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Impact of six minute walk distance with quality of life in geriatrics population

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Abstract
Background: Ageing is a developmental phenomenon which is associated with changes in body composition that have important consequences on health and physical function. Changes may become more pronounced due to decreased activity level and disuse related to increasing age the six minute walk test (6MWT) is commonly used to estimate the functional exercise capacity in elderly subjects. Quality of life is defined as a concept including a large set of physical, psychological, social and functional aspect of a healthy life.
Objective: The study aimed to correlate functional exercise capacity measured by 6MWT with quality of life measured with SF-36 in healthy elderly subjects.
Material and Methods: 50 healthy elderly subjects aged 60 years and above were included in the study. After assessing the health status of these elderly subjects, they were administered the SF-36 questionnaire and the 6MWT was performed. The scores were tabulated and subjected for statistical analysis.
In this Study Six minute walk test, SF-36 questionnaire outcome measures were used. For statistical analysis Pearson's correlation was used to find out the correlation of 6MWT and QOL**.**
Results: There was a positive correlation between six minute walk distance and SF-36 scores (r=.740, sig .000). Also it was found that age showed a negative correlation with 6MWD and SF-36.
Conclusion: There is a significant correlation between six minute walk distance and quality of life.

Keywords: Ageing, six minute walk test, quality of life, physiotherapy, cardiac rehabilitation

Introduction
Since 1970's the proportion of people over 60 years of age has been growing more than any other age group. It is truly believed that the elderly in expected to reach 67% of the population by 2020 [1]. Ageing is an inevitable development phenomenon bringing along a number of changes in physical, psychological, hormonal and social condition. All the biological and structural changes result in physiological and functional alteration of cardiovascular system [2]. Normal ageing affects all physiological processes. Subtle irreversible changes in function of most organs can be shown to occur by the 3rd and 4th decade of life, with the progressive deterioration with age. Normal ageing process starts from birth till death. Normal changes takes place at different rates and to varying degrees. Changes mainly influence the functional capacity, interaction with others, everyday life and quality of life in later life. By ageing different disabilities and ranges of disability occur in every individual. About 40% of aged 65+ report having at least one disability. Older people report more disabilities than younger people. Major disability occurring in elderly people are difficulties in performing the instrumental activities of daily life (IADLs) or performing activities of daily life (ADLs). Physiological changes occurs during age. The changes occurs in muscular system, skeletal system, neurological system, sensory system, cognition, cardiovascular, pulmonary system, integumentary system, gastrointestinal and renal system. The age related changes occurring in muscular system are Changes in muscle fiber composition: selective loss of type II, fast twitch fibers. Loss of power: significant declines due to losses in speed of contraction. Changes in muscular endurance: muscle fatigue more readily. In Skeletal system-Cartilage changes occur due to decreased water content. By the age of 60, more than 60% of adults have degenerative joint changes. Loss of bone mass and density Loss of calcium, bone strength. Senile postural changes occurs by aging.

Neurological changes-changes occurs in brain morphology like gyral atrophy, ventricular dilation. Decreased cerebral blood flow and energy metabolism Changes in synaptic transmission- slowing of many neural process, especially in polysynaptic pathways. Age related tremors occurs as an isolated symptom, particularly in hands, head and voice.

Sensory system-Older adults experience a loss of function of the senses; alters the quality of life, ability to interact socially and with the environment. In Vision, is a general decline in visual acuity, gradual prior to the sixth decade, rapid decline between the ages 60 and 90.Loss of colour discrimination Decreased papillary response. Hearing-Occurs as early as fourth decade, build up of cerumen may result in conductive hearing loss. Significant changes in the sound sensitivity. Vestibular-Degenerative changes occur in otoconia of utricle and saccule, Loss of vestibular hair cell receptor altered sensory organization.

Somatosensory Proprioceptive losses, increased thresholds in vibratory sensibility beginning around 50 years. Decreased sentivity to touch associated with decline of peripheral receptors, atrophy of afferent fibres. Taste and smell Gradual decrease in taste sensitivity decreased smell sensitivity. Cognition No uniform decline in intellectual abilities throughout childhood Task involving perceptual speed: show early declines, require longer time to complete the task. Learning in older adults is affected by increased cautiousness. Auditory processing may be decreased: provide written instructions. Cardiovascular system. Degeneration of heart muscle with accumulation of lipofuscins; mild cardiac hypertrophy left ventricular wall. Decreased coronary blood flow. Changes in conduction system; loss of pace maker cells in SA node resting blood pressure rise: systolic greater than diastolic Increased blood coagulability.

Pulmonary system Change in lung parenchyma: alveoli enlarge, become thinner.Loss of lung elastic recoil, decreased lung compliance. Altered pulmonary gas exchange Blunted ventilator responses of chemoreceptor's in response to respiratory acidosis, decreased homeostatic response.

Integumentary system Dermis thins with loss of elastin Decresed vascularity; vascular fragile results in easy bruising General thinning and graying of hair due to vascular insufficiency. Gastrointestinal system Decreased salivation, taste and smell along with inadequate chewing Poor swallowing reflex may leed to poor dietary intake. Decreased intestinal mobility; constipation common. Renal system Kidneys: loss of mass and total weight with nephron atrophy, decreased renal bold flow. Bladder: muscle weakness, decreased capacity causing urinary frequency, difficulty with emptying causing increased retention [3].

