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RESEARCH ARTICLE

A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF WARM WATER THERAPY VERSUS CONTRAST WATER THERAPY ON JOINTS PAIN AMONG ELDERLY PATIENT WITH ARTHRITIS IN SELECTED OLD AGE HOME AT DELHI NCR"

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Abstract

A study was done to assess the effectiveness of warm water therapy versus contrast water therapy on joints pain among elderly patient with arthritis in selected old age home at Delhi NCR". Osteoarthritis (OA) is the most common form of arthritis, affecting nearly 30 million nation wide. A common complaint from patients is pain in the weight-bearing joints such as the hips, knees and spine as well as involvement in the finger joints.hence warm water therapy and contrast water therapy is the best method to treat arthritis. The aims of the study to assess the joint pain among elderly patient with arthritis in selected old age home at Delhi NCR. To evaluate the effectiveness of warm water therapy on joint pain among elderly patient with arthritis in selected old age home at Delhi NCR. To evaluate the effectiveness of contrast water therapy on joint pain among elderly patient with arthritis in selected old age home at Delhi NCR. To compare the effectiveness of warm water therapy versus contrast water therapy on joint pain among elderly patient with arthritis in selected old age home at Delhi NCR. To determine the association between joint pain after receiving warm water therapy with the selected demographic variable. To determine the association between joint pain after receiving contrast water therapy with the selected demographic variable. A quasi experimental-nonequivalent pretest posttest design was adopted and non probability Purposive sampling technique was used to collect the sample from 30 elderly patients with arthritis (15 for warm water therapy and 15 for contrast water therapy) at old age home. Both therapies were administered continuously for 10 days. The data was analyzed and interpreted as per objectives and the research hypothesis stated. Descriptive and inferential statistics were used for data analysis. The Results shows that there was significant difference between mean post test scores of elderly patient with arthritis in warm water therapy and contrast water therapy for joint pain score as obtained unpaired 't' value was higher than the tabulated value for df at 0.05 level of significance. The fisher's exact test value showed that there was a significant association between post test score of elderly patient after receiving the warm water therapy and contrast water therapy with demographic variables as 'p' value obtained is less then at 0.05 level of significance.

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Introduction:-

Arthritis is an inflammation of a joint. It can affect one or multiple joints. There are many different types of arthritis and related conditions.[1] The most common form of arthritis is osteoarthritis. Other common rheumatic conditions related to arthritis include gout, fibromyalgia, and rheumatoid arthritis (RA). It is most common among women and occurs more frequently as people get older, but can also affect children. About one in 1,000 children develop arthritis, often called as juvenile idiopathic arthritis (JIA).[2]

Warm water therapy and contrast bath therapy is one of the best method of treat the arthritis. The warm water therapy and contrast water therapy does not take much time and no requires any special equipments, except the water and comfortable place to the both therapies. It is a simplest and easy method, which is considered to be appropriate for low socio-economic status, and easily applicable for the old age people.[3] Therefore, this study was undertaken to find out which therapy is comparatively most effective for managing the arthritis pain among elderly people.

Objectives of The Study:-

1. To assess the joint pain among elderly patient with arthritis.
2. To evaluate the effectiveness of warm water therapy on joint pain among elderly patient with arthritis.
3. To evaluate the effectiveness of contrast water therapy on joint pain among elderly patient with arthritis.
4. To compare the effectiveness of warm water therapy versus contrast water therapy on joint pain among elderly patient with arthritis.
5. To determine the association between joint pain after receiving warm water therapy with the selected demographic variable.
6. To determine the association between joint pain after receiving contrast water therapy with the selected demographic variable.

