Assess Impact Of Tennis Ball Therapy On Pain Management Among Women: A Pre-Experimental Study

A study to assess impact of tennis ball therapy on pain management among women in selected area of Kudal.

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Abstract: Pain is complex experience, it is the most common reason for physician consultation everywhere. Pain reduces quality of life.it will be acute and chronic. Overuse of the muscle in activities may lead to hyper contracture and tension. Muscle release techniques are very effective on it .By using tennis balls therapy muscles are able to stretch fully and reduces discomfort, pain, and increase blood and lymph circulation with it. Massage therapy which growing in demand and popularity. Hence the objectives of the study were assessed impact of tennis ball therapy on pain management among women in selected area of Kudal, Sindhudurg, in the year 2023. A Pre-Experimental Study design was used in this study. The data was collected personally by the researcher through direct observation and pain scale method. The sample was women of age group 35 -50 years selected through simple random sampling technique. In the present study after analysis and interpretation of data with regards of tennis ball therapy on pain management ; There was remarkable improvement in the pain score after giving the tennis ball therapy on the pain. The pre-test pai
n score was significantly higher than the post test score in working women in selected area of Kudal.

Key words: pain, tennis ball therapy

INTRODUCTION

Pain is complex, multidimensional experience. For many peoples, it is a major problem that causes suffering and reduces quality of life. According to health descriptors, pain is a symptom related to acute or chronic pain. There are pharmacological and non-pharmacological treatments proposed for this condition and within these massage is seen as possible treatment, bringing benefits such as decrease pain.

Repeated overuse of the muscle which may be due to certain activities may lead to hyper contracture.

Muscle release techniques are very effective for rejuvenating and regenerating muscle affected by soft tissues imbalance. They can rehabilitate and restore the soft structured to a healthy condition preparing the muscles for movement and aiding recovery. By using a few tennis balls the correct simple moves it is possible to reach the deepest layers of muscle and connective tissue and release adhesion so muscles are able to stretch fully and contract. This could relieve discomfort, pain, and increase blood and lymph circulation with the use of a pair of tennis ball it is possible to get relief.

The roller effect of tennis balls can have both, a localized and overall influence in relieving pain which releases endorphins (Your body's natural pain-fighting hormone) to reduce the overall perception of pain. The messaging effect also reduces the hyperactivity of the nerves and reducing the number of pain signals sent to the brain.

A tennis ball massage can be an easy and affordable way to relieve sore and achy muscles.

NEED FOR STUDY

Massage therapy is a treatment approach in which growing in demand and popularity. In nation like United States, its prevalence is between 8% and 5.7%. According to the estimate provided for the expert nearly 29% of individual encountered a pain that could disable the individual at certain stages of his or her life. Pain is a very common ailment among all age, approximately 60-90% of the adult population suffer from pain at least once during their lifetime. The observational cross-sectional study was conducted in 2008 in Belgaum Karnataka, on a sample of 100 women workers who volunteered. The musculoskeletal problems were found to be abundantly present with pain 9 % of the subject.

Tennis ball therapy is an effective way to relieve pain and tension. This type of therapy offers various benefits like increased circulation, stress relief, muscle tension relief, improved posture, improved flexibility and mobility. Tennis ball therapy has always been proven to help patients recover from pain e.g., back pain, shoulder pain, knee pain, neck pain, elbow pain, etc.

The goal of tennis ball massage is to achieve a 'release ' by applying just the right amount of pressure enough to do irritated your nervous system. Tennis ball massage is usually the most useful in the muscles of the back and the hips.

The tennis ball massage is a natural and effective way to help with pain relief. A self -massage has unique ways to help relieve your lower back pain. Additionally, if you need more pressure, you can always use a lacrosse ball.

By simply squeezing stress balls regularly you can tone your muscles. Regular exercise will help to strengthen the muscles of your hands and wrists.

OBJECTIVES

The objectives of the study were,
1. Assess level of pain.
2. Evaluate impact of tennis ball therapy on pain management among women.
3. To find out significant association between socio-demographic variables with pre-test1we score at the level of 0.05 level of significance.

Hypothesis:

H0- There will be no any significant difference between pretest & post test scores.

 H1-There will be significant difference between pretest & post test scores.

H2- There will be significant association between post test score with selected socio-demographic variables at 0.05 level of significance.

REVIEW OF LITERATURE

A comparative study was conducted to assess Effectiveness of MFR with Tennis Ball to Improve Walking In Post Stroke Rehabilitation in department of neurosciences Krishna college of physiotherapy KIMS deemed to be university Karad 415110, Maharashtra, India. A total of 15 patient completed the survey and included in the study in the year of 2021. The result of the study in present study the pre-test mean is 52.67 and SD is 2.44 whereas post-test mean is 55.2and SD is 2.45 which is extremely significant. The study concluded that MFR with the help of tennis ball is significantly effective in improving walking in post stroke patients.

