follow a diet for psoriasis. <http://www.google.com>.
2. Question and answers about psoriasis, National institute of arthritis and musculoskeletal and skin disease, Psoriasis, April 2009.
3. Jeremiah C. Psoriasis within nails: What its methods to treat the item, Posts tagged' diet for psoriasis patient's. Published by online 2011 December 11.
4. Sunil D, Savita Y, Psoriasis in India: Prevalence and Pattern 76(6), Nov 2010.
5. Cowen P, Management of psoriasis. Aust Fam Physician 2001 Nov;30 (11):1033-1037.PMID:11759451.
6. Ryan S. Psoriasis and Characteristics, psychological effects and treatment options, Br J Nurs.2008 Mar13-26;17(5):284-290.
7. Faber EM, Able EA, Charuworn A. Recent advances in the treatment of psoriasis. J Am Acad Dermatol.1983 Mar;8(3):311-321. PMID :6833533.
8. Lebwahi M, Ali S. Treatment of psoriasis, Part1, Topical therapy and phototherapy, J Am Acad Dermatol October 2001;45:487-498.
9. Cloote H. Psoriasis. Nurs Stand 2000 Jul 26 Aug 1;14(45): 47-52;Quiz 53,55. Source Benender Hospital,Kent PMID: 11974207(Pubmed-indexed for Medline)
10. Watts J. Helping people to remain in control of their psoriasis. Community Nurse 1988 Aug;4(7) :19-21.

ABOUT THE AUTHOR



Mrs. Rini Joby is an Associate Professor in the Department of Medical-Surgical Nursing at Kamala College of Nursing, Bangalore. She is actively involved in nursing education, clinical training, and academic development of nursing students.