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EFFECT OF NURSE LED EDUCATION PROGRAMME ON KNOWLEDGE & EXPRESSED PRACTICE REGARDING RHEUMATOID ARTHRITIS AND ITS SELF-CARE AMONG PATIENTS ATTENDING THE DEPARTMENT OF RHEUMATOLOGY, KGMU

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ABSTRACT

Introduction: Rheumatoid arthritis (RA) is a chronic autoimmune disorder that requires lifelong management, including medication adherence and self-care. Despite medical advancements, many patients lack sufficient knowledge and do not practice effective self-care, leading to disease progression. Nurse-led education programmes can empower patients by improving disease understanding and encouraging proper self-management behaviours. **Methodology:** A quasi-experimental one-group pre-test post-test design was adopted to assess the effect of a nurse-led education programme on knowledge and expressed self-care practices among 92 RA patients attending the Department of Rheumatology, King George's Medical University (KGMU), Lucknow. Data were collected using a socio-demographic questionnaire, a self-structured knowledge questionnaire (18 items), and a self-care practice checklist (15 items). Pre- and post-intervention assessments were conducted one month apart. Data were analyzed using descriptive and inferential statistics, including paired t-tests and chi-square tests. **Results:** The study revealed a significant improvement in participants' knowledge post-intervention. Pre-test results showed 34.8% of patients had poor knowledge, while post-test results indicated that 94.6% had good knowledge ($p < 0.05$). Although an increase in self-care practice scores was noted, the change was not statistically significant. No significant association was found between demographic variables and knowledge or practice scores. **Conclusion:** The nurse-led education programme was effective in improving knowledge among RA patients. However, the intervention had a limited impact on expressed self-care practices, indicating the need for sustained, behaviour-focused interventions in conjunction with education.

KEYWORDS: Rheumatoid Arthritis, Nurse-Led Intervention, Patient Education, Self-Care Practices, Knowledge, Chronic Disease Management.

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic autoimmune disorder that primarily affects the synovial joints, leading to inflammation, pain, stiffness, and progressive joint damage. The condition significantly impairs the quality of life, affecting mobility and daily activities. Globally, RA affects approximately 0.24 to 1% of the population, with a higher prevalence among women.[1] The exact etiology remains unclear, but genetic predisposition, environmental triggers, and immune system dysregulation contribute to its development. Without timely intervention and proper disease management, RA can lead to severe joint deformities, disability, and systemic complications affecting the cardiovascular, respiratory, and nervous systems. Given its lifelong nature, effective disease management strategies are essential to control disease progression and improve patient outcomes.[2]

Patient education is a cornerstone in RA management, as it empowers individuals to understand their condition, adhere to prescribed treatment regimens, and implement self-care strategies. Studies have shown that patients

with higher disease-related knowledge demonstrate better medication adherence, improved physical functioning, and reduced disease flares.[3] In many healthcare settings, particularly in resource-limited regions, patient education remains inadequate. Many RA patients rely solely on medications without understanding the importance of lifestyle modifications, joint protection techniques, regular physical activity, and dietary interventions.[4] This knowledge gap often results in poor disease control, increased dependency on medical care, and reduced quality of life.

Nurses play a pivotal role in bridging this gap through structured education programmes aimed at improving patients' understanding of RA and its self-care management. Nurse-led education has been recognized as an effective approach in chronic disease management, enhancing patients' knowledge, self-efficacy, and adherence to recommended care plans.[5] By delivering disease-specific information, teaching symptom management strategies, and reinforcing the importance of self-care, nurses can significantly improve patient outcomes. This study focuses on evaluating the impact of a structured nurse-led education programme on the knowledge and expressed self-care practices of RA patients, emphasizing the need for continuous education to promote better disease management and overall well-being.

Global prevalence of rheumatoid arthritis (RA) is estimated at approximately 0.46%.[6] In India, prevalence estimates vary, with studies indicating rates ranging from 0.28% to 0.70%.[7] Notably, a study from Lucknow, Uttar Pradesh, reported a prevalence of 0.19% in urban areas and 0.54% in rural areas.[8] These variations underscore the need for region-specific data to accurately assess the burden of RA.

The disease predominantly affects women, with studies indicating that approximately 70% of RA patients are female.[9] The onset is most common between the ages of 30 and 60, although it can occur at any age.[10] Despite advancements in treatment, a significant proportion of patients lack adequate knowledge about RA management. This knowledge gap often leads to poor adherence to treatment regimens and suboptimal self-care practices, resulting in disease progression and reduced quality of life.

