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A Study to Assess the Effectiveness of Kneading Technique on Joint Pain among Women with Arthritis Attending the Women Empowerment Organization at Bagalkot

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Abstract	Original Research Article

Background of the study: Musculoskeletal disorders comprise diverse conditions affecting bones, joints, muscles, and connective tissues. These disorders may result in pain and loss of function and are among the most disabling and costly conditions. The Social Security Administration defines disorders of the musculoskeletal system as conditions that might result from hereditary, congenital, or acquired pathologic processes. Kneading technique is a massage technique that applies deep pressure on the body enough to reach the underlying muscles. It is done to help loosen up and realign collagen fibers, which makes up the body's muscle tissues, Kneading can help relieve muscle tension. Applying pressure to the body through the kneading technique stimulates an increase in temperature in the tissues. *Aim:* The aim of study was to assess the effectiveness of kneading technique on joint pain among women with arthritis attending the women empowerment organization at bagalkot". *Methodology:* The research design selected for this study was quasi experimental one group pre-test post-test design. The sample size comprises of 50 among women with arthritis attending Women empowerment organization, Bagalkot. The sampling technique adopted for this study will be probability simple random sampling technique. In the present study the data will be collected by using pain scale, the data analysis done by using descriptive and inferential statistics in terms of frequency distribution, percentage, mean, mean percentage, Standard Deviation, paired 't' test and Chi-square test. *Result:* The finding revealed that there is statistical significance different found between mean pre-test and post test scores [t=12.39(P value=0.0001)] and mean post-test level of joint pain will be significantly lower than the mean pre-test level of joint pain among women with arthritis, A significant association was found between pre-tests scores with selected socio-demographic variables. *Conclusion*: The study proved that administration of kneading techniques on joint pain to reduction of pain was effective, scientific, and Logical.
Keywords: Assess, effectiveness, kneading techniques.

INTRODUCTION

Arthritis is defined as "painful inflammation and stiffness of the joints." Arthritis can be broadly classified into two categories, inflammatory arthritis and non-inflammatory arthritis. Differentiating whether arthritis in a patient is inflammatory or non-inflammatory is the crucial first step towards further diagnosing and managing the patient. Inflammatory arthritis is usually associated with the classic symptoms of inflammation - dolor (pain), rubor (erythema), calor (warmth), tumor (swelling), and functio laesa (loss of function), although all the features may not always be present. Inflammatory arthritis can be due to several etiologies, including infectious and non-infectious, and may or may not be associated with systemic features of the underlying condition causing inflammatory arthritis. If left untreated, inflammatory arthritis invariably leads to joint damage and deformities.

There are many factors behind the cause of arthritis, and it depends on the type of arthritis. Women

are more likely to experience arthritis than men. Anything that damages the cartilage can result in arthritis. Few causes include Old age, Poor nutrition, Improper Diet, Immune attacks, Family hereditary, General wear and tear, Metabolic abnormalities, Infection attacks to the joints. In few cases, arthritis can also affect different types of joints and other organs in the body, leading to a variety of symptoms, including fever, fatigue, weight loss, swelling of glands, loss of flexibility, decreased aerobic fitness, weakness of the muscles.

Pain associated with Arthritis is of significant public health importance. A recent Institute of Medicine (IOM) report indicated that the treatment of chronic pain and costs related to lost productivity totaled over $ 635 billion per year. Many rheumatic and musculoskeletal pain conditions are chronic in nature and require a comprehensive approach to ensure long-term effective pain management. The committee recommended greater education of healthcare providers about the complex biological and psychosocial aspects of pain to provide more coordinated and effective care for chronically painful conditions.

Kneading technique is a massage technique that applies deep pressure on the body enough to reach the underlying muscles. It is done to help loosen up and realign collagen fibres, which makes up the body's muscle tissues, Kneading can help relieve muscle tension. Applying pressure to the body through the kneading technique stimulates an increase in temperature in the tissues. This temperature hike is enough to loosen up the muscles. Gradually, the tightness subsides, and the body starts to reach a state of physical relaxation, Alleviates Muscle Tension, Kneading therapy helps lessen muscle tension problems. Through this technique, the muscles are stretched, manipulating the muscle fibres to be more flexible.

