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Research article *Clinical research*

A study to assess the effectiveness of hot water and cold-water therapy among elderly people with joint pain living at selected areas

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ABSTRACT

Musculoskeletal pain, especially joint and back pain, is the most common type of chronic pain. The most common cause of joint pain is related to arthritis, of which there are numerous types. Patients routinely seek medical attention for joint pain, and it is one of the leading causes of disability.

Method and Materials

A descriptive study was chosen to assess the effectiveness of hot water and cold water therapy among the elderly people with joint pain living at selected area. 100 samples were selected who comes under the inclusive criteria by using simple random technique. Data was collected by using demographic variables which includes age, gender, weight, education, marital status, residential area, physical activity, type of family, family history, food habits and by the modified WOMAC scale. Informed consent was obtained and data was collected. The data were analysed by inferential statistics

Results

In experimental group , pretest values of mean (29.3) and standard deviation (8.71) and in control group, pretest values of mean (28.7) and SD (8.78) and unpaired t-value is 0.3431, p-value is 0.7323 and pretest is NS***. In experimental group post test values of mean (14.56) and SD(9.92) and in control group, pretest values of mean (29.88) and SD (7.99) and unpaired t-value is 8.5046, p-value is 0.0001 and the post test is statistically SIGNIFICANT

Conclusion

The study indicate that application of hot water and cold water therapy is effective on joint pain healing among elderly people

Keywords: Joint pain, Hot water, Cold water, Elderly people

INTRODUCTION

Musculoskeletal pain, especially joint and back pain, is the most common type of chronic pain. The most common cause of joint pain is related to arthritis, of which there are numerous types. Patients routinely seek medical attention for joint pain, and it is one of the leading causes of disability.

Joint diseases affect millions of people throughout the world, causing pain and disability with great impact on individuals and on society

as a whole. Osteoarthritis is the most common joint disease in the near future and is projected to rank second for women and fourth for men in the developed countries in terms of years lived with disability. Men are more often affected than women before the age of 50. Women are affected twice as often as men after the age of 50. Elderly patients are most often affected (joint diseases account for half of all chronic conditions in persons aged 65 years and above) and because the number of individuals over the age of 50 years is expected to double world-wide between 1990 and 2020, the global burden of osteoarthritis will increase drastically. Osteoarthritis in the ageing population will generate a global avalanche of costs and disability [1-10].

Low back pain can be related to osteoarthritic changes in the spine, although the etiology of low back pain is multifactorial and not necessarily related to arthritis. The heterogeneous nature of low back pain is also reflected in its reported point prevalence, ranging from 8 percent to 39 percent of the population, and lifetime prevalence has been reported to vary from 60 percent to 85 percent. Many people will experience one or more episodes of low back pain in their lives [11, 12].

Gout, a crystal-related arthritis, is now the most common form of inflammatory arthritis. It is characterized by acute painful flares that eventually can become a chronic arthritis. Gout presently affects 1 percent to 4 percent of various populations around the world, with some populations, such as those of Maori ancestry, having a higher prevalence (6 percent).

Rheumatoid arthritis, the most common form of an autoimmune systemic inflammatory arthritis, is characterized by a typically symmetric polyarthritis with joint pain, swelling, and substantial morning stiffness. Rheumatoid arthritis presently affects less than 1 percent of populations worldwide. Most of the population in India is above the age group of 60 years. 95% of them are less than 85 years. In this 87% are having acute illness and 96% are having chronic illness. Hypertension, cataract and osteoarthritis were the 3 most common illnesses among older population in India.The pain from osteoarthritis is the first presenting complaint of clients and is localized, deep dull ache. The pain is due to subchondral bone changes, stretching of ligaments or nerve endings in periosteum and inflamed or distended joint capsule. Client also experience pain with activity due to bone on bone contact at the time of weight bearing. 80% of the clients with knee osteoarthritis reported problems related to muscle function i.e., muscle strength, endurance and balance co-ordination**.**

Thermotherapies have been used in the conservative management of osteoarthritis, the local stimulations of temperature sensitive receptors in the skin, impulses travel from the periphery to the hypothalamus and the cerebral cortex. The hypothalamus then initiates heat producing or heat reducing location of the body. The conscious sensations of temperature are aroused in the cerebral cortex. These interventions are effective by decreasing pain through hot applications and increasing large diameter nerve fiber input to block small diameter pain fiber input to block small diameter pain fiber messages by cold water and hot water therapies, joint pain is highly prevalent, disabling, and economically costly to societies worldwide [13-42].