Cardiovascular adaptation to exercise has been observed in older adults between the ages of 60 and 70 years, even with programs of relatively low intensity (that is some percentage of maximal aerobic power [VO2 max]). Seals *et al*. found that 11 men and women between the ages of 61and 67 years increased their VO2 max an average of 30% in response to a one year endurance exercise programme [4]. These investigators also observed that a program of walking at 40% of heart rate reserve increased Vo2 max by 12%.forty percent of heart rate reserve is well within the capability of most men and women above 60 years of age, even those with mild hypertension, pulmonary disease, arthritis and other limitations. Recently, Hag berg demonstrated that 70 year men and women who trained 3 times per week for 26 weeks at 75% to 85% of Vo2 max increased Vo2max an average of 22% [5].

Ageing results in an important decrease in muscle power and exercise capacity. Therefore elderly often function at the limit of their capacity in order to fulfill the activities of daily living [6]. There is a decrease in exercise capacity in elderly, which affects the ability to perform activities of daily living in a satisfactory manner. according to survey responses gathered from US government from over 43,000 individuals randomly selected in north east, 48% of those between the ages of 65 and 75 years have difficulty with one or more activities of daily living(ADL) [7]. Those between the age of 75 and 85 years have an even higher percentage of ADL difficulty-62%. The majority of the people surveyed indicated that the biggest problem area was walking. Recent survey results indicate that the women make up the greatest proportion of elders with physical limitation [8].

There are different methods to assess cardiovascular fitness in elderly peoples. Each test of the cardiovascular system was originally developed for younger people but the rest can be modified for older people [2]. Test for cardiovascular fitness in elderly include step test and walking test. Step tests are inadequate for measuring the aerobic work capacity as it has its limitation in elderly, especially in those of advanced age. Walking tests are applicable to elderly without balance problems, and are ideal to asses exercise capacity of patients [9]. A substantial percentage of physical difficulty experienced by today's older adult population can be prevented by adherence to a program of simple physical activity, prescribed and promoted by physical therapy. if exercise, in just about any capacity, could be incorporated into the daily routine, a shift to be a healthier, more capable older adult population should and could occur [10].

The benefits of exercise in older adults are well established. Research has shown that for older adults (>65 years of age) exercise can reduce frailty, increase walking speed, improve the ability to live independently and increase life expectancy. Exercise significantly reduces the risk for cardiovascular diseases, adults onset diabetes and osteoporosis [11]. Assessment of functional exercise capacity has gained importance in the evaluation of patients in various diseased states. Timed walking tests are widely used to evaluate functional exercise performance as they are likely to measure the ability to undertake the activities of day to day life [12].

Exercise prescription for older adult is challenging, as often there are factors that may limit activity, or narrow the range of possibilities for exercise. Factors to consider may include, but are not limited to, heart disease, medications that alter heart rate or blood pressure responses, severe osteoarthritis, lung disease osteoporosis and diabetes. Additionally, obesity, painful feet, postural deformity, claudicating and incontinence are other factors that may limit the scope of participation. taking all these factors into consideration and designing a program that is adequately challenging, enjoyable, easy to perform and reasonably inexpensive will tax the most creative of minds [13].

Guidelines recommend that, for people of all ages, a minimum of 30 minutes of daily physical activity of moderate intensity, such as walking is necessary to maintain or develop fitness [14]. those not meeting this standard are considered insufficiently active. In addition the level of disability and reconditioning is a strong predictor of

mortality, and adherence to current physical activity guidelines is associated with significant reduction in risk of all- cause mortality [15]. Therefore, quantifying physical activities in daily life is of great values, especially in sedentary population, and the time spent actively during daily life, together with intensity and frequency, and key issues in the analysis of a population's usual physical activity level [16].

Determination of the remaining physical capacity can be important can be important in clinical decision making. From previous studies it was observed that one in five elderly patients (70 years and over) is unable to execute the classical treadmill based exercise test, either of fear of falling or because of physical or cognitive limitations. The 6 MWT is a valid alternative, evaluating exercise capacity at levels corresponding more to efforts commonly performed by elderly during daily activities [17].

The 6MWT was introduced as a functional exercise test by lip kin in 1986. (18) This test is used to measure the maximum distance a person that a person can walk in 6 minutes. The 6 MWT is commonly used to assess exercise capacity in patient with cardiovascular or pulmonary disease, but has been used in elderly subjects. The 6MWTis a validated, simple, safe and low cost field technique often used to regularly assess functional exercise capacity. A literature search using the Medline database revealed 72 papers in which the 6MWD was used in various diseases, either to estimate functional performance and exercise capacity or to evaluate treatment efficacy. Its results are highly correlated with those of 12minute walk test from which it was derived and with those of cycle ergo meter or treadmill based exercise test [18]. The 6MWD was proposed and has been accepted as a reliable test to measure functional exercise capacity. It has been used extensively in research into heart and lung diseases. 6MWTis also a valuable instrument to assess progression of functional exercise capacity in different clinical intervention. The reliability of test in healthy elderly persons is high (intra class correlation=0.93) [19] and is considered as valid and reliable test to assess the exercise capacity of elderly patients with chronic heart failure and COPD [20].

Health promotion policies for encouraging in elderly to remain active and independent and that have positive effect on their quality of high a concern for countries going through. This demographic transition. QOL represents an individuals responses to physical and mental factors that contribute towards a normal life permeated with personal satisfaction, self-esteem comparisons to others, previous experiences, financial situation, general health status and emotional state. Quality of life should not be confused with the concept of standard of living, which is based primarily on income [21].