Nurse-led education programs have been shown to enhance patient knowledge and self-management skills, leading to improved health outcomes. There is a scarcity of structured educational interventions in India, particularly in tertiary healthcare settings. This study aims to assess the effectiveness of a nurse-led education program in improving knowledge and self-care practices among RA patients at King George's Medical University (KGMU), Lucknow, thereby addressing the critical gap between awareness and practical disease management.

METHODOLOGY

Research approach: Quantitative research approach.

Research design: A quasi-experimental one-group pre-test post-test design.

Study Setting and Participants: The study was conducted in the Department of Rheumatology at King George's Medical University (KGMU), Lucknow, Uttar Pradesh, a well-established tertiary care centre catering to rheumatoid arthritis (RA) patients.

Sampling: A non-probability purposive sampling technique was used to select 92 rheumatoid arthritis (RA) patients attending the Department of Rheumatology at KGMU, Lucknow. The sample size was determined based on statistical calculations to ensure adequate representation.

Data collection: Data collection involved structured questionnaires and checklists to assess demographics, knowledge, and self-care practices among RA patients. A pre-test was followed by a nurse-led education programme, with a post-test conducted after one month to evaluate improvements.

Data analysis: The data analysis involved descriptive statistics (frequency, percentage, mean, standard deviation) to summarize demographics, knowledge, and self-care practices, and inferential statistics (paired t-test, chi-square test) to assess the effectiveness of the nurse-led education programme and associations with socio-demographic variables.

RESULT

Table 1: Frequency and Percentage distribution of demographical characteristics in samples. N=92

S. No.	Demographic variable	Frequency (f)	Percent (%)
1	Age in years		
	a) 18-35 years	38	41.3
	b) 36-45 years	29	31.5
	c) 46-55 years	15	16.3
	d) 56-65 years	10	10.9
2	Gender		
	a) Male	23	25.0
	b) Female	69	75.0
	c) Transgender	0	0

3	Religion		
	a) Hindu	80	87.0
	b) Muslim	12	13.0
	c) Christian	0	0
4	Educational Status		
	a) Illiterate	11	12.0
	b) Primary education	10	10.9
	c) Secondary education	24	26.1
	d) Graduate	41	44.6
	e) Post Graduate	6	6.5
5	Type of family		
	a) Nuclear	15	16.3
	b) Joint	70	76.1
	c) Extended	7	7.6
6	Marital status		
	a) Married	67	72.8
	b) Unmarried	21	22.8
	c) Widowed	1	1.1
	d) Divorced/Separated	3	3.3
7	Monthly income in rupees		
	a) Less than Rs. 5000/-	4	4.3
	b) Rs. 5001 to Rs. 10000/-	14	15.2
	c) More than Rs. 10001/-	74	80.4
8	Occupation		
	a) Home makers	34	37.0
	b) Agriculture	11	12.0
	c) Daily wage worker	12	13.0
	d) Self employed	18	19.6
	e) Private job	16	17.4
	f) Government job	1	1.1
9	Numbers of family members		
	a) Less than 5 members	50	54.3
	b) More than 5 members	42	45.7
10a	Previous information regarding Rheumatoid arthritis		
	a) Yes	86	93.5
	b) No	6	6.5
11	Source of information regarding Rheumatoid arthritis		
	a) Health care workers	79	91.9
	b) Mass media	5	5.8
	c) Family member and peer group	2	2.3
12	Previous information regarding self-care of Rheumatoid arthritis		
	a) Yes	16	17.4
	b) No	76	82.6
13	source of information regarding self-care of Rheumatoid arthritis		
	a) Health care workers	11	68.8
	b) Mass media	5	31.3

Table 2: Showing level the Pretest and Posttest knowledge regarding rheumatoid Arthritis and Its self-care among patients attending the department of Rheumatology. N= 92

S. No	Level of knowledge	Pretest		Posttest	
		Frequency	Percentage	Frequency	Percentage
1.	Poor knowledge	32	34.8	0	0.0
2.	Average knowledge	39	42.4	5	5.4
3.	Good knowledge	21	22.8	87	94.6

Table 3: Showed "t" test value for assessment of effectiveness of nurse led education programme on knowledge regarding rheumatoid arthritis and its self-care among patients attending the department of Rheumatology.

