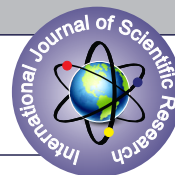


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A PROSPECTIVE OBSERVATIONAL STUDY OF TIMED UP AND GO TEST IN ELDERLY PARTICIPANTS BELONGING TO VARIOUS BODY MASS INDEX CATEGORIES ATTENDING GERIATRIC OUTPATIENT CLINIC IN MADRAS MEDICAL COLLEGE, CHENNAI.



Medicine

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ABSTRACT

Timed up and Go (TUG) test is a simple test to assess the functional status in elderly in outpatient set up. It is the time taken for an elderly to get up from a chair, walk 3 metres and come back. The more time the person takes the more is the functional impairment.

The aim of this study is to apply Timed up and Go (TUG) test in willing elderly participants attending Geriatric outpatient clinic, Madras Medical College, Chennai and compare it among various Body Mass Index (BMI) range participants.

Materials and Methods:

Design: Hospital based prospective Observational study 204 patients were selected and Timed Up and Go test was applied. Sample size was chosen according to our convenience. Body Mass Index was calculated for all the participants

Results: The mean TUG score in under nourished category (BMI < 18.5) was 11.61 seconds.

The mean TUG score in normal category (BMI 18.5-25) was 12.92 seconds.

The mean TUG score in over weight category (BMI 25-30) was 15.24 seconds

The mean TUG score in obese category (BMI > 30) was 13.42 seconds.

Conclusion: There is no statistically significant difference in TUG score between the various BMI categories (p value 0.081)

KEYWORDS

TUGScore, geriatric, BMI,

INTRODUCTION

Functional status assessment is an important component in Geriatric population. Functional impairment is one among the "Geriatric Giants". Functional status can be viewed as a summary measure of the overall impact of health conditions in the context of a patient's physical and psychosocial environment. Functional impairment is common in elderly and causes are varied – age related physiological and cognitive changes, disuse, disease, social factors and interplay between any of these.

Functional status can be measured using variety of tests. Ability to perform basic activities of daily living like transferring, toileting independently can be assessed. Ability to perform advanced activities like managing finances, shopping can also be assessed. To assess all these is time consuming. A simple bed side test to assess the Functional status is Timed Up and Go (TUG) test. In TUG test the patient is asked to sit in a chair without arm rest, get up and walk a distance of 3 metres and come back. Time taken to perform this task is assessed using a stop clock. Time of 12 or more seconds to complete the task indicates impaired functioning in community dwelling older adults. Patient with impairment in Gait and balance may find it difficult to perform the test. Also patient with cognitive impairment will have difficulty to understand the test and perform.

Materials and Methods**Inclusion criteria**

Willing participants above 60 years attending Geriatric outpatient clinic, Madras Medical College, Chennai

Exclusion criteria

Functionally dependent elderly, Dementia, severe visual and hearing impairment

About 204 elderly patients (100 males and 104 females) attending Geriatric Outpatient clinic in Madras Medical college, Chennai were selected. Sample size was selected according to convenience. After getting approval from institutional ethics committee informed consent were obtained from the patients. The selected participants were subjected to TUG test by trained physiotherapists. TUG test was performed for 3 times in all willing participants and the best of 3 scores was taken. Data were documented in MS excel sheet. Age of the participants was verified with available government records. If not available approximate age was calculated with the age of first child and their age at marriage. Body Mass index was also calculated and

documented.

Statistical Analysis:

For continuous data such as age, the descriptive statistics n, Mean, SD, Median, IQR, Minimum and Maximum was presented. For categorical data, the number of patients and percentage was presented. Based on the normality of data, the parametric t test was applied to the data. The Chi-square test was applied to the data. All tests was two-sided at $\alpha=0.05$ level of significance. All analyses were done using Statistical Package for Social Services (SPSS) software Version 21.0 (Armonk, NY: IBM Corp).

Results**Descriptives**

TABLE – 1

Descriptive Statistics		n	Minimum	Maximum	Mean	Std. Deviation
BMI Category						
Less than 18.5	TUG Sec	18	8	30	11.61	5.054
	Valid n (list wise)	18				
18.5 - 25	TUG Sec	110	7	40	12.92	5.266
	Valid n (list wise)	110				
25 - 30	TUG Sec	50	8	55	15.24	8.248
	Valid n (list wise)	50				
> 30	TUG Sec	26	7	30	13.42	4.917
	Valid n (list wise)	26				

Oneway

TABLE – 2

ANOVA					
TUG Sec					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	252.164	3	84.055	2.274	P value .081
Within Groups	7394.008	200	36.970		
Total	7646.172	203			

There is no statistically significant difference in TUG score between the various BMI categories (p value 0.081)

Discussion

Though it was expected that there will be a statistically significant difference in the TUG score among various BMI categories like under nourished (BMI < 18.5), normal weight (BMI 18.5 -25), overweight (BMI 25-30) and obese (BMI >30) our study did not show a statistically significant difference in the TUG score among various BMI categories. Further studies with more appropriately sized sample size may be required to validate this.

CONCLUSIONS

There is no statistically significant difference in TUG score among the geriatric participants between the various BMI categories (p value 0.081)

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