RESEARCH PAPER

Association of Quality of life in relation with Functional mobility and cognition among the geriatric population

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ABSTRACT

This study provides insights into QoL with Functional mobility and with cognition among geriatric population. Study employed a community based cross sectional design to evaluate QoL among older adults. The Study included 81 participants' from different areas of Ahmedabad. Participants completed two subjective scales i.e. SF-12 and MMSE of the Gujarati language followed by task of timed up and go test, conducted for mobility. Participants had a positive and weak level of QoL with PCS-12 (0.296) indicate that higher physical health parameter could be perceived as better QoL. Weak and positive association with MCS-12 with a correlation coefficient 0.213, suggests atleast relationship with mental health and QoL in participants. Mobility with physical component PCS-12 had a negative and weak correlation of -0.269, a positive weak correlation from the mental component summary MCS-12 i.e. 0.016. The findings from the Study showed that a weak and positive correlation with QoL and cognition. This showed that quality of life and cognition were being good indicators for improving well being of geriatric population. There was weak and negative correlation between functional mobility and quality of life, which elaborates that when there is limitation or restriction in physical activity it will have influence on quality of life. The overall improvement and assessment of geriatric population definitely affect by functional mobility, cognition and quality of life.

Keywords: Geriatric population, cognition, functional mobility, Quality of life, SF-12.

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1. INTRODUCTION

Globally, health issues are increasing at independently, lack of improvements in healthcare, sanitation and life expectancy. Population ageing is recognized as most significant demographic transitions of twenty-first century. Increasing in ageing process is closely related with deterioration in cognition, which involves decline in memory, functioning and processing speed. These cognitive function adversely affect daily living activity, interact socially, and live without dependency. Currently, India is a rapidly rising population. With declining in fertility rate and rapid increase in life expectancy, the proportion of elder population is also increasing. By 2050, the geriatric population in India will rising more than three times compared to the present scenario. This tragic rise in older adults shows a significant shift in country's demographic structure.With this shift, health, social, and economic development will also being affected[1]. Presence of comorbid conditions, marital status and family type can also affect quality of life. Women tended to have better quality of life than men.[2]

Quality of life is multidimensional which encompasses physical health, mental health, psychosocial well-being, level of independence, and surrounding factors[3].The WHO defines QoL as an "individual perception of position in their life with the context of culture and value systems in which they survived.Physical health and functional independence are consistently considered as major determinants of quality of life with geriatric population[4].It is majorly affected in hospitalized patients. Longevity had increased globally, it also impacts on extended lifespan which not affect health span of the older adults. Ozge et al showed that impaired cognition, higher levels of anxiety, and depression adversely affected quality of life in elderly population who require inpatient care.[5]Ozge also included a scale of depression, including other psychological problems in the study to rule

out connection between quality of life and cognition. Consequently, increasing with aging researches, prioritizes maintenance of quality of life more than on survival.

Cognitive function, encompasses memory, executive functioning, attention and processing speed with age related changes a proportion of geriatrics go through mild cognitive impairment or severe neurodegenerative changes like dementia. Cognitive function influences independence, decision making ability, social interaction, and accomplishment of activity of daily living. Cognitive decline adversely affects health status and overall QoL among the elders.[6] Executive functions played important role in decision making, judgment, and regulation of goal-directed behavior. All these functions are essential for safe mobility and independence. Impairments in memory, problem solving, leads to medications dependence for safety and social engagement. Reducing the functions of these could make simple task more complexed and time-consuming. As task complexity increases, older adults face greater difficulty due to impaired executive function.