Hypothesis

1. **H_1**-There is a significance difference between the joint pain assessment score among elderly patient with arthritis before and after administration of warm water therapy as measured by numerical rating pain scale at 0.05 level of significance.
2. **H_2**-There is a significance difference between the joint pain assessment score among elderly patient with arthritis before and after administration of contrast water therapy as measured by numerical rating pain scale at 0.05 level of significance.
3. **H_3**-There is a significance difference between joint pain assessment score among elderly patient receiving warm water therapy versus contrast water therapy as measured by numerical rating pain scale at 0.05 level of significace.
4. **H_4**-There is a significance association between joint pain among elderly patient after receiving warm water therapy with selected demographic variables at 0.05 level of significance.
5. **H_5**-There is a significance association between joint pain among elderly patient after receiving contrast water therapy with selected demographic variables at 0.05 level of significance.

Material And Methods:-

Research Approach –

Quantitative research approach

Research Design-

Quasi experimental- non equivalent pre test post test design.[4]

Variables

Dependent variable*:*

Joint pain of the elderly patient with arthritis

Independent variable:

warm water therapy and contrast water therapy on joint pain among elderly patient with arthritis.[5]

Selected demographic variables:
(1) Age (2) Gender (3) Educational Qualification (4) Religion (5) Dietary Pattern (6) Types of arthritis (7) Family history (8) Years of suffering from arthritis (9) exercise (10) taking any underlying medication regularly - Allopathic, Ayurvedic, Allopathic and Ayurvedic, Other medication (11) (i) Taking any analgesic –Yes/No (ii) If yes then specified…

Setting-
Selected old age home Delhi/ NCR

Population-
Elderly people

Sample –
Elderly people who are having arthritis

Sample Size-
Total- 30
Warm water therapy- 15
Contrast water therapy-15

Sample Technique-
Non Probability purposive Sample Technique. [6]

Discussion:-

Review Of previous research is one of the most important steps in research process done and the knowledge and idea that have been already established on a particular topic of. The main purpose of previous research review is to convey to readers about the work already research review of literature is defined as broad.[7]

Mimi Mohammed Mekkawy (2019) Osteoarthritis (OA) is the most prevalent and far common debilitating form of arthritis which can be defined as a degenerative condition affecting synovial joint. Physical agents can fight the painful process such as cold or contrast hydrotherapy. The study was conducted at Assuit University Hospital in out patients' clinics. The 180 adult patients with knee osteoarthritis were selected four tools Tool I: Bio-socio demographic characteristics Tool II: 0-10 Numeric pain rating scale. Tool II1: health assessment questionnaire. Decreased mean of pain score between contrast group than cold group respectively, improve mean HAQ disability index score intervention between cold and contrast hydrotherapy respectively and increasing mean between contrast group than cold group regarding all domain of quality of life. It Conclusion the greater pain relief and functional improvements found when subjects used contrast therapy.[8]

Ruth Benita. F (2016) conducted a study to assess the effectiveness of Hot water with Epsom salt among old age patients with Rheumatoid Arthritis joint pain admitted at ortho ward in Spine Arthroscopic and Joint Replacement Centre, Coimbatore. The research design adopted was an experimental pre test and post test control group design. The population was old age patients in the age group of 60-80 years with Rheumatoid Arthritis joint pain. The study has adopted simple random sampling technique and the estimated sample size was 60 Patients. From the result of the study, it was concluded that hot water application with Epsom salt was effective in reducing Rheumatoid Arthritis joint pain among Old age patients. Therefore the investigator felt that, more importance should be given for hot water with Epsom salt for reducing Rheumatoid arthritis joint pain among old age patients.[9]

Present study revealed that contrast water therapy was having more effectiveness than warm water therapy for reducing the joint pain of elderly patient with arthritis.

Section-I
Finding Related To Frequency And Percentage Distribution Of Elderly Patient With Arthritis In Terms Of Demographic Variables

1. Considering the age in warm water therapy revealed that maximum of the sample i.e. 5(33%) elderly arthritis patient were under the age group of 76-80years, 4(27%) were under the age group 71-75years and 3(20%) were

under the age group (61-70) years, Whereas In contrast water therapy it was maximum of the sample 6(40%) elderly arthritis patient were under the age group of 71-75 years,5(33) were under the age group 66-70 years, 3 (20%) were in the age group (76-80) and 1(7%) were under the age group 61-65 years.

