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# Analytical Study of Fitness and Exercise on Senior Citizen, Who Exercise Regularly in, Pune City

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**Deshmukh Avinash**

Researcher

**Sumit Tambe**

Guide

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## ABSTRACT

*The main purpose of the study is to study of fitness and exercise on senior citizen men (65 yr.-69 yr.) who exercise regularly in Pune city. In this study random sampling method was used in which from 4 different wards of Pune 28 senior citizen were selected randomly. To know the fitness and exercise of senior citizen data was collected from the selected sample by taking physical fitness test on sample as prescribed in Fit India Guide lines and giving them questionnaire about type of exercise they, how regular they doing exercise and how long do they perform exercise. The data was collected in quantitative form. The analysis of data was done through descriptive statistic. The data shows that 32.00% of the individuals tested fall into the 'below average' category, meaning they are likely either The data shows that none of the individuals tested scored in the 'average' or 'above average' range, indicating that they may need to work on improving their cardiovascular fitness. 37% scored in the 'above average' range, indicating that many individuals have at least moderate lower body strength. that only 7% of the individuals tested scored in the 'below average' range, indicating that most individuals have at least moderate upper body flexibility..*

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**Keywords :** Senior Citizen, Fit India Guide Lines, Fitness, Regularly Exercising.

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## Introduction

Exercise offers a variety of health benefits, from strengthening bones to positive effects on mood and helping to prevent chronic diseases such as diabetes and heart

disease. Research since the late 1980s has consistently shown that aerobic fitness can help prolong life.

Modern technology and rapid urbanization along with changing lifestyles are the major reasons for increasing physical inactivity among citizens. Many diseases are caused by wrong lifestyle. E.g., High blood pressure, diabetes, asthma, cancer and heart disease etc. This disease begins to seriously affect a person's movements and gradually deprives him of a quality life.

During the last two decades the population ageing phenomenon is becoming a major concern in both developed and developing countries. With advancing age the lifestyle tends to shift gradually from an active productive life to a passive and sedentary lifestyle. The factors responsible for such a transitional phenomenon are probably social, economic, psychological, and environmental. According to WHO (2005) a sedentary lifestyle is currently becoming a public health problem in the world and is a major underlying cause of death, disease, and disability. According to the United Nations Population Division, over the next four decades India's population ages 60 and older are projected to increase dramatically from 8 percent in 2010 to 19 percent in 2050. The grey population which accounted for 6.7% of the total population in 1991 is expected to increase its share to more than 10% by the year 2021. (Harada 2001)

According to World Health Organization criteria, physical inactivity is the fourth leading cause of death among adults in the human race. According to the research done so far, if proper and regular exercise is done under the guidance of physiotherapist, it is possible to prevent the above diseases easily. But for that it is necessary to make a lot of changes in our lifestyle. Statistics from the World Health Organization show that one in four, about 25 percent of adults, and four out of every five teenagers, not currently participating in adequate physical activity or exercise. The World Health Organization guidelines recommend that adults get 150 to 300 minutes of moderate to vigorous physical activity and exercise each week.

### **Elderly people and need of exercise**

An optimal level of functional fitness is an essential ingredient of independent living. The level of fitness depends on an individual's lifestyle, level of physical activity and health status. With advancing age, the elderly population faces enormous challenges to maintain physical and cognitive function, quality of life and functional independence. Physical inactivity to a great extent is the cause of the changes in functional abilities during the aging process (Nadel & Di Pietrol, 1995). The cardio-respiratory system is susceptible to changes and indicates a significant decrease in the aerobic capacity

after the age of 40, and by the age of 65 it is approximately 30% less. According to the natural cycle, health complaints also start increasing in this age such as low vision, hearing, memory, loss of muscle, strength and flexibility, brittle bones, loss of control over urination and defecation. Those who have adopted exercise since childhood have a happier old age. Exercises increase the flexibility, strength of muscles, range of joints and also physical stability and balance are improved. Release of mental stress helps to reduce its basic objective is to make the elderly self-reliant in their daily activities and increase their participation in social life.

While doing exercise senior citizen should keep few things in mind like sitting exercises should be done first, always sit upright with back support, make sure that there is support on the side while doing standing exercises. Exercises should be done gradually while keeping the balance of the body on one leg and taking support. Always walk with support (use of walker or cane) when there is fear of falling. Exercises should be done to increase the efficiency of lungs and heart. Fractures of ankle and wrist are often caused by falls, so families should take care of elderly people. There should not be too much light or too much darkness in the house. Battery should be kept near them while sleeping. Care should be taken that the objects do not fall elsewhere on the floor. The floor or tile in the house and bathroom should not be slippery. While sitting and getting up in the bathroom an additional handle should be installed for support. Medicines should always be kept at hand. Regular health checkup should be done. (Supe 2016).

Exercise has numerous benefits for people of all ages, including a healthy heart, stronger bones, and improved flexibility. For seniors, there are additional benefits, such as regular exercise that lowers the risk of chronic diseases, reduces the chance of injury, and can even improve one's mood. Physical fitness is the ability to perform normal activities of daily living with enthusiasm, alertness, without undue fatigue, and with sufficient energy to enjoy leisure time and to face any unexpected events, as an emergency, at the core of being physically fit in older adults.

## **Methodology**

Survey was conducted in 4 different wards of Pune for collecting data. Researcher followed descriptive survey method to carry out the study. Senior citizen who exercises regularly in 4 out of 41 wards in Pune city are considered to be population of the study. Purposive sampling technique was used. From the 4 wards 28 samples is selected with help of purposive sampling technique. After selecting sample physical fitness test were conducted on all senior citizen. It took almost 10 days to collect data from 28 senior citizen.

