

Research Note :

A study on physical fitness of selected women

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In all types of work, it is important to ensure acceptable adjustment between person and work in order to promote health and safety and to improve the quality of work and performance. To achieve the goal, it requires a knowledge of individuals capabilities and limitations from the physical, physiological point of, view and in this respect, the job- demand - fitness compatibility is important consideration. The term fitness refers to the physiological fitness or cardio respiratory fitness and is determined from the maximum aerobic power (VO_a max.) of an individual. In order to ensure health and safety of people at work, demand and fitness should match. It is known that every individual has certain potential work capacity known as aerobic work capacity (VO₂ Max.), a fraction of which is utilized while performing a given task. Women perform multifarious tasks both at home and outside in gainful employment which is more exerting and strenuous. Hence, it is necessary to know the working capacity of women. In this study an attempt was made to measure the physical fitness in terms of aerobic capacity (VO₂ Max.) of the women.

The sample for the study was selected by simple random sampling method. A sample of 100 healthy, non-pregnant, non-lactating, physically active in the age range of 25-35 years were randomly selected for the study. Physical fitness of the selected subjects was measured by calculating VO₂ max by using the following formula:

$$VO_2 \text{ max (It/min.)} = (0.023 \times \text{Body weight}) - (0.034 \times \text{age} + 1.652).$$

The values got in It/min was converted into ml/min to classify the

subjects into different categories of physical fitness using following formula:

$$VO_2 \text{ max. (ml./min)} = \frac{VO_2 \text{ max. (Lit/min)}}{\text{Body wt. (kg)}} \times 100$$

Based on the VO₂ Max. (ml/min.), the subjects were grouped according to the classification given by Saha (1996).

Classification of physical fitness

<	-	15 Poor
16	-	25 Low average
26	-	30 High average
31	-	40 Good
41	-	45 Very good
>	-	45 Excellent

The findings of the study revealed that the selected women were in the age range of 25-35 years. A higher percentage of 67 women were in the age range of 25-30 years while remaining 30 per cent were in the age range of 31-35 years. The body weight of selected women was ranging from 40 to 60 kg. Majority of the women (76%) were weighing between 40 and 50 kg while 24 per cent of the women were having a body weight ranging from 51 to 60 kg. Blood pressure of the selected women were ranging between 118/79 and 120/8 mm/hg. with a mean pulse pressure of 38.17 mm/hg.

Based on the age and body weight of women VO₂ Max. was calculated using the formula to assess the physical fitness of the subjects. The results indicated that VO₂ Max. of the selected women was ranging 26.1 to 54.8 ml/min. On the basis of VO₂ Max. the women were classified into different categories of physical fitness. Physical fitness of selected women is reported in Table 1. It is clear from the Table that majority of the women (61 %) had a good physical fitness in the range of

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Table 1 : Physical fitness of selected women	
Classification of physical fitness VO ₂ Max (ml./min)	Percentage of women
< - 15 poor	--
16-25 Low average	--
26 - 30 High average	3
31-40 Good	61
41 -45 Very good	33
>- 45 Excellent	3

31-40 ml/min while 33 per cent of the women were having very good physical fitness with VO₂ Max. ranging from 41 to 45 ml/min. A meager percentage of women (3) were having high average and. excellent physical fitness.

Age and body weight of selected women were correlated with VO₂ Max. and the values revealed a non significant correlation ($r=0.008$ NS) between age of the women and VO₂ max. While body weight was negatively correlated with VO₂ max. of the subjects ($r= -0.38$). Regression analysis indicated that increase of 1 unit in

body weight of women decreased VO₂ max by 0.71 ml./min ($y=694.6 -0.71x$).

From the above findings it can be inferred that the selected women were having good and very good physical fitness which shows that women can perform any type of work within the endurance limit without getting tired and exhausted.

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REFERENCES

Saha, P.N. (1996). Respiratory, physical fitness scale on women. Cited in Varghese, M.A.; Bhatnagarand, A. and Saha, P.N. (ed.) *Organomics research on women in India*. Women's University, Mumbai.