There are different types of kneading techniques that can be performed depending on the desired effect on the body. The difference lies in the pressure, speed, and massage tools. Some of these kneading techniques are: Palmar; a technique wherein a specialist uses the palm of their hands to perform the kneading massage. It is commonly used in cases where a larger area of the body needs to be addressed. Petrissage; one of the most common techniques that therapy specialists are familiar with. It involves the compression then release of pressure on bony areas of the body like the joints since it is on these areas where muscle tension usually occurs. Rolling; a speedier application of the kneading massage, using quick up and down hand movements to apply pressure on the tensed muscles until they loosen up. Wringing; a kneading compression technique that focuses on helping the body reach optimal blood flow and circulation.

Hence researcher has planned to undertake A study to assess a study to assess the effectiveness of kneading technique on joint pain among women with arthritis attending the women empowerment organization at bagalkot".

MATERIAL AND METHODS

Study design and participants
Present study was Quasi-experimental one group pre-test and post-test design. Conducted between 10-07-2024 to 22-07-2024, A sampling technique adopted for this study will be simple random technique by using lottery method was used to select the 50 subjects for the present study. Women with arthritis and who were able to understand read and write Kannada or English and available at the time of data collection are selected for the study. In the present study the data will be collected by using tool of modified extremities functional scale with their scoring.

INSTRUMENTS
MODIFIED EXTRIMITIES FUNCTIONAL SCALE (MEFS)
Modified extrimities functional scale (MEFS) will be used to assess the level of joint pain among women with arthritis. The MEFS is a 25 item evaluating symptoms of level of joint pain. It consists of 5 statements, consists of categories. Each item of the MEFS is answered using a five-point, Likert-type scale ranging from (Scoring and Interpretation 0 - No Pain, 1-25– Mild Pain, 26-50– Moderate Pain, 51-7– Severe Pain, 76-100 – Extreme Pain). Reliability of the tool was assessed by using test and retest method, applying Karl's Pearson's formula. In this study the reliability coefficient for knowledge questionnaire was found to be r=0.89 and reliability coefficient for practice was found to be r=0.89. Hence the tool was considered to be reliable.

Data Collection Procedure
The data collection was carried out from 10-7-2023 to 22-7-2023. Permission was obtained from the president of Bagani samaj, Women empowerment organization at Bagalkot. The investigator administered the tool to those who were willing to participate, after introducing and explaining the purpose of the study. On 1st day, the pretest socio demographic characteristics was collected by women with Arthritis, joint pain was assessed by MEFS scale. Kneading technique intervention was given for a group of 6-8 women with Arthritis for a period of 5 days, once a daily and 20 minutes. 7th day, the investigator administered posttest and assessed the joint pain level with the same scale. However the researcher has not faced any difficulty during the data collection process.

Data Analysis
Data will be analysed by using descriptive and inferential statistics. Numerical data obtained from the sample was organized and summarized with the help of

descriptive statistics like percentages, mean and standard deviation. Chi-square test used to find out association between the pre-test level of pain on kneading techque with their selected socio-demographic variables among women with arthitis.

RESULTS
Description of socio-demographic characteristics of subjects

Percentage wise distribution of women with arthritis the Majority (66%) of the women with arthritis were in the age group of 50-60 years, majority of women with arthritis were Hindu (84%), majority of women with

arthritis (22%) were Illiterate, (32%), occupation status of women with arthritis, the majority of the women with arthritis 68% were House wife, marital status of women with arthritis, in which (86%) were married, the Majority (76%) of the women with arthritis were in belongs to nuclear family, the duration of pain of women with arthritis, (10%) were having the duration of pain of 2 years, diet of women with arthritis, were (38%) of patient were having mixed diet.

To evaluate the effectiveness of kneading technique on reduction of joint pain among women with arthritis.

Table 1: Mean, SD and paired 't' test of Pre and Post-test of kneading technique on reduction of joint pain among women with arthritis by using paired 't' test, N=50

Level of Fatigue	Mean	SD	Mean Diff.	SD Diff.	t-value	p-value
Pre-test	73.6	16.51592	46.82	26.70932	12.39	0.0001*
Post-test	26.78	7.080557				

*p<0.05

Findings related to the significance of the difference between pre test and post test scores of the Arthritis patients shows that, difference between mean pre test (73.6) with SD 16.51 and mean post test (26.78) with SD 7.08 scores, was found to be statistically difference at 0.05 level of significant [t=12.39 (p valve=0.0001) p<0.05]. As Hypothesis H_1 states, H_1: The mean post test level of joint pain will be significantly lower than the mean pre test level of joint pain among women with arthritis.

Hence it is clear that there is a statistically difference between mean post-test level of joint pain and mean pre test level of joint pain among arthritis patients.