Functional Mobility refers to ability of an individual to move independently and safely. Age related physiological changes includes sarcopenia, decreased neuromuscular coordination, reduction in sensory integration, it contributes to decline in mobility and physical functions among older adults[7]. Decline in functional capacity with age increases the risk of depression andinactivity that negatively affect quality of life. Functional mobility gives freedom to perform daily living activities like walking, transferring, ascending stairs. Isolated elders are strongly associated with worse psychological problems and other health outcomes[8]. Several studies demonstrated physical activity with everyday mobility associated with quality of life. Contextual factors also played part in affecting the quality of life. Quality of life is not influenced by a person's physical activity but mobility[8]. Performance-based mobility like walking speed, balance and transfers had association with quality of life among geriatrics. It is more than self-reported mobility of elder population explained by Gill et al. They had done prospective observational study, 50-69 years population. Quality of life assessed by ED-EQ and mobility was measured by TUG. [9]

Research done earlier gave importance to functional mobility and cognitive impairment. They had considered these two are primary factors which contributes to quality of life. Decline in mobility cause dependence on others, limits the daily living activities, least participation in social activities and increase adverse outcomes like falls, disability. Likewise, cognitive impairment also affects decision making, emotional reactions, social gatherings, these all contributes in quality of life. Eventually, both mobility and cognition are independently consider as major contributing factors for healthy ageing.

Although there are researchers which deeply associated with cognition and functional mobility but there is significant gap in understanding the strength, character and combine influence of functional mobility and cognition on quality of life. There are existed literature examined the association between quality of life with cognition and quality of life with mobility isolated. No far studies were found as association with cognition and functional mobility. Few studies have focused on predominantly on early geriatric age category like 50-60 years which limits the findings at broader level for older age group.

This study considers these limitations by increasing the age limit of the population which include broad range like 60-90 years. This age category in cult's broader age range which had association of functional exposure. All factors like higher risk of multimorbidity, functional dependence and cognitive impairment exerts effect on quality of life. This study provides more comprehensive understanding of mobility and cognition influence on quality of life.

Additionally, the present study ruled out association between functional mobility and cognition, major determinants of quality of life. Mobility tasks more depend on cognitive functions such as attention, executive function and motor planning and it is more coordinated in complex and dual task activity. Decrease in mobility leads to reduction in social engagement, decrease physical activity and it also restricts the survival in environmental circumstances. Knowing this inter relation of mobility and cognition it is essential to develop the assessment which coordinate this with quality of life.

Illuminate the quality of life with mobility and cognition the present study aims to create a valuable findings for academicians, clinical practitioners and researchers. This particularly help for geriatric rehabilitation interventions, public health benefits, policy makers. Also, it can also be supportive for healthy ageing and enhancing quality of life among older adults. This study can be beneficial for further future study with more relevancy to preserve mobility and well-being of older adults.

2. METHODS:

2.1 Setting and Design

Data collected from cross sectional survey as various places old age shelter homes and residential homes from Ahmedabad. A pilot study was conducted to calculate the sample size of the study. Once pilot study done, the data collection for original research was began.

2.2 Sample and Participants

The cross sectional study enrolled persons aged 60 yrs. and above. Both males and females were included in the study. Participants prepared to participate were enrolled in study. Moreover, participants who were able to read, write, and communicate with Gujarati Language included in the study. Subject walk, with or without ambulatory aids also considered in the study. Sample size of 80 individuals included in the study at level of significance 0.05.

Participants were selected by purposive sampling which includes age criteria, demographic information. Oral consent was documented through consent. Participants participated in the study, required to filled scales SF-12 AND Mini Mental Scale Examination of Gujarati language.

2.3 Data Collection and Measures

After completing the pilot study, few modifications done to the study protocol. Data collection was carried out for period of 6-8 weeks. Data collection was done over duration of 6-8 weeks, depending on the sample size and inclusion criteria. Data collection was also done on the basis of availability, feasibility of the participants.

Participants who were eligible identified by screening method. Before, data collection began all participants informed about the procedure and a written consent was collected. Subjects were assured of confidentiality, participation and they also have right to withdraw prior without any consequences.

Collection of data carried out in structured and defined manner. Participants were asked to provide information like demographic details, their residential detail, BMI, medical history, use of external aids or devices. After all this procedure, participants were assessed for cognitive impairment, quality of life and functional mobility.