QOL of life is defined as a concept including a large set of physical, psychological, social and functional aspects of a healthy or ill persons life. Several studies have been developed to examine the importance of health quality in old age [22]. Man of them have emphasized the importance of physical activity or mobility as a way of improving organic conditions and slowing physical degenerations. Evidences show the beneficial affect on active life style, mainly if physical and functional autonomy can be maintained throughout ageing: that minimizes degeneration improving health and quality of life. the reduced physiological capacity evident with aging may affect the ability to perform many tasks, potentially affecting QOL.

The SF-36 questionnaire was developed from the medical outcome study surveys. the SF-36 is short form of health related to quality of life scoring system with only 36 items and that includes 8 independent scales. The 8 independent scales are physical functioning, role limitation due to physical health, role limitation due to emotional problems, energy/fatigue, emotional well being, social functioning, pain and general health. it is a well documented, self administered questionnaire and has been widely used and validated [23].

Correlation does not necessarily imply causation, as you read scientific research. A correlation study is a type of study in which two (or more) variables are measured and compared in a large group of individual Most of the variables show some kind of relationship. For instance there is a relationship between price and supply, income and expenditure etc. With the help of correlation analysis we can measure in one figure the degree of relationship. Once we know that two variables are closely related, we can estimate the value of one variable given the value of another. This is known with the help of regression. progressive development in methods of science and has been characterized by increase in knowledge of relationship. The effect of correlation is to reduce the range of uncertainty. The prediction based on correlation analysis is likely to be more variable and near to reality. If two variables change together in same directions, we say that the variables change together in same direction. If two variables change together in opposite direction, we say that the variables are negatively correlated [24].

The aim of this study is to correlate the Six Minute Walk distance with quality of life in elderly individuals by using the six minute walk test in elderly subjects.

Materials and Methods

A total number of 50 elderly subjects of the Age 65 years and above were included in the study. Both the gender, BMI < 35kg/ m2, Sedentary subjects and not involved in any competitive sports, cognitive ability to follow instructions and Subjects independent in basic activity of daily living were included in the study. Patient with any present orthopaedic, neurological or cardiorespiratory conditions influencing the exercise capacity, balance, coordination and endurance. Subjects with Unstable angina or acute myocardial infarction within one month. Inability to answer the assessment questionnaire due to serious hearing problems or severe communication disorder were excluded from the study. Correlational observational study design Subjects will be included in the study from the old age homes and community dwellings in and around Mangalore in 2015.

After the initial assessment, the participants who meet the inclusion and exclusion criteria, were selected for the study. A written consent was taken from the subject, and all the procedures were explained. The actual sample size to be taken was 50 but because of the feasibility only 35 elderly subjects were taken. A pre measured level hallway, stopwatch, markers, cone, chair, spirometry etc. were arranged for the test. Subjects were made to sit in a chair placed near the starting position. SF 36 questionnaire was given to the elderly subjects and asked to fill the questionnaire. They were instructed to walk from one end to

the other at their own pace in order to cover as much distance as possible by them. A 30 meter course was marked in a hallway, the length of the corridor was marked every 3 meter with a chair placed at each end. The turn round point was marked with a cone. The starting line and end of each 60-m lap were marked on the floor using brightly colored tape. The subject was made to sit at rest in chair, located near the starting position, for at least 10 minutes. Before starting the test blood pressure and pulse was checked. The timer was started as soon as the subject starts walking. Each minute the patient was instructed with a standardized statements like "you are doing well", "keep up the good work". The patients were asked to rest if they were not feeling well in between and asked to resume walking as soon as they are able to do so. After 6 minutes is test is considered to be over, the therapist asks the subject to stop. After that the distance walked was measured to the nearest meter. The six minute walk distance and SF 36 scores will be tabulated and subjected to statistical analysis.

Subject performing 6 minute walk test

Data Analysis

Descriptive statistics was used to find out mean, standard deviation and range for demographic data. Pearson correlation was used to find the correlation between 6MWD and QOL. Microsoft word excel was used to generate graphs and tables etc.

Results

Table 1: Shows the Mean Age of the Population Which Is 68.32±5.35 Respectively

	N	Minimum	Maximum	Mean	Std. Deviation
Age	35	65	85	68.32	5.355

Table 2: Shows the mean of the 6MWD, which is 337.47 ± 94.92 respectively.

	6MWT
Mean	337.47
Standard deviation	94.92

Table 3: Shows correlation of 6 minute walk distance with age

Correlations			
		Sixmwd	Age
Sixmwd	Pearson Correlation	1	-0.110
	Sig. (2-tailed)		0.530
	N	35	35
AGE	Pearson Correlation	-0.110	1
	Sig. (2-tailed)	0.530	
	N	35	35

