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Benefit of exercises on health: Study of health status of young adult women participating exercise regularly

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Abstract

Introduction: Health is considered as most precious wealth. Every individuals of any age has to participate in Physical exercise regularly to stay healthy and fit. Exercise helps to maintain high standard of physiological health, normal body weight, muscular endurance, flexibility etc which are the important criteria to stay fit and healthy.

Purpose: The purpose of the present study was to review the health status of the young college level women who participates exercise on regular basis. Findings will be helpful to prove strongly the benefits of exercise on women's health.

Material and Methods: A total of 84 active college women in between the age of 21 to 30 were randomly selected in this study. All subjects were participating in physical exercise regularly at morning and evening for average four hours per day. Their schedule was involved five day per week. Health status was assessed by measuring the BMI, VO_2 max, flexibility, strength and strength-endurance. These parameters were considered as criterion of this study. Queens college test, modified sit and reach test and bend knee sit ups for one minute were used as tools in this study. Mean and standard deviation were computed as descriptive statistics Standard norms have used to take inference about normal status of health of the subjects.

Result: Result revealed that the active college women had normal level of BMI (20.92 Kg/m^2) and also good level of VO_2 max ($Mn = 37.73 \text{ ml min}^{-1} \text{ Kg}^{-1}$) which indicated their good physiological health. Active college women also had good amount of flexibility (36.24cm) and strength-endurance (36.14times/min). When compared with standard norm it has seen that their health status in this category were also good.

Conclusion: Therefore it was concluded that regular exercise helps young college level women to maintain their good health status in respect of BMI, VO_2 max, flexibility and strength-endurance.

Keywords: Health Status, Exercise benefits, BMI, VO_2 max, Young adult women

Introduction

Regular physical activity is vital for good physical and mental health. It helps improve one's overall health and fitness, maintain a healthy weight, reduce health risk and promote good mental health. Several studies confirmed about the effectiveness of regular physical activity in the primary and secondary prevention of several chronic diseases (e.g., cardiovascular disease, diabetes, cancer, hypertension, obesity, depression and osteoporosis) and premature death. There appears to be a linear relation between physical activity and health status, such that a further increase in physical activity and fitness will lead to additional improvements in health status^[1].

Regular physical activity can improve womens' health and help prevent many of the diseases and conditions that are major causes of death and disability for women around the world. Many women suffer from different disease like Cardiovascular diseases, Diabetes, Osteoporosis, Breast cancer etc that are associated with inadequate participation in physical activity^[2]. In a study comparing a group of women who were self-selected to participate in an exercise regimen versus a sedentary group, it was shown that "the moderate-intensity physical activity program experienced potentially valuable health and social cognitive improvements relative to those who did not participate." According to the American College of Obstetrics and Gynecology, physical activity not only improves cardiovascular health, but also helps to keep blood pressure, weight, and cholesterol in control.

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The American College of Obstetrics and Gynecology educational bulletin recommends that both premenopausal and menopausal women exercise in order to prevent osteoporosis. In 2003, the Journal of Cardiopulmonary Rehabilitation reported that even small amounts of physical activity done routinely are found to improve quality of life and mood [3].

Physical Activity has also been associated with improved psychological health by reducing levels of stress, anxiety and depression. This is particularly important for women who demonstrate an incidence of depression that is reported to be almost double that of men in both developed and developing countries. It has also been suggested that physical activity can contribute to building self-esteem and confidence and can provide a vehicle for social integration and equality for women in society [3].

The purpose of the present study was to review the health status of the young college level women who participate exercise on regular basis. Findings will be helpful to prove strongly the benefits of exercise on women's health.

Materials and Methods

Subject

A total of 85 active college women in between the age of 21 to 30 were randomly selected in this study. All subjects were participating in different types of physical exercise, games and sports regularly at morning and evening for average three hours per day for five days per week.

Criterion measure

Health status was measured by assessing the body mass index (BMI) and health status was assessed by measuring the VO₂ max, flexibility, strength and strength-endurance. These parameters were considered as criterion of this study.

Test and Tools used

Sedimeter, weigh machine were used to measure height and weight respectively. Jhonson box was used to measure the flexibility. Queens' college test was used as tools to measure VO₂ max and one min curl up was used to measure strength endurance.

Statistical Design

Mean and standard deviation were computed as descriptive statistics and percentage value was calculated to represent the data in graphical form. Standard norms have used to take inference about normal status of health of the subjects.