Test	Mean	S.D.	Mean difference	Calculated "t" value	df	*p-value*
Pretest	8.00	3.190	5.50	20.66	91	0.001*
Posttest	13.50	1.788				

Table 4: Showing level the pre-test and post-test expressed practice regarding rheumatoid arthritis and its self-care among patients attending the department of Rheumatology. N= 92

S. No	Level of expressed practice	Pretest		Posttest	
		Frequency	Percentage	Frequency	Percentage
1.	Poor self-care	32	34.8	6	6.5
2.	Average self-care	49	53.3	81	88.0
3.	Good selfcare	11	12.0	5	5.4

Table 5: Chi Square value showing association between pretest knowledge regarding rheumatoid arthritis and its self-care among patients attending the department of Rheumatology and their selected demographic variables N=92

S. N.	Name of variables	Chi square	df	"p" value
1	Age in years	11.093	6	0.086
2	Gender	0.396	2	0.82
3	Religion	0.419	2	0.811
4	Educational Status	12.892	8	0.116
5	Type of family	2.267	4	0.687
6	Marital status	4.742	6	0.577
7	Monthly income in rupees	3.328	4	0.505
8	Occupation	10.06	10	0.435
9	Numbers of family members	3.526	2	0.172
10	Previous information regarding Rheumatoid arthritis	20.77	2	0.001*
12	Previous information regarding self-care of Rheumatoid arthritis	5.992	2	0.049*

*= Significant
NS = Non-significant

DISCUSSION

The present study was conducted to assess the effectiveness of a nurse-led education programme on knowledge and expressed self-care practices among rheumatoid arthritis (RA) patients. The results clearly indicate that the educational intervention had a significant positive impact on the patients' knowledge levels, with 94.6% of participants achieving good knowledge in the post-test compared to only 22.8% in the pre-test. While knowledge improved significantly, the correlation between knowledge and expressed self-care practice was not statistically significant, suggesting that increased knowledge does not always translate into behavioural change. This highlights a critical gap in health education where knowledge alone may not ensure proper self-management.

In our study, the implementation of a nurse-led education program resulted in a significant increase in knowledge among RA patients, with the proportion of participants displaying good knowledge rising from 22.8% pre-intervention to 94.6% post-intervention. This outcome mirrors findings from Gurjar (2023), who demonstrated that a structured, nurse-led educational program significantly improved both knowledge and self-care behaviour among arthritis patients after a 3-month intervention.[11] Similarly, Selim et al. (2019) observed significant improvements in knowledge scores among elderly RA patients following nursing interventions, confirming that targeted education is vital to empowering patients.[12]

Regarding self-care practices, our results showed that poor self-care dropped from 34.8% to just 6.5% post-intervention, while average self-care increased dramatically. This aligns with the findings from Ndosi (2016), who highlighted that combining nurse-led care with patient self-assessment enhanced disease control and management of RA-related comorbidities.[13] Yang et al. (2025) further supported this by reporting that nurse-led care significantly improved disease activity and self-efficacy compared to usual care.[14] These findings support the idea that knowledge gained through education directly translates into improved health behaviours, particularly in chronic disease management.

Our study also found significant associations between patients' prior knowledge and their pre-test scores, with

p-values of 0.001 and 0.049 respectively. This indicates that patients with baseline knowledge were more likely to benefit from the intervention. This trend is consistent with a systematic review by Lois et al. (2021), which emphasized that nurse-led care enhances treatment adherence, depression outcomes, and overall patient satisfaction through sustained engagement and support.[15] Garner et al. (2017) confirmed that nurse-led care improved patient satisfaction and was perceived as effective and safe across multiple quality-of-care domains.[16]

One of the strengths of the current study is the implementation of a structured nurse-led education programme within a tertiary care setting, using validated tools for assessment. This intervention was found to be both feasible and effective in significantly improving knowledge levels. However, the study also had limitations. It lacked a control group, which limits the ability to establish causality. The sample was selected through purposive sampling, which may affect the generalizability of the findings. The follow-up period was short (only one month), which may not have been sufficient to capture changes in long-term practice or behavior. An unexpected finding was the minimal improvement in self-care practices despite the significant increase in knowledge—indicating a need to integrate behavioral training or motivational strategies in future interventions.

The primary hypothesis of the study—that there would be a significant difference between pre- and post-test knowledge and practice scores among RA patients following a nurse-led education programme—was partially supported. The knowledge scores showed a statistically significant improvement, while the change in expressed practice scores was less pronounced, highlighting a gap between learning and application. The study's purpose of evaluating the impact of a nurse-led intervention was achieved, demonstrating that structured educational programmes can effectively raise awareness and understanding of RA among patients.

This study highlights the significance of nurse-led interventions in chronic disease management and suggests the importance of continuous reinforcement to achieve behavioural change. Future research should focus on incorporating motivational interviewing, family involvement, and psychosocial support to enhance self-care adherence. Additionally, longer follow-up periods and multi-centre randomized controlled trials could provide stronger evidence and help develop more sustainable, culturally tailored education models for RA and other chronic conditions.

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