A COMPARISON OF EXERCISE BASED PROGRAMME VS MAASAGE BASED PROGRAMME BY SELECTED FEMALE SUBJECTS FOR IMPROVEMENT OF ANTROPOMETRIC MEASUREMENTS

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ABSTRACT *: To compare the effectiveness of 12 weeks exercise based programme vs massage based programme by selected female subjects for improvement of anthropometric measurements. For this purpose, a total of 20 (Twenty) female subjects were randomly chosen for the present study. These subjects were divided into two equated programme groups consisting of 10 (Ten) subjects in each and acted as exercise programme group - I and massage programme group – II respectively. Anthropometric measurements i.e., body weight, chest girth, waist girth, right arm girth, left arm girth, right thigh girth, left thigh girth and hip girth were selected as a dependent variables and 12 weeks exercise based programme vs massage based programme were considered as independent variables. The data was analyzed by applying one way analysis of variance to draw appropriate conclusions and to find out the effect of 12 weeks exercise based programme vs massage based programme on body weight, chest girth, waist girth, right arm girth, left arm girth, right thigh girth, left thigh girth and hip girth among selected female subjects. The significance level was set at 0.05. The results indicated that the body weight, chest girth, waist girth, right arm girth, left arm girth, hip girth, right thigh girth, and left thigh girth among selected female subjects were found insignificant in both the groups namely exercise programme group - I and massage programme group – II respectively. The findings of this study showed that 12 week exercise and massage based programme in commercial spa centers was not an effective treatment technique to improve a female's selected anthropometric measurements.*

Keywords: Exercise, Massage, Programme, Clinician, And Anthropometric Measurements

INTRODUCTION

Massage is one of the oldest, simplest forms of therapy and is a system of stroking, pressing and kneading different areas of the body to relieve pain, relax, stimulate, and tone the body. Massage does much more than create a pleasant sensation on the skin, it also works on the soft tissues (the muscles, tendons, and ligaments) to improve muscle tone. Although it largely affects those muscles just under the skin, its benefits may also reach the deeper layers of muscle and possibly even the organs themselves. Massage also stimulates blood circulation and assists the lymphatic system (which runs parallel to the circulatory system), improving the elimination of waste throughout the body. There are over 100 different types of massage. The most commonly known methods are shiatsu, Swedish, and deep tissue **(Lifestyle, 2004)**. Physical therapists who specialize in sports medicine often utilize massage techniques to aid an athlete's recovery from intense exercise or as a treatment option when performing clinical rehabilitation **(Galloway et. al. 2004)**. Sports massage has been suggested as a means to help prepare an athlete for competition, as a tool to enhance athletic performance, as a treatment approach to help the athlete recover after exercise or competition, and as a manual therapy intervention for sports-related musculoskeletal injuries **(Cassar, 2004; Galloway et. al. 2004; & Holey et. al. 2003)**. While massage is frequently performed by physical therapists (and other healthcare or alternative medicine practitioners) and is popular with athletes and coaches, its actual efficacy is questionable **(Nichols et. al. 2006 & Galloway et. al. 2004).**

Today, there is a growing emphasis on looking good, feeling good and living longer. Increasingly, scientific evidence tells us that one of the keys to achieving these ideas is fitness and exercise. But if you spend your days at a sedentary job and pass your evenings as a "couch potato", it may require some determination and commitment to make regular activity a part of your daily routine. Exercise must become one of those things that you do without question, like bathing and brushing your teeth **(President's Council on Physical Fitness and Sports, 2006)**. The best weight control plan combines aerobic activities, such as walking, jogging, swimming,

dancing and resistance exercises, such as using weight machines, free weights or calisthenics. Both types of activities boost your metabolism by building muscle, which uses more calories to maintain than fast. Make exercise a priority and be consistent in your efforts (**Boyd, 2001**).

Hence, the above discussion leads to the present research study to identity and compare the 12 weeks exercise based programme vs massage based programme used in improving anthropometric measurements by selected female subjects.

METHODOLOGY

A total of 20 female clients who were regularly participating in a branded commercial fitness and SPA clinics were randomly chosen for the present study. These subjects were further divided into two equated treatment programme groups consisting of 10 subjects in each and acted as exercise programme group - I and massage programme group – II respectively. The age of the subjects were ranging from 30 years to 40 years of ages. The average age was being 35 years. Body weight, chest girth, waist girth, right arm girth, left arm girth, right thigh girth, left thigh girth and hip girth were selected as a dependent variables and 12 weeks exercise based programme vs massage based programme were considered as independent variables. Exercise programme group – I selected female subjects were exposed to combination of cardio, strength and floor exercises' four times a week for 45 minutes session per day as prescribed and monitored by their respective clinics for a period of 12 weeks (84 days). While, the massage programme group – II female clients underwent their respective prescribed massage based treatments two times a week for 45 minutes session per day. Before the administration of exercise and massage based programme by their respective joined fitness and SPA clinics, the anthropometric measurement i.e., body weight was measured in kilograms to nearest 0.01 grams by using electronic digital portable weighing machine. However, chest girth, waist girth, right arm girth, left arm girth, right thigh girth, left thigh girth and hip girth were respectively measured in centimeters to the nearest 0.01 by using steel tape at their respective venue on both the groups namely exercise programme group - I and massage programme group – II respectively to collect pre test data. After the completion of 12 weeks again the same selected anthropometric measurements were conducted to collect the post training data. One way analysis of variance was computed to analyze the data and the significance level was set at 0.05.

