

EVALUATION OF THE IMPACT OF NURSE-LED INTERVENTIONS ON SURGICAL PATIENTS WITH RHEUMATOID ARTHRITIS

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Abstract

Nursing interventions are the measures taken and the methods used by nurses to treat and care for patients. Patients' health, well-being, and rehabilitation are all affected by nursing treatments. Treatments, procedures, and drugs are all examples of nursing interventions. Nursing interventions might also include educating patients or repositioning their beds as needed. Hundreds of nursing activities are categorized as interventions by medical professionals, but a nurse just has to be an expert in the interventions that pertain to their area of practice, such as gerontological or hospice care. The Rheumatology Clinic at the Government Royapettah Hospital in the Chennai suburb of Royapetta served as the study's site. Information is gathered over a long period of time, with several data points before and after the introduction of a therapy, in the quasi-experimental non-equivalent time series design. By this paper we can improved RA self-care is possible with the help of Nurse-Led Interventions, which may be used successfully in rheumatology clinics and centers. Nurse-led interventions have been shown to enhance clinical outcomes for individuals with rheumatoid arthritis at a reasonable cost.

Keywords: Anxiety, Nurse, Rheumatoid Arthritis, Joint, Patient

INTRODUCTION

Anxiety has been found to negatively impact a patient's experience during surgery for quite some time. Fear of the unknown, the potential for pain, and the effect of surgery on post-operative quality of life are common worries among patients and their families. Patients undergoing surgery may experience increased anxiety due to a lack of health awareness. Anxiety levels may also be affected by the specific kind of operation being performed, in addition to those already listed. Anxiety may be more prevalent before more major procedures, such as a mastectomy or gastrointestinal surgery. Loss of autonomy and privacy, death anxiety, and a lifetime of smoking are all associated with increased preoperative anxiety.

Hospitalized patients, and adult surgery patients in particular, are more vulnerable to the negative effects of anxiety. Negative physiological effects of anxiety have been linked to a slowed or impaired recovery in patients. Comorbidities may potentially be made worse. Patients with higher anxiety report more pain after surgery, use more analgesics, and remain in the hospital longer. A patient's ability to learn, practice self-care, and contribute to the healthcare team are all significantly impacted by anxiety. In addition, the demand for therapeutic intervention rises with elevated anxiety, driving up expenses like medicine and doctor visits.

Still, many people go into surgery without having properly prepared for it. Pre-procedure patient education has proven useful in other areas of healthcare as well. Surgical orthopedics discovered that patients who were educated before to undergoing knee joint replacement had shorter hospital stays, less post-operative anxiety and

discomfort, and fewer complications and readmissions. Educating Chinese patients before to cardiac procedures has been shown to reduce their levels of despair and anxiety. Reducing worries improves quality of life and reduces the risk of problems including poor wound healing. Patients who get pre-operative education had a shorter duration of stay and a lower risk of infection, according to research by Garretson (2004). Increasing the amount of information patients get before surgery has been shown to improve their recollection of such information. By being able to express their concerns to their healthcare providers, informed people make their hospitals and clinics safer. Pre-op anxiety may be mitigated and the unfamiliar can be made more familiar if the patient is properly informed, according to previous research.

According to the World Health Organization (2020), arthritis is a catch-all phrase encompassing more than a hundred distinct diseases that affect individuals of all ages, ethnicities, genders, and stages of life, however it is more common in women than in males. There are two types of arthritis, inflammatory and non-inflammatory. Rheumatoid arthritis (RA) is the most prevalent form of inflammatory arthritis, whereas osteoarthritis is the most frequent form of non-inflammatory arthritis. There is inflammation and joint destruction in inflammatory arthritis because the body's immune system assaults healthy joints and tissues. Wherever two or more bones meet is called a joint. Connecting bones with joints allows for mobility and flexibility. Cartilage-based joints are one kind, while synovial joints and fibrous joints are two others. Synovial joints are impacted by rheumatoid arthritis. The shoulder joint, elbow joint, wrist joint, hand and finger joints, hip joint, knee joint, ankle joint, and toe joints are the primary synovial joints of the limbs. The majority of synovial joints are very mobile. A synovial joint is a joint between bones that is held together by a capsule. Synovial membrane, which secretes synovial fluid, lines this capsule. The synovial fluid has the consistency of egg white and is thick and sticky.