OBJECTIVES

- To assess the pre assessment level of joint pain in experimental and control group elderly.
- To assess the posttest level of pain in experimental and control group elderly.
- To compare the pre and the posttest level of pain in experimental and control group elderly
- To find the association between selected posttest level of pain with their selected demographic variables of hot water and cold water application group clients with joint pain.

METHODS AND MATERIALS

A descriptive study was chosen to assess the effectiveness of hot water and cold water therapy among the elderly people with joint pain living at selected area. 100 samples were selected who comes under the inclusive criteria by using simple random technique. Data was collected by using demographic variables which includes age, gender, weight, education, marital status, residential area, physical activity, type of family, family history, food habits and by the modified WOMAC scale. Informed consent was obtained

and data was collected. The data were analysed by inferential statistics [43].

RESULTS

Table - I: Frequency and percentage distribution of the demographic variables of elderly people with joint pain of experimental group and control group

Demographic Variables	Experimental Group		Control Group	
	No.	%	No.	%
Age				
50 - 60 years	20	40%	16	32%
Above 60 years	30	60%	34	68%
Gender				
Male	15	30%	22	44%
Female	35	70%	28	56%
Weight				
50kg- 60kg	20	40%	24	48%
60kg – 70kg	30	60%	26	52%
Education				
Literate	27	54%	11	22%
Illiterate	23	46%	39	78%
Marital status				
Married	23	46%	48	86%
Unmarried	27	54%	07	14%
Residential Area				
Urban	22	44%	46	92%
Rural	28	56%	04	08%
Physical Activity				
Yes	33	66%	35	70%
No	17	34%	15	30%
Type of family				
Nuclear	38	76%	27	54%
Joint	12	24%	23	46%
Family history				
Yes	40	80%	23	46%
No	10	20%	27	54%
Food habits				
Non – veg	42	84%	36	72%
Veg	08	16%	14	28%