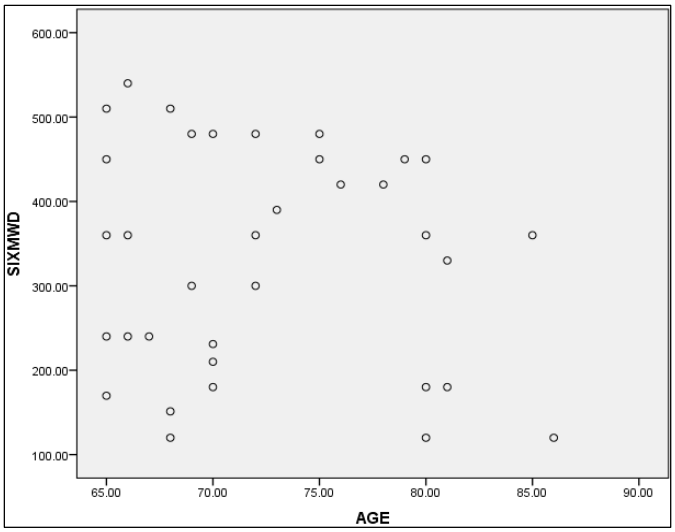

Fig 1: Shows the correlation of Six minute walk distance with age

Table 3 and Figure 1 shows correlation of 6MWD with AGE (r=-.110) Sig 0.530 (2 tailed) shows a negative correlation between 6MWD and AGE.As age increases the six minute walk distance gradually decreases.

Table 4: Shows Correlation of Age with Sf36

Correlations			
		AGE	TOTAL
AGE	Pearson Correlation	1	-.165
	Sig. (2-tailed)		.343
	N	35	35
TOTAL	Pearson Correlation	-.165	1
	Sig. (2-tailed)	.343	
	N	35	35

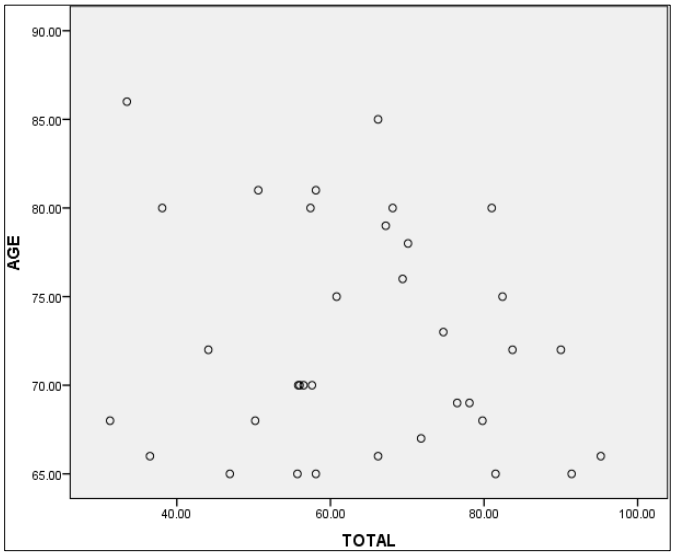

Fig 2: Shows correlation of AGE with total SF-36 score.

Table 4 and figure 2 shows correlation of age with total SF-36 score (r=-.165), which shows a negative correlation between age and total SF-36 score. This shows that as age increases the quality of life also decreases.

Table 5: Shows Correlation of 6 Minute Walk Distance with Of the Pf

Correlations			
		SIXMWD	**PF**
Sixmwd	Pearson Correlation	1	.479**
	Sig. (2-tailed)		.004
	N	35	35
PF	Pearson Correlation	.479**	1
	Sig. (2-tailed)	.004	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

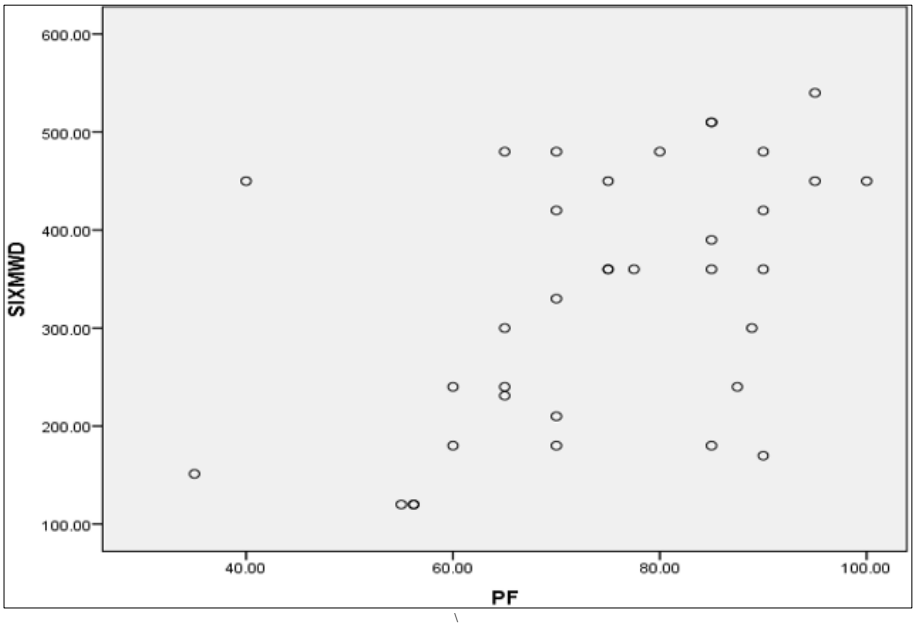

Fig 3: Shows correlation of 6MWD and physical functioning which is the sub score of SF-36.

Table 5 and figure3 shows correlation of six minute walk distance and physical functioning (r=.479, sig=.004). Correlation is significant at 0.01(2- tailed) which shows a positive correlation between 6MWD and physical functioning.