LITERATURE REVIEW

Sabastian MK (2014) 60 first-time moms at Delhi's Swami Dayanand Hospital were subjected to a pre- and post-test experimental design with a control group. The average score was 6.17, the standard deviation was 1.10, and the t value was 2.38, which was statistically significant at the .50 level. The study's authors found that, compared to the control group, the experimental group had much less labor pain while receiving acupressure at the site L14.

Padmavathi.P, Elsy Jeyapriyam (2014) In Erode Government Hospital, they used an actual experimental factorial design to compare the benefits of massage to those of other positions. The sample was selected using a random sampling method. To quantify the degree of discomfort, a visual analog scale was used. Research found that the t-value was 4.32. Significant at the .05 level. The study's authors came to the conclusion that massage was more beneficial than postures in reducing labor pain perception.

Siva Sankari, Vijaya Lakshmi.S. (2013) St. Joseph's Hospital, Puducherry, where a quasi-experimental investigation was carried out. The intensity of labor pain is measured on a combined numeric category scale ranging from 0 to 10. According to the data, the 't' value was 7.68, which is statistically significant ($p < 0.001$) at the 0.001 level. The mean score on the follow-up test was 1.43, with a standard deviation of

0.50. The results of this research indicate that primigravida moms may benefit from a reduction in labor discomfort by using acupressure during the initial stage of labor.

Roselin Devamani (2012) Reflexology's efficacy on recovery was evaluated in quasi-experimental research at Salem's Vijaya Hospital and Polyclinic. The sample was chosen using a convenient sampling method, which is not a statistically valid method. The researcher found that the reflexology aided in the early stage of labor.

M. Kanaga Durga (2016) used a true experimental time series design on 30 first-time moms at St. Antony Hospital Madhavaram in Chennai to evaluate the effects of scalp acupressure on labor pain and coping. The sample was chosen using a straightforward random method. Pain and stress during labor were measured with the use of the Tools for Pain and Anxiety Assessment Scales. In the research, the average score before testing was 7.4 (standard deviation = 0.51), and the average score after testing was 8.95 (standard deviation = 0.34); the 't' value score for labor pain was 30.868 ($p < 0.001$), and the 't' value score for anxiety was 15.17 ($p < 0.001$). Research performed at Ashwini Hospital, Puducherry. Average scores were 6.27, with a standard deviation of 1.98, and t-test scores were 3.02. The 0.001-level of significance was met. The study's authors found that women who are surrounded by loved ones during labor have less discomfort.

Jasleen Kaur, Harbans Kaur (2017) conducted research in Jalandhar Civil Hospital, Punjab. The selection of the sample was made using a non-probabilistic purposive sampling method. Both labor pain and anxiety were measured using a modified visual analogue scale and a self-structured anxiety assessment questionnaire. Pre-test scores showed a mean of 82.91 for labor pain and a mean of 25.53 for anxiety. Post-labor pain scores averaged 22.66, whereas anxiety scores were 10.48. Anxiety scored 20.33 on the 't' test value scale, whereas labour pain scored 24.0. The 0.001-level of significance was met. The study's author came to the conclusion that massage treatment helped reduce both labor pain and anxiety.

RESEARCH METHODOLOGY

Research Design

A study's foundation is its research design. It helps the researcher organize and carry out the study in a method that has the best chance of producing the desired results. This research indicated that a quasi-experimental non-equivalent time series design was appropriate for assessing the impact of nurse-led interventions on RA patients' knowledge, self-efficacy, and clinical outcome. Information is gathered over a long period of time, with several data points before and after the introduction of a therapy, in the quasi-experimental non-equivalent time series design.

Study Area

The Rheumatology Clinic at the Government Royapettah Hospital in the Chennai suburb of Royapetta served as the study's site. The government of Tamil Nadu provides funding and oversight for this 712-bed hospital. Established in 1911, it is a part of the Department of Medical Education's Directorate. It serves as the city's biggest outlying hospital, with a service area that reaches as far as Chengalpattu.

Sample Population

Clients diagnosed with rheumatoid arthritis (RA) between the ages of 31 and 70 are the focus of this research. Men and women between the ages of 31 and 70 who have been diagnosed with RA and are treated at the Rheumatology Clinic at Govt. Royapettah Hospital in Royapetta, Chennai, Tamil Nadu will be included in the research.