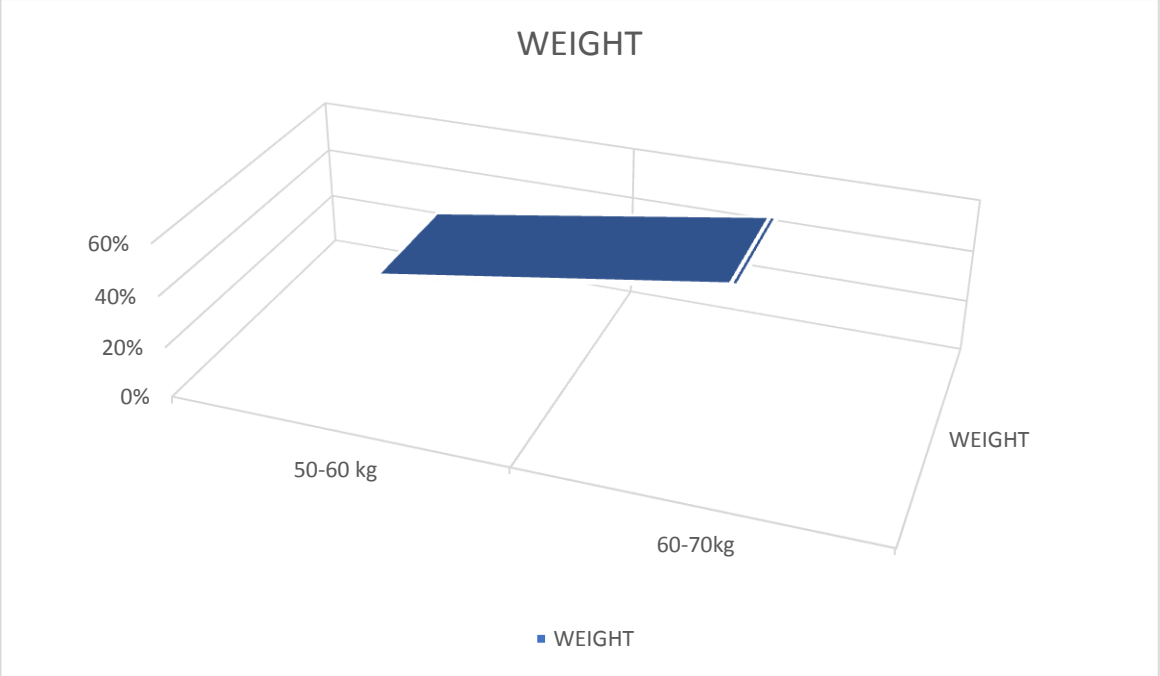

Figure. 1: frequency and distribution weight of the elderly people

Table II : Statistical Value(Pre And Post Level) Of Level Of Pain Among Elderly People In Experimental And Control Group.

N = 100(50+50)

Test	Experimental Group		Control Group		Unpaired 't' Value
	Mean	S.D	Mean	S.D	
Pre Test	29.3	8.71	28.7	8.78	**t =0.3431 p=0.7323, NS*** **
Post Test	14.56	9.92	29.88	7.99	**t = 8.5046 p=0.0001, S*** **

Table II: Shows that the mean and standard deviation and unpaired t test of both experimental and control group with pretest and posttest. In experimental group , pretest values of mean (29.3)and standard deviation(8.71) and in control group , pretest values of mean (28.7) and standard deviation (8.78)and unpaired t-value is 0.3431, p-value is 0.7323 and pretest is NS***. In experimental group , postest values of mean (14.56)and standard deviation(9.92) and in control group , pretest values of mean (29.88) and standard deviation (7.99)and unpaired t-value is 8.5046, p-value is 0.0001 and the post test is statistically SIGNIFICANT

DISCUSSION

The above table shows that in experimental group out of 50 samples regarding Age 50-60 years20 (40%), above 60 years 30 (60%), regarding Gender male 15 (30%), female 35(70%), regarding Weight 50-60 kg 20(40%), 60-70 kg 30(60%), regarding Education literate 27(54%), illiterate 23(46%), regarding Marital status married 23(46%), unmarried 27(54%), regarding Residential area urban 22(44%), rural 28(56%), regarding Physical Activity yes 33(66%) no 17(34%), regarding Type of family nuclear 38(76%), joint 12(24%), regarding Family history yes 40(80%), no 10(20%), regarding Food habits non-veg 42(84%), veg 08(16%).

The above table shows that in control group out of 50 samples regarding Age 50-60 years16 (32%), above 60 years 34 (68%), regarding Gender male 22 (44%), female 28(56%), regarding Weight 50-60 kg 24(48%), 60-70 kg 26(52%), regarding Education literate 11(22%), illiterate 39(78%), regarding Marital status

married 48(86%), unmarried 07(14%), regarding Residential area urban 46(92%), rural 04(08%), regarding Physical Activity yes 35(70%) no 15(30%), regarding Type of family nuclear 27(54%), joint 23(46%), regarding Family history yes 23(46%), no 27(54%), regarding Food habits non-veg 36(72%), veg 14(28%).

In experimental group , pretest values of mean (29.3)and standard deviation(8.71) and in control group , pretest values of mean (28.7) and standard deviation (8.78)and unpaired t-value is 0.3431, p-value is 0.7323 and pretest is NS***. In experimental group , postest values of mean (14.56)and standard deviation(9.92) and in control group , pretest values of mean (29.88) and standard deviation (7.99)and unpaired t-value is 8.5046, p-value is 0.0001 and the post test is statistically SIGNIFICANT.

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