2. Regarding the gender in warm water therapy majority of the sample i.e.9 (60%) were female and 6(40%) were male, whereas in contrast water therapy majority of the sample i.e. 8 (53%) were female and 7(47%) were male.
3. In warm water therapy maximum educational qualification of the sample i.e. 6(40%) were illiterate, 4(27%) were primary, 3(20%) were secondary and 2 (13%) were graduation and above, whereas in contrast water therapy maximum of the sample i.e. 5(33%) Illiterate and secondary educational patient both were equally, 3 (20%) were primary and 2 (12%) were graduation.
4. In warm water therapy majority of the sample i.e. 13(87%) were Hindu religion and 2 (13%) were muslim religion, whereas in contrast water therapy majority of the sample i.e. 13(87%) were Hindu religion and 1 (7%) were Muslim and Sikh.
5. Considering the dietary pattern in warm water therapy maximum of the sample i.e 7(47%) were Vegetarian, 5 (33%) were mixed dietary pattern and 3(20%) were non vegetarian,where as in contrast water therapy maximum of the sample i.e 7 (47%) were mixed diatery pattern, 6 (40%) were vegetarian and 2(13%) were non vegetarian.
6. In warm water therapy majority of the sample 9 (60%) were having Family history and 6 (40%) were not having family history, whereas in contrast water therapy 9 (60%) were having the family history and 6 (40%) were not having family history.
7. Considering the types of arthritis in warm water therapy the majority of the sample 13 (87%) were having osteoarthritis and 2 (13%) were rheumatoid arthritis, whereas in contrast water therapy 13(87%) were having osteoarthritis and 2 (13%) were rheumatoid arthritis.
8. Regarding the years of the suffering from arthritis in warm water therapy majority of the sample 10(67%) were suffering from more than 5 years, 3 (20%) were having 1-3 years and 2 (13%) were having 3-5 years, whereas in contrast water therapy 9 (60%) were suffering from more than 5 years, 4 (27%) were having 3-5 years and 2 (13%) were having 1-3 years.
9. It was observed that therapy majority of the sample 9(60%) in warm water were doing Regular Exercise and 6 (40%) were not doing exercise, whereas in contrast water therapy 10(67%) were doing exercise and 5 (33%) were not doing exercise.
10. Out of 15 sample in warm water therapy majority of them 9(60%) were taking ayurvedic medications and 6 (40%) were taking both allopathic and ayurvedic, whereas in contrast water therapy majority of the sample 8 (53%) were taking ayurvedic and 7 (47%) were taking allopathic and ayurvedic.

Section II

Finding related to frequencies and percentage distribution of pain assessment score before and after administration of warm water therapy of elderly patient with arthritis

The data depicted in the table-3 shows that the frequencies and percentage distribution of pre-test and post test score of joint pain in warm water therapy of elderly patient with arthritis maximum were lying in severe grading of joint pain 74-110 (60%) and moderate grading of joint pain 37-73(40%) before intervention(pre test) and after continuous intervention(post test) majority were lying in moderate grading of joint pain 37-73(80%) and mild grading of joint pain 1-36(20%).

Finding related to frequencies and percentage distribution of pain assessment score before and after administration of contrast water therapy of elderly patient with arthritis

The data depicted in the table- 4 shows that the frequencies and percentage distribution of pre-test and post test score of joint pain in warm water therapy of elderly patient with arthritis maximum were lying in severe grading of joint pain 74-110 (73%) and moderate grading of joint pain 37-73(27%) before intervention(pre test) and after continuous intervention(post test) majority were lying in moderate grading of joint pain 37-73(13%) and mild grading of joint pain 1-36(87%).