A quasi-experimental study was conducted to assess the Decreasing Labor Pain through Sacralist Counter-pressure Therapy Using Tennis Ball in the mother during the Labor Process in Department of Nursing, Faculty of Health, Universitas Muhammadiyah Semarang, Semarang, Indonesia. A total of 26 patients completed the survey and included in the study in the year 2021. The result of the study the pain intensity in 26 respondents (100%) in the first stage during the active phase of labour before the treatment was categorized as severe pain. However, after the implementation of the counter-pressure therapy using tennis ball, the pain intensity was categorized as moderate in 18 respondents (69.2%) and severe in the rest of the respondents (30.8%). The study concluded that Counter-pressure massage therapy using a tennis ball

was effective in reducing the level of pain in the first stage during the active phase of labour with a $p = 0.000$ ($\alpha < 0.05$).

METHODOLOGY

A pre-experimental study was conducted to assess impact of tennis ball therapy on pain management among women in selected area of Kudal. This study aimed to reduce pain by giving Tennis ball therapy. The study took place among women's located in Nerur, Kudal Taluka in Sindhudurg, Maharashtra. The study population comprises women aged 35 to 50 years. The women hailed from various backgrounds and experience within the specified age group. Pain assessed by using pain scale method that is visual analogue scale (VAS). It was prepared for assess the impact of tennis ball therapy on pain management among women (35-50). Suggestion of expert opinion by the guide was taken while preparing a tool.

Significant association was checked by using questionnaires on socio demographic variables that is marital status, education, occupation, menstrual history, mode of delivery.

In the present study dependent variable was pain management among women and Independent variable was tennis ball therapy. A total of 40 women who meet the criteria formed were selected as sample for the study. The sampling technique was used for the present study was simple random sampling. Non - probability sampling technique were used for the data collection. Inclusive criteria for the study includes the women who are available at the time of data collection. Willing to participate in the study. Exclusive Criteria for the study excludes the women who are not able to co-operate throughout the period of the study.

The data was scheduled on 6th September 2023 in Kudal. Self-introduction (about the researcher's) and the details about study was explained to the samples before giving tennis ball therapy. Oral consent from each participant was obtained confidentiality about the data and finding were assured to the participants

Reliability was established from the data 4 samples by Test re-test method and the 'r' value of the impact of tennis ball therapy was found reliable (1) which was calculated by the investigator. Hence the tool was highly reliable. Reliability is the degree of consistency with which the attributes or variables are measured by an instrument.

ANALYSIS

The data obtained was analyzed in term of achieving the objectives of the study using descriptive and inferential statistics.

1. Application of paired 't' test to ascertain whether there is significant difference in the mean knowledge score of pre- test and post-test value.

2. Application of chi- square test to find out the significant association between the knowledge scores with selected demographic variable.

RESULTS AND DISCUSSION

The data collected were Edited, Tabulated, Analyzed, Interpreted and finding obtained were presented in the form of tables representation under following sections.

Section I - Finding related to socio demographic variable of women in selected area of Kudal.

Section II- Finding the impact of tennis ball therapy on pain management.

Section III- Finding related to evaluation of effect of tennis ball therapy among women in selected area of Kudal.

Section IV- Finding related to association between pre-test and post-test score among women in selected area of Kudal regarding pain management on selected socio-demographic variables of participants.

Section I - Finding related to socio demographic variable of women in selected area of Kudal.

Table1- Frequency percentage distribution of women in selected area of Kudal. N=40

Sr.No	Socio-demographic Variable	Frequency			Percentage
		MILD	MODERATE	SEVERE	
1	**Marital Status**				
	A) Married	01	31	08	100%
	B) Unmarried	00	00	00	0 %
2	**Education**				
	A) 10th	00	28	07	85%
	B) 12th	00	04	00	10%
	C) Graduate	00	01	00	5%
3	**Occupation**				
	A) Farming	01	30	08	97.5%
	B) Job	00	01	00	2.5%
4	**Menstrual History**				
	A) Menstruating	01	08	03	30%
	B) Menopause	00	23	05	70%
5	**Mode Of Delivery**				
	A) Normal Delivery	01	30	07	95%
	B) LSCS- Lower segment cesarean section	00	02	00	5%

Table 1: describes the demographic data of women. All samples are married women's (40) 100%, majority subjects (35) 85% have 10th education, majority samples (39) 97.5% are doing farming, (280) 70% samples are belongs in menopausal group, majority subjects (38) 95% are delivered in normal way.

Section II: Assessment of level of pain by pain scale among women in selected area of Kudal.