Table 6: Shows Correlation of 6 Minute Walk Distance with Of the Rlph

Correlations			
		Sixmwd	**Rlph**
Sixmwd	Pearson Correlation	1	.627**
	Sig. (2-tailed)		.000
	N	35	35
RLPH	Pearson Correlation	.627**	1
	Sig. (2-tailed)	.000	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

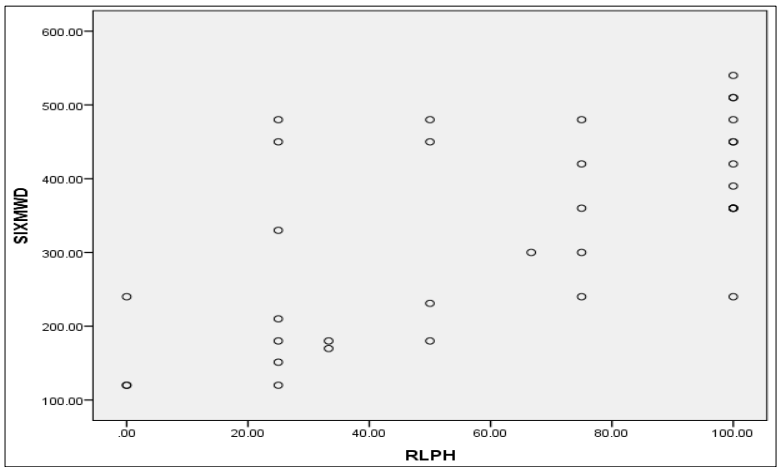

Fig 4: Shows correlation of six minute walk distance with RLPH

Table 6 and figure 4 shows correlation of 6MWD with RLPH (r= .627, sig = .000). Correlation is significant at the 0.01 level (2- tailed) which shows positive correlation of 6MWD with RLPH.

Table 7: Shows correlation of 6MWD with role limitation due to emotional problem

Correlations			
		SIXMWD	**RLEP**
SIXMWD	Pearson Correlation	1	.466**
	Sig. (2-tailed)		.005
	N	35	35
RLEP	Pearson Correlation	.466**	1
	Sig. (2-tailed)	.005	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

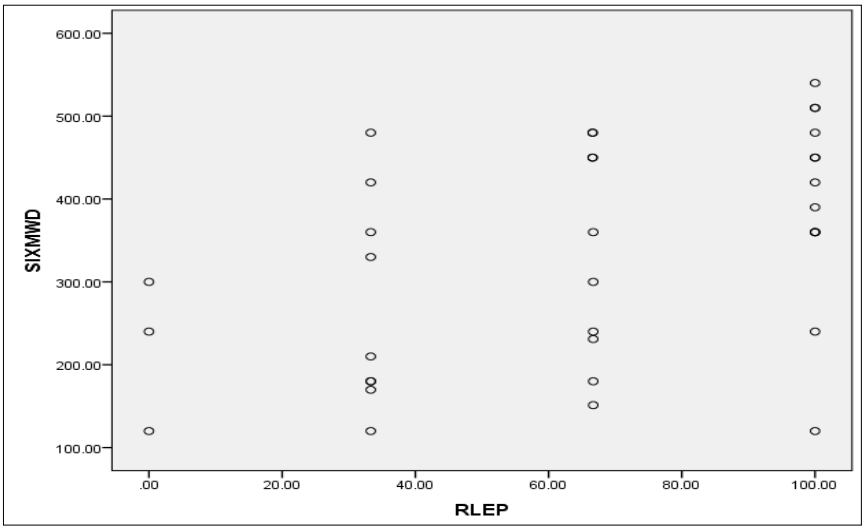

Fig 5: Shows correlation of 6MWD with RLEP

Table 7 and figure 5 shows correlation of 6MWD with RLEP (r= .466, sig = 0.005). Correlation is significant at the 0.01 level (2- tailed) which shows a positive correlation between 6MWD and RLEP.

Table 8: Shows Correlation of 6 Minute Walk Distance with of the Energy

Correlations			
		SIXMWD	**ENERGY**
SIXMWD	Pearson Correlation	1	.608**
	Sig. (2-tailed)		.000
	N	35	35
ENERGY	Pearson Correlation	.608**	1
	Sig. (2-tailed)	.000	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

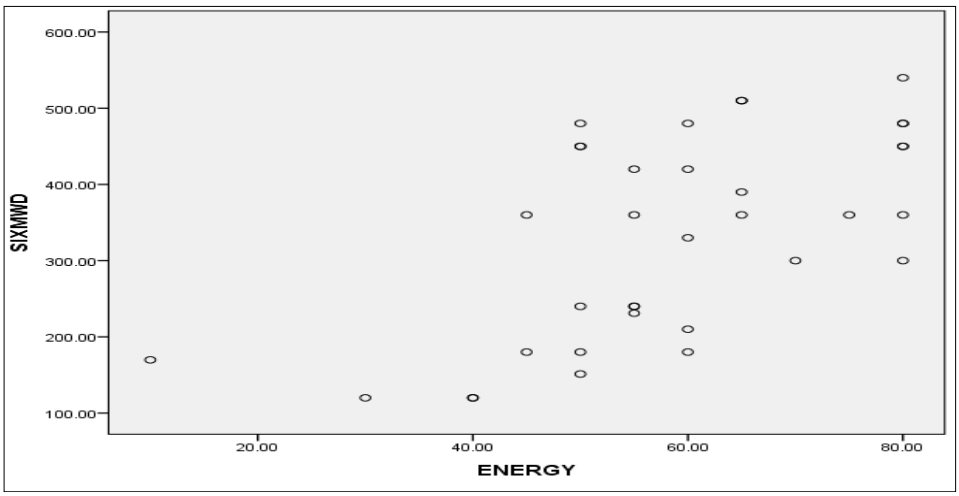

Fig 6: Shows correlation between 6MWD with ENERGY

Table 8 and figure 6 shows correlation between six minute walk distance and energy (r= .608, sig =0.000). Correlation is significant at the0.01 level (2- tailed) which shows positive correlation between six minute walk distance and energy.