Cognitive function was assessed by using Mini Mental State Examination (MMSE). This tool examine screening tool to evaluate the cognitive domains like memory, orientation, calculation, attention, recall and language. This tool was assessed by face to face interview and scores was recorded according to standard guidelines. The scale frequently used to measure cognitive impairment by folstein. Scale evaluate patient's degree of cognitive disorder. Scoring of scale is calculated by sum of all scale components. Scale can be used for diseased as well as healthy population. Validity and reliability of MMSE assessed according to levels of education and threshold value with 23/24 out of 30.

MMSE demonstrated reliability and specificity and sensitivity[11].

2.4 Timed Up and Go Test [11]

Functional mobility was assessed by using Timed Up and Go (TUG). This tool assess mobility, static balance, dynamic balance in individuals. It is an inexpensive method that was developed to screen basic mobility of individuals. Outcome is the time taken in seconds. Score of Timed Up and Go test is calculated as average of two trails. Participants instructed on the command GO they should stand up, walk to line on floor, turn around and walk back to chair and sit down. Participants asked to walk at their regular pace. The test was carried out in safe environment and subjects asked to practice once before too familiar with the procedure.

Timed Up and Go test demonstrated high Interrater Reliability ICC= 0.91 and test reliability test retest ICC= 0.92[11].

Health related quality of life was examined by SF-12 scale. The SF-12 scale are divide into physical and mental components. Following are the components of the scale like general health, physical function, role physical, role emotion, bodily pain, mental health, energy fatigue, social functioning. Participants were asked to respond the questionnaire based on their experiences, in their past. Subjects were also provided assistance for those questions in which they had difficulty or bad experience.

The scoring format of SF-12 summarized score of PCS-12 and MCS-12. All the 12 questions are involved in the scoring. Maximum scoring of PCS-12 and MCS-12 is 56.57 & 60.75 respectively.

The scores are taken in average difference from USA population of 50 points based on United States Population where each point states a standard deviation away from the average. Score are given weightage from lower to higher .i.e. from 0 to 100.

Score developer John E. Ware used indicator variable for calculating the scores. In this study for scoring **ORTHOTOOL KIT** is been used which shows same score as in original form.

Reliability= 0.80[13]

All the above tests was conducted by same trained investigators to reduce the observer variability. Structured procedure were followed throughout the data collection duration.

3. RESULTS:

Data analysis was done using statistical software. Descriptive statistics were used to summarize demographic characteristics and outcome measures. The study examined association between quality of life with Cognition and Mobility among elders. The mean age of the sample, 72.3. Total 81 sample included in the study, out of which 50 participants were Male & 31 female. The age category of the respondents range from 60-94 years. In terms of BMI, mean of the participants was 23.86.Cognitive impairment in the participants of present study is very less in terms of severe cognitive impairment i.e. 3, mild cognitive impairment was 34 and normal cognitive functions were 44. Mobility function of the participant has mean value of 27.03±15.44. For Quality of life the components are divided Physical Component Score (PCS-12) & Mental Component Score (MCS-12), mean value of PCS-12 was 41.65 & MCS-12 was 43.16 showed in Table 1.

As the data did not follow a normal distribution, Spearman rank correlation analyzed to examine the association between QoL and functional mobility and quality of life with cognition function, assessed by Timed Up and Go test. Statistical analysis kept at significant level of $p < 0.05$. Correlation coefficient was interpreted according to guidelines with values ranging from -1 to 1. Values 0.1 to 0.3 interpret weak correlation, 0.4 to 0.5 interpret moderate correlation and more than 0.5 considered strong correlation. Values could be negative or positive which depend on the score interpretation of the outcome measures.