Hence H_1 is accepted.

Evaluation of the Effectiveness kneading technique on reduction of joint pain among women with arthritis.

Table 2: Comparison between Pre-test and post-test levels of joint pain score reduction of joint pain among women with arthritis

Levels of joint pain	Pre test		Post test	
	NO	%	NO	%
No pain(0)	00	00	00	00%
Mild pain(1-25)	00	00	24	48%
Moderate pain(26-50)	05	10%	26	52%
Severe pain(51-75)	17	34%	00	00%
Extreme pain(76-100)	28	56%	00	00%

Findings about the comparison of level of joint pain of women with arthritis. In pre-test (10%) of the women with arthritis had moderate pain, (34%) had severe level of joint pain and (56%) had extreme level of joint pain. In post-test (48%) had mild level of joint pain and (52%) had moderate level of joint pain. The above stated results clearly suggest that the women with arthritis level of joint pain was reduced in post-test, as

compared to the level of joint pain in pre-test. Thus the administration of Progressive kneading technique programme was successful in reducing the level of joint pain among women with arthritis.

To Find Out The Association Between Levels Of Pre-Test Joint Pain With Their Selected Socio-DemographicVariables, N=50.

Table 3

Sl. No	Socio-Demographic Variables	Chi-square	P value	Association
1	Age	0.500	0.4797	Not significant
2	Religion	0.434	0.5098	Not Significant
3	Educational status	0.573	0.4492	Not significant
4	Occupation	0.132	0.7160	Not Significant
5	Type of Family	3.535	0.0601	Not significant

Sl. No	Socio-Demographic Variables	Chi-square	P value	Association
6	Marital status	0.656	0.4178	Not significant
7	Duration of pain	0.397	0.5287	Not significant
8	Diet	1.872	0.1712	Not significant

Calculated Chi-square value is lesser than table value for socio demographic variables Age ($\chi2=0.500$, P=0.4797), Religion ($\chi2=0.434$, P= 0.5098), educational status ($\chi2=0.573$, P= 0.4492), occupation ($\chi2=0132$, P=0.7160), type of family ($\chi2=3.535$, P=0.0601), marital status($\chi2=0.656$, P=0.4178), Duration of pain($\chi2=0.397$, P=0.5287), diet ($\chi2=1.872$, P=0.1712), in pre test calculated Chi-square, fishers exact probability test and Yates correction value is lesser than the table value for all the socio demographic variables.

Thus the H₂ is rejected for the all socio demographic variables.

DISCUSSION

This Quasi-experimental study included a sample of 50 that results of the study are support with the study conducted by Ms. Bhuvaneshwari G (2006) to assess the Effectiveness of Light Pressure Stroking Massage with Sesame Oil in Alleviating Acute Knee Joint Pain among Elderly Adults. The study results showed that degree of knee joint pain among old grown-up individuals before knead with sesame oil. The 16.7% of old grown-up individuals had gentle knee joint pain, 53.3% of old grown-up had moderate knee joint pain and 30% of old grown-up individuals had extreme knee joint pain, before use of back rub with sesame oil. Concerning test results show that 60% of older grownup individuals had none knee joint pain 23.3% had Mild knee joint pain and 16.7% had moderate knee joint pain after the utilization of back rub with sesame oil. The mean pretest knee pain level was 1.9, with a standard deviation of 12.69 and the post-test mean was 0.59, with a standard deviation of 17.03 individually. The test criticalness of was count utilizing matched t-test. The got t value is 6.84, which was huge p<.00001.

RECOMMENDATIONS

➢ Similar study can be conducted to assess the effectiveness of kneading technique exercise on reduction of joint pain. Similar type of study can be conducted for a large group.

➢ Similar study can be conducted as a comparative study between interventional methods.

CONCLUSION

After thorough analysis of the data, it is understood that reduction of joint pain are co related and interventions like kneading techniques helpful among women with arthritis to enhance their quality of life and reduce their level of joint pain. The effectiveness of kneading technique on joint pain among women with arthritis attending the women empowerment organization mean score pre-test [73.6] with SD 16.51 and mean post-test [26.78] with SD 7.08. Hence it is clear that there is a statistically difference between mean post-test level of joint pain and mean pre-test level of joint pain among women with arthritis.

Ethical Consideration

The study was approved by the Institutional Ethical Clearance Committee, BVVS Sajjalashree Institute of Nursing Sciences, Bagalkot.

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Conflicts of Interest: There are no conflicts of interest.

Acknowledgement: None

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