Table 9: Shows Correlation of 6 Minute Walk Distance with Of the Ewb

Correlations			
		SIXMWD	**EWB**
SIXMWD	Pearson Correlation	1	.342*
	Sig. (2-tailed)		.044
	N	35	35
EWB	Pearson Correlation	.342*	1
	Sig. (2-tailed)	.044	
	N	35	35
*. Correlation is significant at the 0.05 level (2-tailed).			

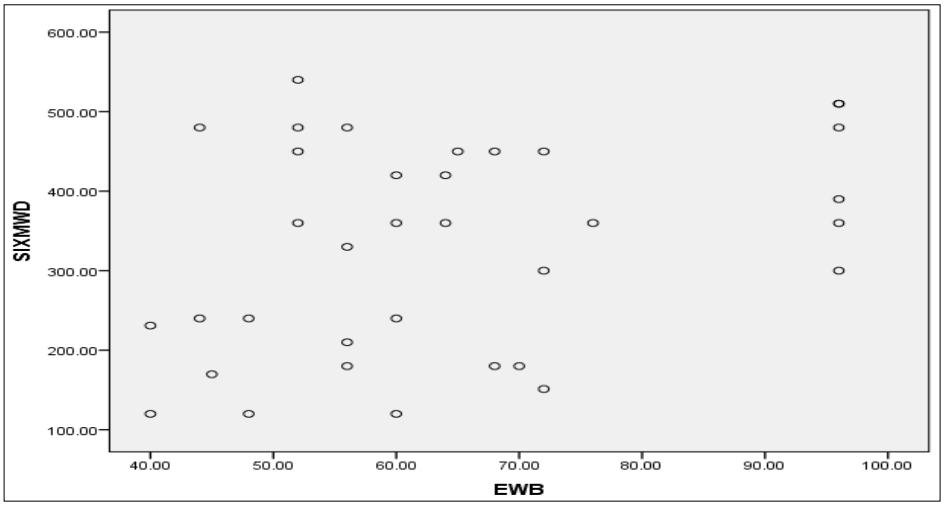

Fig 7: Shows correlation between 6MWD and EWB

9 and figure 7 shows correlation of 6 minute walk distance with EWB (r= .342, sig= .044). Correlation is significant at the 0.05 level (2- tailed) which shows a positive correlation between six minute walk test and EWB.

Table 10: Shows Correlation of 6 Minute Walk Distance with Of the Soc

Correlations			
		SIXMWD	**SOC**
SIXMWD	Pearson Correlation	1	.507**
	Sig. (2-tailed)		.002
	N	35	35
SOC	Pearson Correlation	.507**	1
	Sig. (2-tailed)	.002	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

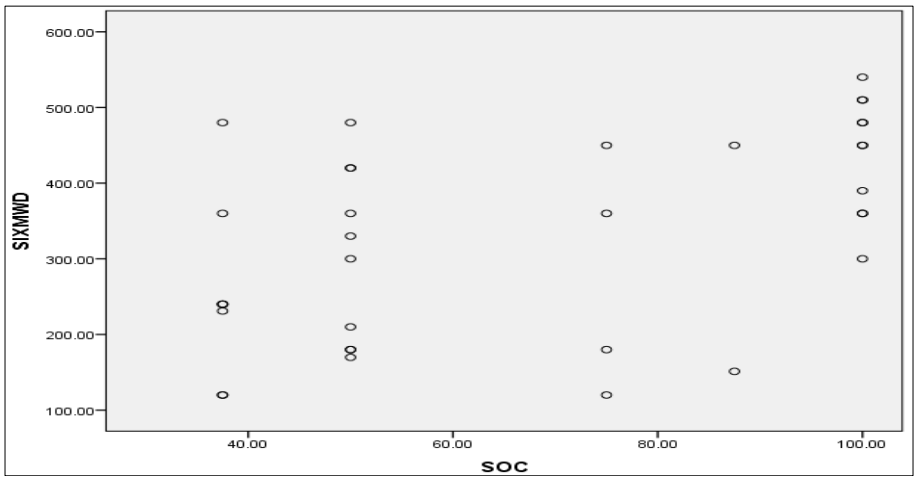

Fig 8: Shows correlation of 6MWD and social functioning.

Table 10 and figure 8 shows correlation of 6MWD with social functioning (r= .507, sig= .002). Correlation is significant at the 0.01 level (2- tailed) which shows a positive correlation of 6MWD and social functioning.