DATA ANALYSIS

The existing knowledge on Rheumatoid Arthritis, self-efficacy in managing symptoms of Rheumatoid Arthritis and clinical status of patients with Rheumatoid Arthritis in the experimental and control group

Table 1: Distribution of Subjects in the Experimental Group and Control Group based on Level of Knowledge at Pretest

| Level of Knowledge | Score Range | Pretest | | | | Chi-square value | P value |
|--------------------|-------------|---------------------------|------|----------------------|------|------------------|-------------------------|
| | | Experimental Group (n=50) | | Control Group (n=50) | | | |
| | | No. | % | No. | % | | |
| Poor | 0-15 | 43 | 85.2 | 47 | 94.2 | 2.331 | 0.127 df=104 (NS) |
| Moderate | 16-30 | 7 | 14.8 | 3 | 5.8 | | |
| Good | 31-50 | - | - | - | - | | |

NS – Non-Significant

Table 1 displays the variance in pre-test scores between the experimental and control groups of rheumatoid arthritis patients. Forty-three (85.2%) of the individuals in the experimental group had little knowledge in the pretest, whereas 7 (14.8%) had intermediate knowledge. None of the respondents in the control group had a high level of knowledge, whereas 47 (94.2% of the sample) had a low level of knowledge, and 3 (5.7%) had a moderate level of knowledge. The chi-square test was used to evaluate the differences between the experimental and control groups on the pre-test. Knowledge levels among RA patients were equivalent and comparable between the experimental group and the control group (P = 0.127, not statistically significant).

Table 2: Mean and Standard Deviation of Knowledge of Subjects in Sub Areas of Rheumatoid Arthritis in the Experimental Group and Control Group at Pretest

| Knowledge score Sub-Area | Experimental Group (n = 50) | | | Control Group (n = 50) | | | Mean difference | Student Independent 't' test |
|--|-----------------------------|------|----------|------------------------|------|----------|-----------------|-----------------------------------|
| | Mean | SD | Mean (%) | Mean | SD | Mean (%) | | |
| Anatomy and Physiology of Joints | 0.57 | 0.54 | 28.5 | 0.62 | 0.63 | 31.0 | 0.04 | t = 0.364 p = 0.717 df = 104 (NS) |
| Arthritis an Overview | 2.54 | 1.63 | 36.3 | 2.48 | 1.41 | 35.4 | 0.06 | t = 0.190 p = 0.850 df = 104 (NS) |
| Meaning and Risk Factors | 1.17 | 1.18 | 19.5 | 0.75 | 0.74 | 12.5 | 0.42 | t = 2.173 p = 0.032* df = 104 (S) |
| Signs and Symptoms | 1.39 | 1.17 | 23.2 | 1.15 | 1.07 | 19.2 | 0.24 | t = 0.075 p = 0.285 df = 104 (NS) |
| Investigation for Identifying Rheumatoid Arthritis | 0.93 | 0.87 | 31.0 | 0.60 | 0.80 | 20.0 | 0.33 | t = 2.037 p = 0.044* df = 104 (S) |
| Treatment | 0.54 | 1.00 | 5.4 | 0.21 | 0.41 | 2.1 | 0.33 | t = 2.168 p = 0.032* df = 104 (S) |
| Self-Care Management | 2.07 | 2.50 | 12.9 | 2.08 | 2.35 | 13.0 | 0.01 | t = 0.006 p = 0.995 df = 104 (NS) |

Pretest scores for knowledge of certain aspects of Rheumatoid Arthritis are shown in Table 2 for both the treatment and control groups. those in the experimental group scored 0.57(28.5%) in the sub topic "anatomy and physiology of joints," whereas those in the control group scored 0.62(31%). In terms of knowledge in the subarea Anatomy and physiology of joints, the p value of 0.717 indicates that the groups were equivalent and similar.

those in the experimental group scored 2.54(36.3%) in the sub topic 'Arthritis an overview' on the pretest, whereas those in the control group scored 2.48(35.4%). The p value of 0.850 for the topic area "Arthritis an overview" indicates that the groups'

levels of knowledge were similar and comparable. The pre-test scores of the experimental group's participants were 1.17(19.5%) in the sub-area 'meaning and risk factors,' whereas the pre-test scores of the control group's subjects were 0.75(12.5%).

The pre-test scores of the experimental group's individuals in the sub-area 'signs and symptoms' were 1.39(23.2%) and 1.15(19.2%) for the control group. Based on the p value of 0.285, it seems that the levels of knowledge on the topic of arthritis in both groups were about the same. Pretest scores for the subarea 'investigation for diagnosing arthritis' showed that the experimental group individuals scored 0.93(31%), whereas the control group subjects scored 0.60(20%).