Table 2: Frequency and percentage distribution of pain score of women in selected area of Kudal. (N=40)
PRETEST:

Sr No.	Level of pain	Score	Frequency	Percentage
1.	Mild pain	0 – 3	1	2.5%
2.	Moderate pain	4 – 7	31	77.5%
3.	Severe pain	8 – 10	8	20%

Table 2: describes that 31 (77.5%) of women were having moderate pain and 8 (20%) of women had severe pain about effect of tennis ball therapy.

Table 3: Frequency and percentage distribution of pain score of women in selected area of Kudal. (N=40)

POST TEST:

Sr No.	Level of pain	Score	Frequency	Percentage
1.	Mild pain	0 – 3	9	22.5%
2.	Moderate pain	4 – 7	31	77.5%
3.	Severe pain	8 – 10	0	0%

Table3: describes that 31 (77.5%) of women were having moderate pain and 9 (22.5%) of women had mild pain about effect of tennis ball therapy.

SECTION III

Finding related to mean, median, mode, standard deviation and range of pretest and post test scores of tennis ball therapy on pain management.

In this part researcher analyzed and categorized the mean, median, mode, range and standard deviation of pretest and post test score of tennis ball therapy on pain management.

Table 4: mean, median, mode, range, standard deviation of pretest and post test scores of tennis ball therapy on pain management.

Area of analysis	Mean	Median	Mode	SD	Range
Pre-test	5.42	0.136	6	0.18	5
Post test	4.35	0.134	5	0.17	5
Difference	1.07	0.002	1	0.01	0

Table 4: indicate that the overall score was decrease by the mean difference 1.07 and median difference was 0.002 whereas mode difference was 1.The variability around the mean pain score was 0.01.The rang between highest and lowest was 0 after administering tennis ball therapy.

SECTION IV

Association between level of pain score regarding effectiveness of tennis ball therapy and selected demographic variable.

To find out significant association between socio demographic variable with post test score at the level of 0.05 a research hypothesis is formulated.

Table 5: association between the pain score of effectiveness of tennis ball therapy among women in selected area of Kudal and selected demographic variables. (N=40)

Sr no.	demographic data	df	chi-square value (x^2)	table value	level of significance
1.	Occupation	2	1	5.99	P= 0.05 SA
2.	Menstrual history	4	8.20	9.49	P= 0.05 SA
3.	Marriage	2	24.79	5.99	P= 0.05 NS
4.	Education	2	10.37	5.99	P =0.05 NS
5.	Mode of delivery	4	0.51	9.49	P= 0.05 SA

Table 5: describe that there is significance association found between pain score regarding effectiveness of tennis ball therapy and selected demographic variable such as occupation, Menstrual history and mode of delivery (P=0.05). There is no significant association with women pain of effectiveness of tennis ball therapy and selected demographic variable such as marriage and education. Hence H_2 Accepted.

Table 6: difference between the pain score of effectiveness of tennis ball therapy among women in selected area of Kudal and selected demographic variables. (N=40)

Area of analysis	Standard error mean	Paired 't' value	
		calculated	Tabulated
Pre-test	0.028	0.28	2.02
		0.12	
		0.69	
		0.63	
		0.33	
Post-test	0.027	1.15	2.02
		0.99	
		0.83	
		0.51	
		0.84	

$P<0.05$

Table 6: indicates that the calculated paired 't' value (t_{cal} = 1.15,0.99,0.83,0.51,0.84) is smaller than the tabulated value ie.2.02 at the level of 0.05 after administration of tennis ball therapy. Therefore 't' value is found to be significant. This shows that there is significant difference between pre-test and post-test. Hence H_1 is accepted.

The result of the study was:

The result of the study were: -

1.1 (2.5%) of women had mild pain, 31 (77.5%) of women had moderate pain and 8 (20%) of women had severe pain in pre-test and whereas in post-test 9 (22.5%) women had mild pain, 31 (77.5%) of women had moderate pain and 0 (0%) of women in severe pain. Hence H1 is accepted.

2.There is an significant association between post-test pain score of women's and selected socio-demographic variables such as occupation, Menstrual history and mode delivery. Hence, research hypothesis H2 is accepted.

The study provided an in reaching experience for the investigator. The chapter bought out the various implication of the study and also provided suggestions for future studies.

CONCLUSION

The aim of the study was to evaluate the effectiveness of tennis ball therapy on pain management among women in selected area of Kudal.

1. The working women found to be moderate pain in pre-test. While in the post test women had decrease the pain score.

2. There was remarkable improvement in the pain score after giving the tennis ball therapy on the pain, management. The pre-test pain score was significantly higher than the post score.

3. The socio-demographic variable of women such as marital status, Education, Occupation, menstrual history, mode of delivery found to have significant association with pre-test score except occupation and menstrual history.

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