Table 1 Basic Characteristics of the Subject

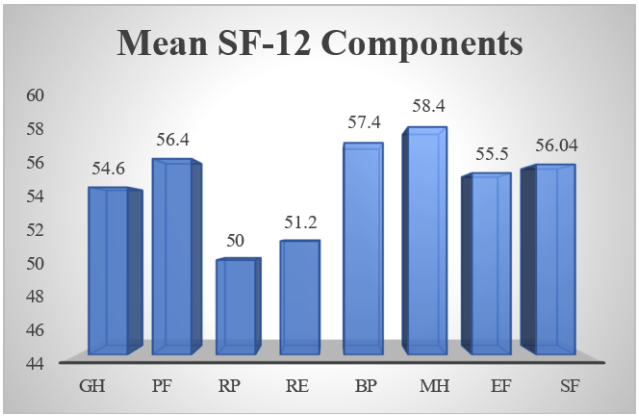
Variables	N
Age	72.38
BMI	24.28
Male	50
Female	31
Normal Cognition	44
Mild Cognitive Impairment	34
Severe Cognitive Impairment	3
TUG	27.03±15.44
(QoL), PCS-12	41.65
(QoL), MCS-12	43.16

Table 2 Correlation between Variables

Spearman Correlation	N	r	p value
PCS-12 & MMSE	81	0.32	p<0.05
MCS-12 & MMSE	81	0.20	p<0.05
PCS-12 & TUG	81	-0.34	p<0.05
MCS-12 & TUG	81	-0.02	p<0.05

Table 2 showed correlation between MMSE & PCS-12, moderate positive correlation 0.32, interprets better physical component of quality of life improve cognition. Although MMSE with MCS-12, employed weak positive correlation showed in table 2.

Functional mobility has direct relationship with physical component QoL, which is showed in negative and weak correlation value, -0.34. Whereas there is no correlation between mental component and mobility.



GH(general health), PF(Physical Functioning), RP(Role Physical), RE (Role emotional), BP (bodily pain), MH (mental health), EF (energy fatigue), SF(social functioning)

Table 3 explained the mean scores of QoL domains showed that moderate level of QoL among the participants. The physical component indicates higher score in Bodily pain scored 57.4. This suggests that people had lower pain perception with less pain interference with activities of daily living. Physical Functioning dictates mean value of 56.4, shows ability to perform basic physical activities.

Role Physical records 50 mean value, which is lowest score among physical components of QoL. It reflects that there are limitations among participants to perform daily living activity. Restrictions to perform daily living activities may be due to body pain, mental health, chronic illness etc.

Mental health component of SF-12 included social functioning, energy fatigue and role emotion. Among mental component of SF-12, highest scored showed MH i.e. 58.4 followed by social functioning scored 56.04. Interaction with community makes better socializing and generate emotional bonding with family as with as community members. Role emotional showed mean valued 51.2 relatively lower than mental health. Moreover, mental component of SF-12 could have more impact on physical component. Lastly, general health, which reflects overall well- being of the participants indicates mean 54.6 showed in table 3. Results measured in table 3 generate that further interventions could be done focusing on participation of the subjects in physical activity which could enhance mental component along with overall quality of life.

CORRELATION COEFFICIENT WITH SF-12 COMPONENTS								
SF-12 COMPONENTS	GH	PF	RP	RE	BP	MH	EF	SF
GH		0.35	-0	0.12	0.28	0.14	0.26	0.14
PF			0.391	0.2	0.41	0.11	0.17	0.25
RP				0.55	0.27	0.13	0.12	0.04
RE					0.25	0.13	0.25	0
BP						0.27	0.38	0.38
MH							0.18	0.44
EF								0.11

Table 4 showed that correlation analysis among the components of SF-12. The interrelationships demonstrates different value which results from no correlation to moderate correlation. This correlation is dependent internally with physical on mental or vice versa. General Health (GH) showed positive and moderate correlation with physical functioning (r = 0.35). No correlation observed with general health and role physical i.e. r = 0, this interprets that role physical may or may not impact general health. Lower positive correlation showed with bodily pain (BP) and mental health (MH) i.e. r = 0.28 & r = 0.14 respectively. This evaluates that bodily pain and general health does not uniformly played important role to relate with general health of the participants.