Table 11: Shows Correlation of 6 Minute Walk Distance with Of the Pain

Correlations			
		SIXMWD	**PAIN**
SIXMWD	Pearson Correlation	1	.473**
	Sig. (2-tailed)		.004
	N	35	35
PAIN	Pearson Correlation	.473**	1
	Sig. (2-tailed)	.004	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

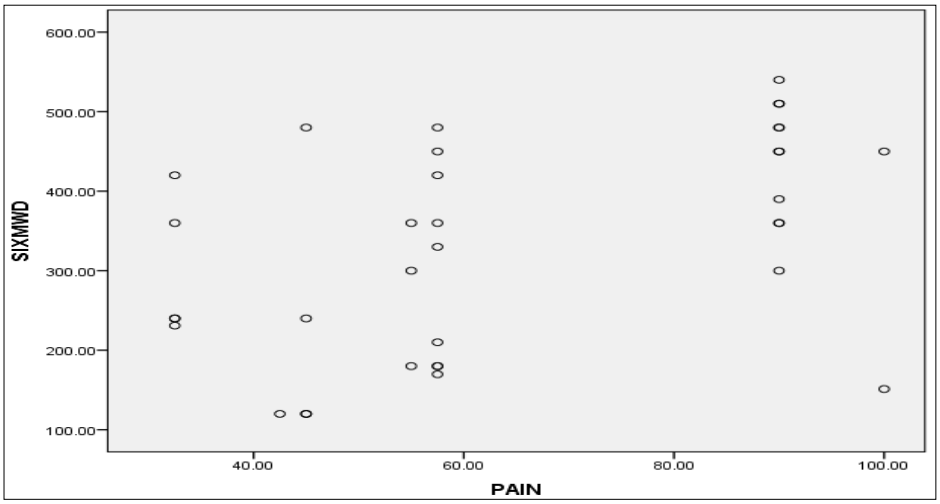

Fig 9: Shows the correlation of 6 MWD and pain

Table 11 and figure 9 shows correlation of 6MWD with pain (r= .473, sig = .004). Correlation is significant at the 0.01 level (2- tailed) which shows a positive correlation of six minute walk test with pain.

Table 12: Shows Correlation of 6 Minute Walk Distance with Of the Gh

Correlations			
		SIXMWD	**GH**
SIXMWD	Pearson Correlation	1	.184
	Sig. (2-tailed)		.289
	N	35	35
GH	Pearson Correlation	.184	1
	Sig. (2-tailed)	.289	
	N	35	35

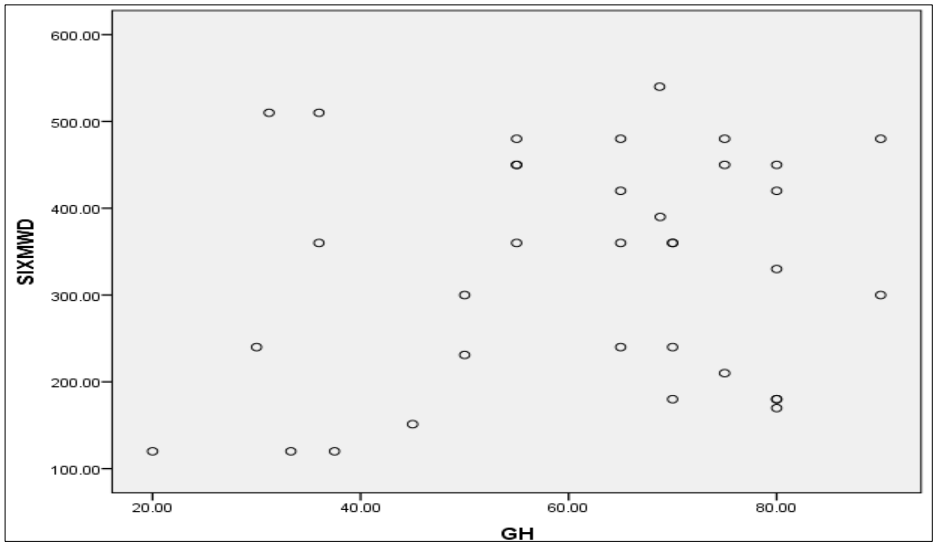

Fig 10: Shows correlation of 6MWD with general health

Table 12 and figure 10 shows correlation of 6MWD with general health (r=.184, sig =.289) correlation is significant at the 0.01 level (2-tailed)

Table 13: Shows correlation of 6 minute walk distance with total score-sf36

Correlations			
		SIXMWD	**TOTAL**
SIXMWD	Pearson Correlation	1	.740**
	Sig. (2-tailed)		.000
	N	35	35
TOTAL	Pearson Correlation	.740**	1
	Sig. (2-tailed)	.000	
	N	35	35
**. Correlation is significant at the 0.01 level (2-tailed).			