Subjects in the experimental group scored 0.54 (5.4%), whereas those in the control group scored 0.21 (2.1%) on the sub area 'treatment' during pretest. those in the experimental group scored 2.07(12.9%) in the sub area 'self-care management,' whereas those in the control group scored 2.08(13%). With a p-value of 0.995, there was no statistically significant difference between the groups in terms of their understanding of the topic area "Arthritis: an overview."

The effectiveness of Nurse Led Interventions on knowledge on Rheumatoid Arthritis, self-efficacy in managing symptoms of Rheumatoid Arthritis and clinical outcome of patients with Rheumatoid Arthritis in the experimental group.

Table 3: Comparison of Level of Knowledge of Subjects in the Experimental Group and Control Group during Pretest, Posttest - I, Posttest - II and Posttest - III (N = 100)

| Assessment | Level of Knowledge | Groups | | | | Chi-square value | P value |
|------------|--------------------|---------------------------|------|----------------------|------|------------------|----------|
| | | Experimental Group (n=50) | | Control Group (n=50) | | | |
| | | No. | % | No. | % | | |
| | Poor | 43 | 85.2 | 47 | 94.2 | | p= 0.127 |

| | | | | | | | |
|------------------------------|----------|----|------|----|------|--------|----------------------|
| Pretest | Moderate | 7 | 14.8 | 3 | 5.8 | 2.331 | df=1 |
| | | | | | | | (NS) |
| Posttest – I (4 weeks) | Poor | 3 | 5.6 | 47 | 94.2 | | p<0.001*** |
| | Moderate | 22 | 44.4 | 3 | 5.8 | 84.018 | df=2 |
| | Good | 25 | 50 | - | - | | (S) |
| Posttest – II (8 weeks) | Poor | 5 | 9.3 | 48 | 96.2 | | p<0.001*** |
| | Moderate | 30 | 59.3 | 2 | 3.8 | 80.280 | df=2 |
| | Good | 15 | 31.5 | - | - | | (S) |
| Posttest – III (12 weeks) | Poor | 3 | 5.6 | 45 | 90.4 | | p<0.001*** |
| | Moderate | 26 | 51.9 | 5 | 9.6 | 77.740 | df=2 (S) |

| | | | | | | | |
|--|------|----|------|---|---|--|--|
| | Good | 21 | 42.6 | - | - | | |
|--|------|----|------|---|---|--|--|

***S - Very Highly Significant NS - Non-Significant

Table 15 displays the breakdown of individuals in the experimental and control groups according to their Posttest-I, Posttest-II, and Posttest-III Knowledge Levels. No significant differences in knowledge were found between the experimental and control groups on the pretest. The majority of participants in both groups scored poorly on measures of knowledge. The P value of 0.127 shows the same thing.

The posttest - I scores of the experimental group's participants were significantly higher than those of the control group's subjects. The distribution of individuals in the experimental group skewed more heavily toward the moderate and excellent knowledge categories, whereas in the control group, the vast majority of participants belonged to the bad knowledge category. There was a statistically significant difference in posttest I knowledge between the two groups, as shown by a chi-square value of $p < 0.001$.

Knowledge levels in the posttest - II were significantly different between the experimental and control groups. The distribution of individuals in the experimental group skewed toward the moderate and excellent knowledge categories, whereas in the control group, the vast majority of participants belonged to the bad knowledge category. The chi-square test showed that there was a statistically significant difference in posttest II scores between the two groups ($p < 0.001$). There was a statistically significant gap in Knowledge between the experimental and control groups on posttest - III.

The distribution of individuals in the experimental group skewed more heavily toward the moderate and excellent knowledge categories, whereas in the control group, the vast majority of participants belonged to the bad knowledge category. A chi-square test showed that there was a statistically significant difference in posttest III scores between the two groups ($p < 0.001$).

CONCLUSION

We can say that the synovial joints are the primary targets of rheumatoid arthritis, a chronic, progressive, systemic, inflammatory autoimmune disease process. Adults undergoing general surgical procedures may benefit from preoperative education to reduce their anxiety, according to the findings of this research. The qualitative results point to a good evaluation of the training, with participants reporting higher levels of readiness and self-assurance as a result. Surgery patients' confidence in their own abilities and their results might benefit from less anxiety. The success of pre-surgery education depends on the backing of top-level administrators. Improvements in patients' knowledge, self-efficacy, and clinical result were seen after Nurse Led

Interventions, which included a scheduled teaching program, demonstration of exercises, and small group counselling.

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