

YOGA IN DEVELOPING MOBILITY SKILL IN ELDERLY

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Abstract

The increasing age decreases sensation of taste, smell vision, hearing, mental ability, organic functions, cardio respiratory endurance, muscular strength, flexibility, muscular endurance, balance and reaction time etc. However, there is no fitness programme prepared by the Government of India for the elderly people. Many literature reveal that, older adults have a highest rate of chronic diseases, such as cardiovascular disease, cancer, diabetes, osteoporosis and arthritis. Muscles and bones are found weaker in older adults, these changes in the muscles, joints, and bones effect on accurate movement and create difficulties in maintaining **dynamic** and **static balance**, due to this, senior citizens feel uncertain future of the health and fitness. Available literatures revealed that **Yoga Program** is effective in improving mental ability, organic functions, cardio respiratory endurance, muscular strength, flexibility, muscular endurance, balance and reaction time. Major responsible components of Mobility Kills also required strong mental ability, organic functions, cardio respiratory endurance, muscular strength, flexibility, muscular endurance, balance and reaction time. **Population-** Present experiment was undertaken by considering the population of aged 60 to 70 years. **Selection of Sample-** Thirty Male (n=30) Senior Citizen, aged 60 to 70 yrs., from Juinagar Senior Citizen Club, Juinagar, Navi Mumbai., were randomly selected by using random sampling method as sample. **Research Design-** Double Pre-Test Post-Test Single Group Design was used. **Procedure of the Experiment-** As per the experimental research design the experiment was planned in four phases. **Phase-I** was Pretest-1, **Phase-II** was Pretest-2, **Phase-III** was 'Yogic Training Intervention' for daily one hour in the morning for ten weeks except Sundays, and **Phase-IV** was Post-test. **Conclusion-** This study is concluding that '**Ten weeks Yogic intervention**' is effective in improving Mobility Skill in Elderly.

Keywords- Yoga, Mobility Skill, Elderly

INTRODUCTION

According to Population Census 2011 there are nearly 104 million elderly persons (aged 60 years or above) in India, 53 million females and 51 million males. A report released by the United Nations Population Fund and HelpAge India suggests that the number of elderly persons is expected to grow to 173 million by 2026. (Ministry of Social Justice and Empowerment, 2022). The increasing age decreases sensation of taste, smell vision, hearing, mental ability, organic functions, cardio respiratory endurance, muscular strength, flexibility, muscular endurance, balance and reaction

time etc. However there is no fitness programme prepared by the Government of India for the elderly people. Many literature reveal that, older adults have a highest rate of chronic diseases, such as cardiovascular disease, cancer, diabetes, osteoporosis and arthritis. Muscles and bones are found weaker in older adults, these changes in the muscles, joints, and bones effect on accurate movement and create difficulties in maintaining **dynamic** and **static balance**, due to this, senior citizens feel uncertain future of the health and fitness. Available literatures revealed that **Yoga Program** is effective in improving mental ability, organic functions, cardio respiratory endurance, muscular strength, flexibility, muscular endurance, balance and reaction time. Major responsible components of Mobility Kills also required strong mental ability, organic functions, cardio respiratory endurance, muscular strength, flexibility, muscular endurance, balance and reaction time. However, literature in relation with **Yoga Program** and **Mobility Skill** nor found, hence the researcher was conducted an experiment 'to study the efficacy of ten weeks 'Yogic' intervention on **Mobility Skill** of senior citizens aged 60 to 70 years.

METHOD

• Target Population

Present experiment was undertaken by considering the population of aged 60 to 70 years which would be useful nearly 104 million elderly persons in India.

• Selection of Sample

Thirty Male (n=30) Senior Citizen, aged 60 to 70 yrs., from Juinagar Senior Citizen Club, Juinagar, Navi Mumbai., were randomly selected by using random sampling method as sample.

• Research Design

Double Pre-Test Post-Test Single Group Design (Kirk Roger, 2013) and (Trochim & Land, 1982) was used prescribed under the *Quasi Experimental Design*.

• Procedure of the Experiment

As per the experimental research design the experiment was planned in four phases. **Phase-I** was Pretest-1, **Phase-II** was Pretest-2, **Phase-III** was 'Yogic Training Intervention' for daily one hour in the morning for ten weeks except Sundays, and **Phase-IV** was Post-test. Timed Up and Go Test (Rheumatology, 2014), was used to assess an older person's Mobility Skill and both Static and Dynamic Balance in Phase-I, Phase-II and Phase-IV.

Table-1.1 Independent Variables i.e. Asnas, Kriyas, Pranayama and Dhyana

'Asnas'

Seating Posture

Vajrasana

Ardhpadmasana

Gomukhasana

Parvatasana

Paschimottanasana

Prone and Supine Position

Shavasana
Pawanmuktasana
Bhujangasana
Ardhhalasana
Ardhshalbhasana
Naukasana
Shalabhasana
Standing Posture
Tadasana
Utkatasana
Vrikshasana
'Kriya'
Kapalbhati
Pranayama'
Anulom-Vilom
Ujjayee Pranayama
Dhyana
Omkar

STATISTICAL PROCEDURE

One Way Repeated Measure ANOVA followed by *Least Significant Difference Method* (LSD) was used to analyze the data (Verma, 2013). *Double Pretest Posttest Single Group Design* was used for the present experiment. Between *Pretest-1* and *Pretest-2*, there was a blank period of ten weeks; no 'Yoga' training was imparted during the blank period. After *Pretest-2* 'Selected Yoga' training program was imparted and *Posttest* test was conducted. With the evident information of cause and effect relationship theory, it is predicted that the performance of the selected variable would improve in Posttest. Therefore, the appropriate statistical technique discussed at the beginning of this chapter was used to analyze the data for further investigation.