Physical Functioning (PF) demonstrates positive and moderate correlation with role physical (RP) , r = 0.39 and bodily pain (BP), r = 0.41. Physical activities are associated with body pain and contribute with participation for role physical. There was relatively weak positive correlation of Physical Functioning with role emotion, mental health and social functioning showed in table

3. Results interprets that psychological factors had low and least affection physical functioning. Role Physical in SF-12 measures that limitations in daily work and activities. Role Physical exhibits strong positive correlation with role emotional, (r = 0.55). This highlights close interdependence of physical and emotional limitations in daily work. Limitations of activity in routine life had weak positive correlation with mental health, energy fatigue and social functioning i.e. (r = 0.13), (r = 0.12) & (r = 0.04) respectively.

Role emotional assesses limitations in the work due to emotional problems. This reflects whether emotional issues like anxiety, depression or other mental problems interferes with daily activities. Low and positive correlation role emotional had with bodily pain i.e. (r = 0.25). There is no correlation of role emotional with social functioning suggests that social participation had poor association with role emotional.

Bodily pain indicates positive and moderate correlation with mental health (MH), (r = 0.27), and social functioning (r = 0.38) showed in table 3. Bodily pain measures the level of pain and its interference with daily activity. Above results dictates that bodily pain had low association with social functioning and mental health among participants. Mental Health (MH) reflects emotional well-being and energy fatigue (EF) among participants. Social gatherings and meetings had positively and moderate relation with mental health showed with value (r = 0.44) and low association with energy fatigue (EF) i.e. (r = 0.18).

Table 3 demonstrates the interrelationship of physical and mental components of SF-12. This distinct showed how components of physical and mental are dependent, or linked with each other in participants.

4. DISCUSSION:

The study enrolled 81 elders aged 60-94 years. Quality of Life assessed by using SF-12 and, mobility was assessed using TUG and cognition by MMSE. The results showed moderate positive correlation between cognition and quality of life, physical component.

Study corresponds to study done by nanthamongkolchai s et al on quality of life among elder population with physical & mobility disabilities during covid 19 pandemic. Their study reported strong positive correlation between mobility and quality of life i.e. r = 0.76. They explained that impaired mobility reduced quality of life which increased dependence on the family members. Study was conducted during pandemic time which further increases the challenges for physical mobility and limitation of the resources available. These restrictions lead to more stress and affect the quality of life. . Additionally, their also give importance to social isolation, access to healthcare service which was not mention in current study.[13] Likewise, present study showed significant association in physical component of quality of life and functional mobility. Functional mobility was assessed by Timed Up and Go test and social determinants was not considered in the study.

Geschke et al highlighted significant moderate correlation between QOL-AD and MMSE with Cronbach's α 0.67. They had found strong association within the domains of SF-36 in dementiapatients. In their study they explained self rating quality of life had better relation in response for dementia patients[14]. In contrast current study included scale SF-12, short version of SF-36. It had two score components PCS-12 and MCS-12 with deployed the combine results of the components. There was no significant correlation found between MCS-12 and mobility but moderate positive correlation between cognition and physical component of SF-12.

Screening of cognitive impairment is very important among elderly population. It not only helps to improve quality of life but also reduces dependence on family members. Cognition and daily living activity is significant associated showed in the study conducted by Khan et al in 2023.They ruled out association with cognitive impairment among

rural elder population Haryana, India with smoking, daily living activity, vision impairments[15]. Factors were independently associated with cognitive impairment, whereas present study only analysed relationship between mobility and quality of life.

Quality of life a multifaceted concept with time and venue. It involves physical, psychological and social well being of individuals. Jazayeri, Emitis el at carried out study to evaluate physical, mental and social status of older people in mazandaran according to climate specific conditions and culture. Their sample size was 394 which more than current study[16]. They had used Pearson correlation coefficient, independent t-test. We analysed the association of quality of life with cognition and mobility among elder population. By using SF-12 results were not calculated domain wise but component wise i.e. PCS- & MCS.