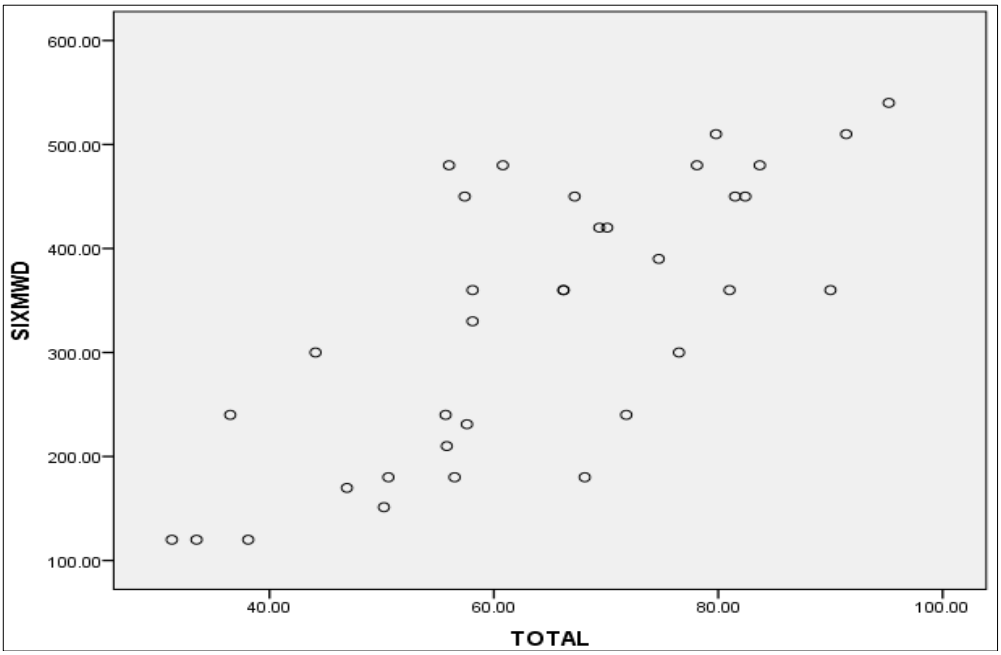

Fig 11: Shows correlation of 6 minute walk distance with total score of SF-36 score.

Table 13 and figure 11 shows correlation of six minute walk distance with total score of SF-36(r= .740, sig = .000) correlation is significant at the 0.01 level (2- tailed) which shows correlation between 6MWD with total score of SF-36.

Discussion

In the present study the 6MWD has been correlated positively with QOL scores. The 6MWD has also been correlated positively with the individual domains of SF-36 in healthy elderly people.

The ageing process results in a significant decrease of muscle power and exercise capacity. The elderly often function at the limit of their capacity in order to fulfill the ADL. Elderly people sometimes find it difficult to execute the treadmill based exercise tests, either due to fear of falling or because of physical or cognitive limitations.

Simple walking tests are widely used for the assessment of functional status in elderly people. The 6MWT presents several advantages for the evaluation of functional exercise capacity in older adults. 6MWT is considered as a valid, reliable, easy to apply and well tolerated test which reflects the ability to execute ADL. According to Pires *et al*. the variability of the test results amoung healthy elderly subjects can be explained by age, gender, height and weight [52].

QOL is defined as a concept including a large set of physical, psychological, social, functional aspect of a healthy or ill person's life. The SF-36 is a scale which is widely used to assess health related quality of life. It consists of a scoring system with only 36 items that includes 8 independent scales. QOL is an independent evaluation of the subject's life done by himself or herself. Dekhuijzen *et al*. found that the ADL score improved in the training group, and that it correlated to well-being [53].

The present study aimed to correlate the functional exercise capacity with QOL in healthy elderly people. The results showed a significant correlation between the functional exercise capacity measured by 6MWD and Quality of life measured by SF- 36.

Lambert M *et al*. (2004) [49] found a partial correlation between 6 MWD and health status. Bendstrup K E *et al*. (1997) [44] have also established a correlation between ADL and 6MWD.On the other hand, Jones P W *et al*. (1998) [51] while studying correlation between 6MWD, QOL and spirometry, did not find any relationship between 6MWD and QOL. But the American College of Sports Medicine states that individuals of all ages should maintain a minimum of 30 minutes of moderate exercise(e.g.- walking) per day to maintain or develop fitness [54].

Fabio P *et al*. 2004 [55] did a study in healthy elderly subjects, walking time in daily life was positively correlated with peak oxygen consumption (r=0.47, p=0.02) and negatively correlated with body mass index. Age and sex were not significantly related to any outcome of the activity

monitor in all populations [55]. The review provided some evidence that the SF-36 is a relatively stable metric when used as a repeated measure in the same healthy population over moderate time periods. However, it did not establish whether the secular decline in SF-36 scores represented significant change. There has been debate about the amount of change that is considered socially and clinically relevant (Abbott *et al*., 2006) [56]. Some researchers have argued for a minimum of five points and some ten points Panopalis *et al*., 2005) [56].

In the present study the 6MWD has been correlated positively with QOL scores. The 6MWD has also been correlated positively with the individual domains of SF-36 namely physical functioning, role limitation due to physical health and energy, role limitation due to emotional problem, energy, emotional well being, social functioning, pain, general health. And it also showed a negative correlation of age with 6MWD and QOL.

The functional exercise capacity measured by 6MWD was seen to be related to the physical activity related domains of the SF -36 but not to the emotional related domains.

The correlation obtained between 6MWD and QOL indicates the ability of the simple test to predict physical, psychological, social, functional aspects of a persons life. The 6MWD has already been correlated previously with ADL, maximum oxygen consumption and health status. The present study results indicate that 6MWT can also predict the QOL and is able to relate well with emotional, social and physical aspects of a persons life.

Conclusion

There is significant correlation between functional exercise capacity measured by 6MWT and quality of living measured by SF-36 scale. The 6MWD was also positively correlated with each of the sub scores of SF-36.But age was seem to be negatively correlated with 6MWD and SF-36. The 6MWD seems to be able to predict the quality of living in community dwelling elderly People.

The study was done on relatively small sample size of population composed of both men and women. The results require confirmation in a larger population of each gender. Sampling was done from a small geographical area which might not be representative of the large elderly subjects. All the measurements were taken manually and this may introduce human error which might affect the reliability.

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