FINDINGS

The findings of the study are given below:

Variable	Groups	Sum of	Df	Mean	**F**
Exercise Programme Group – I Body	Between	69.655	3	23.218	**0.409**
	Within	2044.973	36	56.805	
	Total	2114.628	39		
Massage Programme Group – II Body	Between	12.585	3	4.195	**0.025**
	Within	5965.035	36	165.695	
	Total	5977.620	39		
Exercise Programme Group – I Chest	Between	15.200	3	5.067	**0.844**
	Within	216.064	36	6.002	
	Total	231.264	39		
Massage Programme Group – II	Between	5.313	3	1.771	**0.225**
	Within	283.657	36	7.879	
	Total	288.970	39		
Exercise Programme Group – I Right	Between	8.253	3	2.751	**1.730**
	Within	57.255	36	1.590	
	Total	65.508	39		
Massage Programme Group – II	Between	1.699	3	.566	**0.318**
	Within	64.199	36	1.783	
	Total	65.898	39		
Exercise Programme Group – I Left	Between	6.407	3	2.136	**1.252**
	Within	61.411	36	1.706	
	Total	67.818	39		
Massage Programme Group – II Left	Between	1.699	3	.566	**0.318**
	Within	64.199	36	1.783	
	Total	65.898	39		
Exercise Programme Group – I Waist	Between	52.449	3	17.483	**1.262**
	Within	498.621	36	13.851	
	Total	551.070	39		

Massage Programme Group – II Waist Girth (Cms)	Between Groups	20.264	3	6.755	**0.457**
	Within	532.340	36	14.787	
	Total	552.604	39		
Exercise Programme Group – I Hip	Between	28.037	3	9.346	**0.741**
	Within	453.891	36	12.608	
	Total	481.928	39		
Massage Programme Group – II Hip	Between	5.403	3	1.801	**0.686**
	Within	94.487	36	2.625	
	Total	99.890	39		
Exercise Programme Group – I Right	Between	13.851	3	4.617	**1.504**
	Within	110.520	36	3.070	
	Total	124.371	39		
Massage Programme Group – II	Between	2.157	3	.719	**0.162**
	Within	160.241	36	4.451	
	Total	162.398	39		
Exercise Programme Group – I Left	Between	13.477	3	4.492	**1.507**
	Within	107.281	36	2.980	
	Total	120.758	39		
Massage Programme Group – II Left	Between	2.157	3	.719	**0.162**
	Within	160.241	36	4.451	
	Total	162.398	39		

Table No. 1.0. One way analysis of variance of initial, fourth, eighth, and twelve weeks of Exercise Programme and Massage Programme on Body Weight, Chest Girth, Waist girth, Hip Girth, Right Arm Girth, Left Arm Girth, Right Thigh Girth and Left Thigh Girth of Female Subjects
*Significant at 0.05 level. 'F' 0 .05 (3, 36) df = 2.87 N = 10

Table no. 1.0 exhibits the one way analysis of variance of initial, forth, eight and twelve weeks of exercise and massage programme on body weight, chest girth, hip girth, right arm girth, left arm girth, right thigh girth and left thigh girth of female clinicians clients group differs insignificantly, as the obtained F value of exercise programme group – I body weight(0.409), chest girth (0.844) , right arm girth (1.730), left arm girth (1.252),waist girth (1.262), hip girth (0.741), right thigh girth (1.504) & left thigh girth (1.507) and massage programme group – II body weight (0.025), chest girth (0.225), right arm girth (0.318), left arm girth (0.318), waist girth (0.457), hip girth (0.686), right thigh girth (0.162) & left thigh girth (0.162) among the participants is much lesser than the required value of 2.87. at 0.05 level of confidence.

DISCUSSION

Findings of the present research study indicated that all the selected variables (i.e., body weight, chest girth, waist girth, right arm girth, left arm girth, hip girth, right thigh girth, left thigh girth) for improvement of anthropometric measurements in female subjects had not improved by both the treatment programmers' namely exercise based programme and massage based programme respectively. This insignificant difference was due to their casual efforts and failure to focus on their health related fitness, lifestyles and wellness factors. **Jailaxmi et.al. (2011)** concludes increasing sedentary lifestyle combined with the growing use of technology in daily life is causing higher levels of physical inactivity among persons of all ages, both in developed and developing countries. Sedentary lifestyle leads to a widening physical activity gap, an imbalance between the need and realization of physical activity that is necessary for the attainment and maintenance of good health and functional capacity. For this purpose, **Jailaxmi et. al. (2011)** were analyzed the differences in certain anthropometric and cardiovascular parameters in sedentary and non-sedentary female subjects in the age group of 25-55 years. A total 105 healthy females subjects were selected randomly from the general population of Davangere city. Out of which 47 were sedentary and 58 were non-sedentary subjects. Anthropometric parameters such as weight, height, body mass index, waist circumference, hip circumference, waist to hip ratio were assessed. Cardiovascular parameters such as pulse rate, blood pressure were also assessed. The results of the present study were exhibits a statistically significant increase in anthropometric and cardiovascular parameters in sedentary subjects compared to non-sedentary subjects. These findings provide similar clear evidence that low levels of active lifestyle are associated with an increased risk of weight and anthropometric measurement gain and significant increase in blood pressure.

CONCLUSION

The results showed that there was no significant improvement shown by exercise programme group – I and massage programme group – II selected female clients on anthropometric measurements. Therefore, it is concluded that both exercise and massage based programmes of commercial fitness and SPA clinics were not an effective treatment option to improve a female anthropometric measurements.

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