RESULT ON MOBILITY SKILL

The first objective of this study was to *compare Mean Scores of Mobility Skill of Elderly*. There were three tests taken in different time period namely Pretest-1, Pretest-2 and Posttest and results are given in Table 1.1.

Table 1.2: Summary of Repeated Measure ANOVA of Mobility Skill of Elderly.

Source of Variance	df	SS	MS	F	Remark
Tests	2	32.35	16.17	54.45	$p < 0.01$
Error	58	17.23	0.297		
Total	60				

From Table 4.1 it is evident that, *F ratio* for treatment is 16.17 which is significant at 0.01 level with $df = 2/58$, it reflects that the Mean Scores of Mobility Skill of Elderly taken in three different Phases differs significantly. Thus the null hypothesis that, there is no significant difference in mean scores of Mobility Skill of Elderly is rejected. In order to know which mean score of Mobility Skill of Elderly

is significantly higher than the others, the data were further analyzed by using Least Significant Difference Method and results are given in Table 1.2.

Table 1.23: Mean Standard Error (SE) and difference between Means of Mobility Skill of Elderly.

Treatment	Mean	SE	Pretest-2	Posttest
Pretest-1	8.51	0.13	ns	$P<0.01$
Pretest-2	8.28	0.14		$p<0.01$
Posttest	7.14	0.15		

From Table 1.2 it can be seen that there is significant difference in Mobility Skill between Pretest-1 and Posttest at 0.01 level of significance. In case of Pretest-2 and Posttest there also found significant difference in Mobility Skill at 0.01 level of significance. Where in case of Pretest-1 and Pretest-2 there is no significant difference at 0.05 level. It may be therefore said that the Posttest found to be significantly high of Mobility Skill as compare to Pretest-1 and Pretest-2. The result has been graphically presented in Figure 1.1.

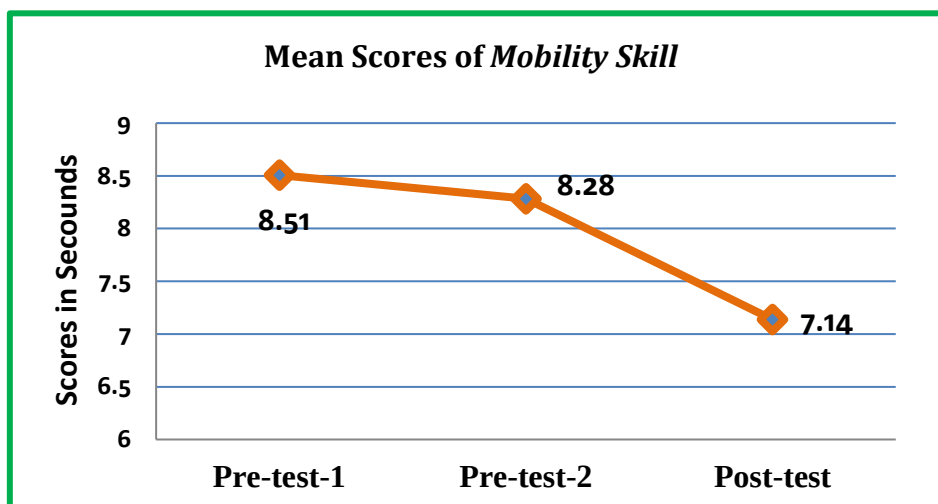


Figure 1.1 Effect of Interaction between Tests of Mobility Skill

From Figure 1.1 it can be seen that, in case of Mobility Skill statistically not changed from Pretest -1 to Pretest-2, whereas the performance of Posttest is increased. With the evident information it can be realized that, as compare to Pretest-1 and Pretest-2 the performance of Mobility Skill of Elderly is increased in Posttest. It may therefore be said that Yogic Practices were found to be effective in improving Mobility Skill of Elderly.

DISCUSSION

The fact that in older age Mobility Skill of Elderly become weak and thereby an older person cannot be able to move as fast as younger person. The purpose of the present study was to study the effectiveness of Yogic Practices on the basis of Mobility Skill of Elderly. It appears from the results that the posttest performance of Mobility Skill of Elderly as measured by *Timed-Up and Go Test* of male senior Citizens of aged 60-70 years were significantly increased. It is evident from the results of the reviewed relevant studies conducted by other researchers viz., Saravanakumar et al. 2014; Kelley et al. 2014; Mooney et al. 2014; McCaffrey et al. 2014; Salem et al. 2013; Tiedemann et al. 2013;

Roland et al. 2011; Schmid et al, 2010; McCaffrey et al. 2014; Manjunath & Telles 1999 and Telles et al. 1994; are supporting up, to some extent, to the above stated result of the present study. It is also pertinent to note that the said relevant studies have been conducted by different researcher with different purpose and under different conditions too. On the other hand, the researcher has not come across any similar study conducted on 'Functionalities of Yoga in Developing Mobility Skill in Elderly. Yogic practices might have played a vital role for lubricating the joints so as to improve muscle movement, sense of body position and mobility as the nature of the yogic practices is psycho-physical. Therefore, systematic yogic practices could be justifiably incorporate in daily routine of the Elderly.

CONCLUSION

This study is concluding that '*Ten weeks Yogic intervention*' is effective in improving Mobility Skill in Elderly.

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