A STUDY TO ASSESS THE EFFECTIVENESS OF STRETCHING EXERCISES ON JOINT PAIN AMONG OBESE WOMEN IN A SELECTED AREA.

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Abstract: Pain is an uncomfortable feeling that tells us something may be wrong. It can be steady, throbbing, stabbing, aching, pinching or described in many other ways. Joint pain is one of the most common musculoskeletal conditions in our society which affects over 80% of the population beyond the age of 55. Together with the hip, the knee is the most commonly affected joint with both sharing a predominantly load-bearing function .There is an increasing incidence, prevalence, and burden of knee joint pain due to the global increase in obesity and an aging population. Factors such as age, overweight, and obesity play an important role in the development and aggravation of joint pain.

Methods: The study was carried out among randomly selected obese women with joint pain in selected area .The sample size was 30 obese women with joint pain .convenience sampling method was used. The pre assessment level of pain was measured by using clinical variables. To assess the joint pain among obese women Lysholm Knee Scoring Scale was used. The procedure was scheduled twice a day with the duration of 10 - 15 minutes for fifteen days. Post test assessment was done on sixteen day by using Lyshlom knee scoring scale.

TEGNER LYSHOLM KNEE SCORING SCALE

Knee joint pain scale was developed by Lysholm in 1982 .It is used to evaluate outcomes of knee pain. The present scale includes 8 items:

- Limp
- Support
- Locking
- Instability
- Pain

- Swelling
- Stair Climbing
- Squatting

Maximum score and each response to the 8 items of a possible score of 08. A score of 08 means no symptoms of disability.

Results:

CRITERIA MEASURE OF TLK SCALE SCORE		
SCORE LEVEL(N= 30)	PRE TEST f(%)	POST TEST f(%)
POOR.(<4)	28(93.3%)	3(10%)
GOOD.(5-6)	2(6.7%)	16(53.3%)
EXCELLENT.(7-8)	0(0%)	11(36.7%)

Maximum Score=8 Minimum Score=0

Key Words: Effectiveness, Stretching Exercise, Joint pain, Obese Women

Introduction:

The total annual incremental cost of health care due to joint pain ranges from 560 billion to 635 billion in the United States, which combines the medical cost of pain care and the economic cost related to disability days and productivity. More than half of all patient experienced pain in the last days and although therapies are, present to alleviate most pain, research shows that 50 -75% of die in moderate to severe pain.[1]

The age adjusted prevalence of arthritis increase as body mass index increases from 16 .3% among normal, underweight adults to 28 .9% among obese adults. Excess weight also contributes to activity limitation. Among normal \underweight adult with arthritis, 38.2% report arthritis attributable activity limitation. Compared to 44.8% among obese adults with arthritis .Losing even modest amount of weight can reduce your risk of getting arthritis, and improve arthritis, pain function and quality of life if you are living with arthritis.[2] Lack of flexibility is one of the most frequent causes of poor performance and inefficient technique. By increasing flexibility in the upper and lower body the climber will reduce the risk of injury increases recovery.[3]

Stretching and flexibility exercises should be performed for a minimum of 8 minutes before aerobic exercise. The main purpose is to keeping muscles supple increasing range of motion of joints, enhancing flexibility, improving coordination, increasing blood flow to muscles and preventing injuries. Recent center for disease control and prevention of health statistics data suggest the pain of cause and most people for United States b adults report. Low back pain is around 28% and knee pain 19 .5%, finger pain 7 .6% and shoulder pain 9.0%.[4] The world wide statistics in 2008 shows that, among total population, 40% of people at age above 50 years, suffer from severe joint pain, 70% of the population have some degree of limitation s of movement and 25% cannot perform daily activities.[5]

Major Findings:

Table 1 : showing the level of scores

Variables	Opts	Percentage	Frequency
Body Mass Index	40 and above Morbid obese	16.7%	5
	30.0 ± 39.9 obese	46.7%	14
	25.0 ± 29.9 Overweight	36.7%	11

Table2: Showing Level of Scores

CRITERIA MEASURE OF PRETEST TLK SCALE SCORE	
SCORE LEVEL(N= 30)	PRE TEST f(%)
POOR.(<4)	28(93.3%)
GOOD.(5-6)	2(6.7%)
EXCELLENT.(7-8)	0(0%)