Living in urban area and rural area can also impact quality of life, with terms of health facilities, financial independence, & resources availability. Present study not taken any inclusion of living in urban area or rural area, we had just included participants from old age shelter home as well as from residential home. In contrast, Krishnappa, Lalitha et al analysed within quality of life among urban elder population and rural elder population in Bangalore[17]. Their results analysed that poor QOL among rural area than urban area elder population. They have also contradictory findings of QOL is better among elder population residing in old age homes compared to elder population residing with family members.

Correlation coefficient between MCS-12 and TUG was negative weak correlation -0.02 found in current study. Quality of life was also affected by Comprehensive Geriatric Assessment, depression, and nutritional status of the elder population explained in the study conducted bypachloek anna et al[18]. They found that elder population had pain and discomfort with mobility, which was showed in CGA results. Our study participants did not have auditory, visual impairment. Despite this, quality of life in population decreased from as age increases. There was no categorised of the subjects with no cognitive impairment, mild cognitive impairment and severe cognitive impairment in the study. Quality of life scale has two scoring components which depicts the affecting physical component and mental components in the subjects. So the study evaluate association between normal elder populations by QoL with cognition with mobility in geriatric population.

A study conducted by Agneiszka Jankowska & Dominic Golicki[19] had demonstrated that self reported diabetes and quality of life assessed using SF-12 compared to non diabetes respondents. Their study reported pronounced reduction in physical health domains and Mental Health domains emphasize multifaceted beyond glycemic control among individuals with diabetes. Authors focused on the deterioration in quality of life in diabetic population which emphasized on multifactorial aspects of quality of life. In contrast, the current study explored the association of quality of life with functional mobility had moderate and positive correlation. This positive correlation findings said that functional independence, cognition play significant role for quality of life. With cognition, quality of life had weak positive correlation with quality of life. There is correlation found within the components of SF-12, which was not done in their study. Cognitive functions affects the decision making process, social engagement, and activity of daily living. The weak association dictates that cognitive functions impairment cannot only be responsible to predict the value of quality of life. Individual component of physical and mental component of quality of life has impact on functional mobility and cognition but it is not separately explained by Agneiszka and Dominic in their study.

Quality of life can also be explored with association of social cognition. Quality of life can also be assessed with social cognition in huntington's disease conducted by clare meddy and Hugh Rickards[20].Their study demonstrated significant association between impairments in social cognitive functions and health related quality of life. In Huntington's disease, social cognition impairments contribute to difficulties in communication, participation in social gatherings and difficult to regulate emotional symptoms. These leads to negative influence on quality of life. However, study showed that quality of life is not solely dependent on severity of disease or motor impairment, it is also have impact on cognitive or psychological domains. Present study had not evaluate the severity, social cognition or mental components for quality of life. Rather than we had examined the causative and factors that contribute the effect of quality of life. Results of present study evaluate the moderate positive association between cognition and quality of life among older adults. Generally, Meddy and Rickards highlights cognitive and health related quality of life with its integral components in Huntington's disease population.

There is no consideration of cognitive impairment, limitations in functional mobility or affection in quality of life done in present study. Rather than seeing this factors, we have just found out the association between quality of life with functional mobility and quality of life with cognition among older adults.

Bloomberg et al[21] explained in their study that there are multiple lifestyle factors which could affect the cognitive function among middle aged and older adults across 14 European countries. They had done longitudinal analysis to demonstrate that healthy lifestyle like regular physical activity, healthy diet and social participation was significantly associated with cognition. Bloomberg highlighted cumulative effect of mutli lifestyle factors had strong influence on cognitive domains. They had enrolled many diversities like 14 European countries and sample size of 32033 in their study. Large sample size with sociocultural contexts strengthens the generalizability of the findings and show high relevance of their study. In contrast with small sample size and considering only age factor the current study had vast difference in result compared to them.