**Procedure of data collection:** Senior citizen were told to perform physical fitness test prescribed in Fit India Guideline and their scores were recorded on scoresheet. With the help of standard norms, it was converted to category (Below average, Average, Above Average) for analysis

### Analysis and Interpretation of Data

In this study data was collected through physical fitness test and every senior citizen was scored and remarked on the basis of performance. After this data was interpreted as per table 1 and table 2.

**Table 1 :** Descriptive Statistic of Senior Citizen (65-69 years) Men who exercise regularly in Pune City

Test (65-69)	BMI	2 Min Step Test	8 feet up & go (Second)	Chair Stand Test	Back Scratch	Chair Sit & Reach
Men	24.40	206.21	6.10	18	1.02	1.46
Mode	25.2	202.00	6.00	20	0.00	0.00
Standard Devision	2.40	39.25	0.80	5.33	5.40	9.29

Table no 1 shows that BMI of senior citizen between age 65 – 69 have the mean score of 24.40. Mode of BMI of senior citizen is 25.2 with standard deviation of 2.40.

2 min step test of senior citizen between age 65 – 69 have the mean score of 206.21. Mode of 2min step test for senior citizen is 202 with standard deviation of 39.25

8 foot up and go test for senior citizen between age 65 – 69 have the mean score of 6.10. Mode of 8 foot up and go test for senior citizen is 6 with standard deviation of 0.80

Chair stand test for senior citizen between the age 65 – 69 have the mean score 18. Mode of chair stand test for senior citizen is 20 with standard deviation of 5.33.

Back scratch test for senior citizen between the age 65 – 69 have the mean score 1.02. Mode of back scratch test for senior citizen is 0 with standard deviation of 5.40.

Chair sit & reach test for senior citizen between the age of 65 – 69 have the mean score 1.46. Mode of chair sit & reach test for senior citizen is 0 with standard deviation of 9.29.

**Table 2 :** Percentage Statistic of Senior Citizen Men (65-69 years) who exercise regularly in Pune City

Test (65-69)	BMI	2 Min Step Test	8 feet up & go (Second)	Chair Stand Test	Back Scratch	Chair Sit & Reach
Below Average	32.00%	0%	75%	021%	7%	21%
Average	25%	0%	25%	42%	36%	57%
Above Average	42.85	100%	0%	0%	57%	22%

In the above table 2 shows that 2 min step test was taken on senior citizen men in which 100% was found to be above average.

8 feet up and go test was taken on senior citizen men in which 75% were found to be below average, 25% were average and 0% were above average.

Chair Stand Test was taken on senior citizen men in which 21% were found to be below average, 42% were found to be 37% above average.

Back Scratch Test was taken on senior citizen men in which 7% were found to be below average, 36% were found to be average and 57% were found to be above average.

Chair Sit & Reach test was taken on senior citizen men in which 21% were found to be below average, 57% were found to be average and 22% were found to be above average.

**Conclusion:**

**BMI:** This test calculates a person’s body mass index, which is an indicator of whether they are underweight, normal weight, overweight, or obese. The data shows that 32.00% of the individuals tested fall into the “below average” category, meaning they are likely either overweight or obese. 25% are in the average range, and 42.85% are in the above-average range, indicating that they are likely at a healthy weight.

**2 Min Step Test :** This test measures a person’s cardiovascular endurance by having them step up and down on a platform for two minutes. The data shows that none of the individuals tested scored in the “average” or “above average” range, indicating that they may need to work on improving their cardiovascular fitness.

**8 Foot Up & Go :** This test measures a person’s agility and balance by having them stand up from a chair, walk eight feet, turn around, and sit back down again. The

data shows that 75% of the individuals tested scored in the “below average” range, indicating that they may need to work on improving their balance and agility.

**Chair Stand Test :** This test measures a person’s lower body strength by having them stand up from a chair and sit back down again as many times as they can in 30 seconds. The data shows that 42% of the individuals tested scored in the “average” range, and 37% scored in the “above average” range, indicating that many individuals have at least moderate lower body strength.

**Back Scratch :** This test measures a person’s upper body flexibility by having them reach one hand behind their back and the other hand over their shoulder, and then trying to touch their fingers together. The data shows that only 7% of the individuals tested scored in the “below average” range, indicating that most individuals have at least moderate upper body flexibility.

**Chair Sit & Reach :** This test measures a person’s lower body flexibility by having them sit on the edge of a chair and reach forward toward their toes. The data shows that 21% of the individuals tested scored in the “below average” range, indicating that many individuals may need to work on improving their lower body flexibility.

In conclusion, the data suggests that many of the individuals tested may need to work on improving their physical fitness in various areas like cardiovascular endurance, balance and agility, and lower body flexibility. However, the data also shows that many individuals have at least moderate lower body strength and upper body flexibility. Most of individuals falls in above average category in 2min step test, back scratch test. Average in chair stand test and chair sit and reach test and many individuals fall in below average in 8 foot up and go test. The BMI data suggests that a significant percentage of individuals may be overweight or obese, but the majority of individuals are likely at a healthy weight.

## **Discussion:**

Different previous researches have shown similar results in senior citizen exercising regularly. Tiwari (2019) have studied the Percentage of Decline in Functional Fitness Status in the Male Senior Citizens of Delhi and found that their gradual rate of decline in all the functional fitness parameters in the selected four age groups of Indian male senior citizens. But in this study, it was found that senior citizen who exercise regularly in Pune city have at least moderate lower body strength and upper body flexibility due to regular exercising.

## **Recommendation:**

- It is recommended that research shall be conducted on more sample which will make it more generalized.
- It is recommended to study which type of exercise senior citizen prefer to do and how it effects on their fitness level

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