Maximum Score=8 Minimum Score=0

Table No 3: Descriptive Statistics table

Descriptive Statistics	Mean	S.D.	Median Score	Maximum	Minimum	Range	Mean%
PRETEST TLK SCALE	2.63	1.098	3	5	1	4	32.90
	Maximum=	8	Minimum=	0			

Table No 4: Table Showing Level of Scores

CRITERIA MEASURE OF POSTTEST TLK SCALE SCORE	
SCORE LEVEL(N= 30)	POST TEST f(%)
POOR.(<4)	3(10%)
GOOD.(5-6)	16(53.3%)
EXCELLENT.(7-8)	11(36.7%)

Maximum Score=8 Minimum Score=0

Table No 5: Descriptive Statistics table

			N=	30			
Descriptive Statistics	Mean	S.D.	Median Score	Maximum	Minimum	Range	Mean%
POSTTEST TLK SCALE	6.07	0.944	6	7	4	3	75.80
	Maximum=	8	Minimum=	0			

PRE/POST

Table No 6: Table Showing Level of Scores

CRITERIA MEASURE OF TLK SCALE SCORE		
SCORE LEVEL(N= 30)	PRE TEST f(%)	POST TEST f(%)
POOR.(<4)	28(93.3%)	3(10%)
GOOD.(5-6)	2(6.7%)	16(53.3%)
EXCELLENT.(7-8)	0(0%)	11(36.7%)

Maximum Score=8 Minimum Score=0

Table No 7: Comparison of PRE and POST Scores

N=30

Paired T Test	Mean±S.D.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
PRETEST TLK SCALE	2.63±1.098	32.90	1-5	3.440	11.987 *Sig	<0.001	2.05
POSTTEST TLK SCALE	6.07±0.944	75.80	4-7				

** Significance Level 0.05   Maximum=8 Minimum=0

Table No 7: Table Showing Association of Scores and Demographic Variables

This section deals with the findings related to the association between score and selected demographic variables. The chi-square test was used to determine the association between the score levels and selected demographic variables.

ASSOCIATION OF PRETEST TLK SCALE SCORES WITH SELECTED SOCIO-DEMOGRAPHIC VARIABLES.									
Variables	**Opts**	**EXCELLENT**	**GOOD**	**POOR**	**Chi Test**	**P Value**	**df**	**Table Value**	**Result**
Age (years)	40-49 Years		0	4	2.449	0.294	2	5.991	Not Significant
	50-59 Years		0	12					
	> 59 Years		2	12					
Religion	Hindu		1	10	0.554	0.758	2	5.991	Not Significant
	Muslim		1	12					
	Christian		0	6					
	Others		0	0					
Area of Residence	Rural		1	9	0.268	0.605	1	3.841	Not Significant
	Urban		1	19					
Occupation	Housewife		0	9	0.918	0.338	1	3.841	Not Significant
	Working		2	19					
Educational Level	No formal education		1	0	15.714	0.001	3	7.815	Significant
	Middle school		0	5					
	High school		0	15					
	College degree or higher		1	8					
Food Habits	vegetarian		1	8	0.408	0.523	1	3.841	Not Significant
	Non-vegetarian		1	20					
Menopause	Yes		2	13	2.143	0.143	1	3.841	Not Significant
	No		0	15					
Previous experience to Exercise Training	No		0	10	1.071	0.301	1	3.841	Not Significant
	Yes		2	18					
Monthly Income (in Rs)	<Rs.5000		0	2	0.554	0.907	3	7.815	Not Significant
	Rs. 5001-10,000		0	4					

	Rs.10001 - 15000		1	12					
	>Rs.15000		1	10					
Body Mass Index	40 and above Morbid obese		0	5	2.449	0.294	2	5.991	Not Significant
	30.0 ± 39.9 obese		2	12					
	25.0 ± 29.9 Overweight		0	11					
Muscle Strength	No Contraction		1	9	0.469	0.791	2	5.991	Not Significant
	Against Gravity		1	15					
	Maximal Resistance		0	4					
Mobility Status	Dependent		0	3	2.802	0.246	2	5.991	Not Significant
	Partly dependent		0	14					
	Independent		2	11					

Table 7 shows that the association between the level of score and socio demographic variable. Based on the objectives used to Chi-square test used to associate the level of knowledge and selected demographic variables. The Chi-square value shows that there is significance association between the score level and demographic variables (Education level). The calculated chi-square values were less than the table value at the 0.05 level of significance.