Results and Findings

The collected data for selected parameters in this study have presented in Table-1 below.

Table 1: Descriptive statistics for BMI, Flexibility, Strength-endurance and VO₂ max of active adult women

Statistical Parameters	BMI (Kg/m ²)	Flexibility (cm)	Strength-endurance (sit up/min)	VO ₂ max ml min ⁻¹ Kg ⁻¹
Maximum value	29.47	47	42	49.56
Minimum value	14.47	20	22	30.35
Mean value	20.92	36.24	36.14	37.73
Standard Deviation	2.64	5.94	5.74	3.57

The body mass index (BMI) is a value derived from the mass (weight) and height of an individual. It is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m², resulting from mass in kilograms and height in meters. The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as *underweight*, *normal weight*, *overweight*, or *obese* based on that value. Commonly accepted BMI ranges as per WHO, are underweight: under 18.5 kg/m², normal weight: 18.5 to 25, overweight: 25 to 30, obese: over 30 (presented in Table-2)[4] and compared the present mean BMI value of the subjects with BMI classification in Figure-1. People of Asian descent have different associations between BMI, percentage of body fat, and health risks than those of European descent, with a higher risk of type-2 diabetes and cardiovascular disease at BMIs lower than the WHO cut-off point for overweight, 25 kg/m², although the cutoff for observed risk varies among different Asian populations [5].

Table 2: WHO classification of body mass index (BMI) and health of women and men

Category	BMI (kg/m ²)	
	from	to
Very severely underweight		<15.0
Severely underweight	15	16
Underweight	16	18.5
Normal (healthy weight)	18.5	25
Overweight	25	30
Obese Class I (Moderately obese)	30	35
Obese Class II (Severely obese)	35	40
Obese Class III (Very severely obese)	40>	

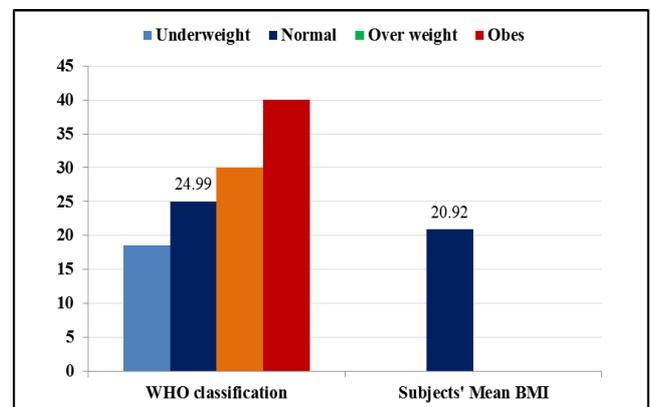


Fig 1: Comparison of subjects' BMI with the reference value of WHO

The present study found the mean BMI value of the active women was 20.92 Kg/m² (Range 14.47 to 29.47 Kg/m²) which was within normal value and in healthy category. All the subjects of this study actively participate in regular vigorous physical training and sport therefore their body weight was normal and their BMI was also in healthy and normal range. The findings proved the fact that as the women engaged in regular physical activity so that they have normal BMI and lesser health risk. The comparison between the subjects BMI with the standard value has presented in Figure-3 which is clearly shown that it was normal and healthy. This might be due to the participation in exercise on regular basis. The health related fitness component flexibility of the subjects was in normal range which also indicated their superior health status. The flexibility develops through the participation of stretching exercises in which subjects were involved daily

basis. The normal value of flexibility might be the beneficial effect of regular participation in exercise. The strength endurance of the present subjects was also in good level as per standard norm which was also another beneficial effect of exercise for women.

VO₂ max is considered as the most powerful indicator of aerobic fitness and health status of human being. The normative range of fair level of VO₂ max was 29-34 ml min⁻¹ Kg⁻¹ as per literature available [6]. The present value of VO₂ max was above the fair level which also reflecting their good health status and the beneficial effect of regular exercises. Several studies reported the benefits of exercise on health and prevention of life style diseases [7-11]. Present findings also highlighted the same health benefits of participation in exercise and physical activities on regular basis among young adult women.

Conclusion

On the basis of above findings following conclusions were drawn:

1. The BMI of the active adult women was normal and in the healthy category.
2. The status of flexibility and strength endurance were higher and good for active adult women.
3. The active adult women had above fair level of VO₂ max which clearly indicated their better cardiovascular health status.

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