Section III

Finding related to effectiveness of warm water therapy on joint pain among the elderly patient with arthritis

S.NO	MEAN	MEAN DIFFERENCE	SD	't' VALUE

Pre test	77.6	37.6	6.91	41.57*
Post test	40		4.19	

df (14)= 2.15 at 0.05 level of significance

The data represented that in warm water therapy mean Post test joint pain score of elderly patient is (40) which is lowest the mean Pre test (77.6), with the mean difference of 37.6. The obtained mean difference was found to be statistically significant. The calculated "t" value is 41.57* which are greater than the table value at 0.05 level of significance at df (14). Hence, null hypothesis H_{01} was rejected. It is concluded that the warm water therapy was effective in decreasing the joint pain among the elderly patient with arthritis.

Finding related to effectiveness of contrast water therapy on joint pain among the elderly patient with arthritis

df (14)= 2.15 at 0.05 level of significance

S.NO	MEAN	MEAN DIFFERENCE	SD	't' VALUE
Pre test	75.13	42.87	8.47	33.30*
Post test	32.26		5.30	

The data represented that in contrast water therapy mean Post test joint pain score of elderly patient is (32.26) which is lowest the mean Pre test (75.13), with the mean difference of 42.87. The obtained mean difference was found to be statistically significant. The calculated "t" value is 11.83 which are greater than the table value at 0.05 level of significance at df (4). Hence, null hypothesis H_{02} was rejected it is concluded that the contrast water therapy was effective in decreasing the joint pain among old age people

Section IV

Finding related to difference between post interventional score in warm water therapy and contrast water therapy of elderly patient with arthritis.

df (28)= 2.05 at 0.05 level of significance

S.NO	MEAN	MEAN DIFFERENCE	SD	UNPAIRED 't' VALUE
Warm water therapy	40	7.74	4.19	4.44*
Contrast water therapy	32.26		5.30	

The data shows that in warm water therapy mean post test of joint pain score (40) of elderly patient is more than contrast water therapy mean post test of joint pain score (32.26), with the mean difference of 7,74. The obtained mean difference was found to be statistically significant at 0.05 levels. The calculated unpaired't' value is 4.44* at 0.05 level of significance which is the higher than the table value at df (28).

Hence, it can be inferred that obtained mean difference of 7.74 is not by chance it is a true difference, thus null hypothesis H_{03} was rejected. So, it can conclude that contrast water therapy are more effective then warm water therapy to reducing the joint pain of elderly patient with arthritis.

Section V

Finding related to association of post assessment pain score in warm water therapy demographic variables

The data depicted that the fisher ‘s exact test value find out the association between post test score of elderly patient receiving warm water therapy with demographic variables shows that there was significant association between post test score of elderly patient in warm water therapy group with demographic variables i.e educational qualification from arthritis as P value obtained is less than at 0.05 level of significant. Hence, research hypothesis is partially accepted for the demographic variables in educational qualification from arthritis in term of assessment of joint pain. Whereas it was found that demographic variables age, sex, income, dietary pattern, types of arthritis, family history, and medicine regarding arthritis were found non- significant which shows there is no significant association between post test score with these variables as the ‘P’ value obtained is greater than 0.05.

Finding related to association of post assessment pain score in Contrast water therapy demographic variables

The data presented that fisher ‘s exact test value find out the association between post test score of elderly patient receiving contrast water therapy with demographic variables shows that there was significant association between post test score of elderly patient in contrast water therapy group with demographic variables i.e exercise, taking and underlying medication regularly as P value obtained is less than at 0.05 level of significant. Hence, research hypothesis is partially accepted for the demographic variables exercise, taking and underlying medication regularly in from arthritis in term of assessment of joint pain. Whereas it was found that demographic variables age, gender, income, dietary pattern, types of arthritis, family history, arthritis were found non- significant which shows there is no significant association between post test score with these variables as the ‘P’ value obtained is greater than 0.05.

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