There is no significance association between the level of scores and other demographic variables (age, religion, area of residence,occupation,food habits , menopause, monthly income, body mass index, muscle strength ,previous exposure to exercise training) .The calculated chi-square values were more than the table value at the 0.05 level of significance.

Post Score

Table No 8: Table Showing Association of Scores and Demographic Variables
This section deals with the findings related to the association between score and selected demographic variables. The chi-square test was used to determine the association between the score levels and selected demographic variables

ASSOCIATION OF POSTTEST TLK SCALE SCORES WITH SELECTED SOCIO-DEMOGRAPHIC VARIABLES.									
Variables	**Opts**	**EXCELLENT**	**GOOD**	**POOR**	**Chi Test**	**P Value**	**df**	**Table Value**	**Result**
Age (years)	40-49 Years	1	3	0	1.785	0.775	4	9.488	Not Significant
	50-59 Years	4	6	2					
	> 59 Years	6	7	1					
Religion	Hindu	1	9	1	11.731	0.019	4	9.488	Significant
	Muslim	8	5	0					
	Christian	2	2	2					
	Others	0	0	0					
Area of Residence	Rural	3	5	2	1.713	0.425	2	5.991	Not Significant
	Urban	8	11	1					
Occupation	Housewife	4	3	2	3.097	0.213	2	5.991	Not Significant
	Working	7	13	1					

Educational Level	No formal education	0	1	0	5.523	0.479	6	12.592	Not Significant
	Middle school	1	4	0					
	High school	6	6	3					
	College degree or higher	4	5	0					
Food Habits	vegetarian	5	3	1	2.231	0.328	2	5.991	Not Significant
	Non-vegetarian	6	13	2					
Menopause	Yes	9	5	1	7.038	0.030	2	5.991	Significant
	No	2	11	2					
Previous experience to Exercise Training	No	2	7	1	1.918	0.383	2	5.991	Not Significant
	Yes	9	9	2					
Monthly Income (in Rs)	<Rs.5000	0	2	0	6.849	0.335	6	12.592	Not Significant
	Rs. 5001-10,000	3	1	0					
	Rs.10001 -15000	6	6	1					
	>Rs.15000	2	7	2					
Body Mass Index	40 and above Morbid obese	2	3	0	1.741	0.783	4	9.488	Not Significant
	30.0 ± 39.9 obese	6	6	2					
	25.0 ± 29.9 Overweight	3	7	1					
Muscle Strength	No Contraction	3	7	0	5.634	0.228	4	9.488	Not Significant
	Against Gravity	5	8	3					
	Maximal Resistance	3	1	0					
Mobility Status	Dependent	0	2	1	4.271	0.371	4	9.488	Not Significant
	Partly dependent	7	6	1					
	Independent	4	8	1					

Table 8 shows that the association between the level of score and socio demographic variable. Based on the objectives used to Chi-square test used to associate the level of knowledge and selected demographic variables. The Chi-square value shows that there is significance association between the score level and demographic variables (menopause, religion). The calculated chi-square values were less than the table value at the 0.05 level of significance. There is no significance association between the level of scores and other demographic variables (age, area of residence,occupation,education level, food habits, monthly income, body mass strength, muscle strength , mobility status , Previous experience to Exercise Training) The calculated chi-square values were more than the table value at the 0.05 level of significance.

Limitation

- Small sample of the study

Recommendations

- Similar study can be undertaken with a large sample to generalize the findings.

Conclusion

- Our study depicts that there is poor knowledge about the stretching exercises among the obese women with joint pain and the significant difference can be found between the pre test and post test scores among obese women with joint pain.

IMPLICATIONS

1. Nursing Education

The nursing curriculum consists of knowledge related to health information and appropriate strategy for imparting the knowledge. The educational institutions can arrange for student participation in workshops, conferences where emphasis is given to multidisciplinary approach to management of pain in different clinical conditions.

2. Nursing Practice

The therapy can also be implicated in ortho clinics and hospitals. Nurses working in the hospitals or nursing home should provide and use complimentary therapy for pain reduction, educational programme in complimentary therapies can be designed to create awareness among nurse and public.

3. Nursing Administration

Nursing administrator should provide opportunities for nurses to attend training programme related to clinical practice and standard nursing care with emphasis to multidisciplinary treatment approaches and to introduce evidence based practices based on research findings in planning of care .

4. Nursing Research

Nursing research can encourage clinical nurse to apply the research findings in their daily care activities and can bring about new innovative technique to promote comfort of the patient. The study also brings about the fact that more studies need to be done at different settings.

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