Functional Mobility is closely linked to physical fitness which is considered a major factor contributing in quality of life. Lopez et al[22] demonstrated that a structured training program significantly improved functional mobility among

institutionalized older adults. Their intervention includes combined strength exercises, balance exercises, functional training and endurance. They had highlighted that comprehensive exercise program had significant effect on mobility among older adults. In the current study, the association of physical activity and physical fitness is not considered. Even though the factors affecting quality of life was seen but relation between them was not assessed.

Current study's result showed that there is weak association of quality of life with mental components of SF-12 scale. However, Wijesiri et al[23] concluded that quality of life among home dwelling elders had lowest score in social relationship in the environmental domain of quality of life scale. They had taken validated version of Sinhala WHOQOL BRIEF questionnaire. They also ruled out that encore with religious activities, educational status and financial independence are also key factors which deeply associated with quality of life. Quality of life also affected by limitations in physical activity and chronic diseases which is similar in present study.

Correlation between quality of life with functional mobility and cognition showed significant association among older adults in the present study. In our study we had not considered the duration of study whether acute or chronic. Lei et al[24] had showed the quality of life had significant negative impact on chronic disease. They had included participants aged 16 years and above, 1503 in number, which is very wide range of data. Physiological changes, psychological changes and other factors are majorly affected in geriatric population which is least impaired among adults.

The association between functional mobility and quality of life can be explained with various mechanisms. The causes of functional mobility are muscular weakness, balance, coordination, sensory input which eventually reduce executive function of the older adults. Cognitive impairment which includes executive functions, planning, judgement and memory. This all factors are responsible for command a complex physical task. This connection between functional mobility and cognition shows highly importance to assess the relationship between them. The weak and negative correlation between cognitive and quality of life interprets the coping mechanism among elder population. Social factors and culture beliefs can also have impact on cognition which could change the perspective of quality of life.

Strengths of study:

The current study has many strengths. It includes valid assessment tools like Mini mental state examination, Timed Up and Go test and quality of life. The inclusion of the community members which involved older adults from old age shelter and home residential population. Current study not only found out the association between quality of life and cognition, functional mobility but rule out the interrelationships between the components of SF-12 i.e. physical and mental. There was broad age criteria 60-94 years considered in the study, which further explores varying stages of ageing.

5. Conclusion:

Present study demonstrate significant association between quality of life physical components with cognition. No correlation showed between mobility and mental component of quality of life. Limitations in mobility, cognitive functions found negative influence with mobility. Among cognitive functions, executive functions were not analyzed. Based on Quality of Life with its physical and mental components, association of mobility and cognition was analyzed.

Functional mobility an important determinant of quality of life, as its importance in maintaining daily living activity which reduces dependency on others. Likewise, cognitive function demonstrates association with quality of life, dictates that good cognitive domain makes psychologically good and boost social participation.

Results of the study support to encourage and practice multidisciplinary interventions which engages both physical and cognitive domains instead of adopting isolation. Additionally, regular screening of functional mobility and cognitive status can also determine the risk of quality of life. In conclusion, association of quality of life with mobility and cognition provides evidence based approach for future betterments of elder population.

6. Limitations:

Despite the valuable findings of the current study, it has few limitations which should be acknowledged. Study was conducted with small sample size, this limits the overall acquired conclusion of the study and also for the further research work for geriatric population. The limited sample size also reduced the diversity of the population and their demographic variability like gender, limitation with representation, backgrounds of the population, educational details, and health related data of the sample size.

While assessing the quality of life, questionnaire SF-12 was taken which is subjective and self- reported measure.SF-12 is widely used to assess the quality of life but it is also responsible for bias for physical and mental components. Besides this, current study also not take account to consider the contributing factors which influence the quality of life. There are various factors like comorbid conditions, psychological status, and supportive environment, lifestyle factors which was not consider.

Due to cross sectional study, the association with the variables was not analyzed. Relationship between mobility, cognition and quality of life were calculated among elder population. Further, for the longitudinal study the association between mobility and its impact on quality of life need to assess.

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Conflict of interests:

There are no conflict of interests.

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