



CORRELATION BETWEEN PHYSICAL LEVEL OF INDEPENDENCE AND QUALITY OF LIFE AMONG NON-FRAIL ELDERLY COMMUNITY DWELLERS POPULATION- A CROSS SECTIONAL STUDY.

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ABSTRACT

Background: Frailty affects a significant proportion of the elderly population and requires a unique approach to care giving. Physical level of independence and quality of life disorders are common in older adults and are a major cause of falls in this population. They are associated with increased morbidity and mortality, as well as reduced level of function.

Objective: The purpose of this trial was to investigate the association between physical level of independence and quality of life in non-frail elderly community dwellers population.

Design: A Cross- Sectional Study

Method: The Outcome measures was taken. Forty subjects were included in the study both male and female were included . The outcome of interest, to see physical level of interest by using scale Barthel index scale and to see the Quality of life by using sf-36 Questionnaire in non-frail elderly community dwellers population.

Result: Result was calculated statistically using Paired t test. The population's mean age was 70.5 ± 5 years. The mean BI score was 50.9 ± 4.1 , whereas the mean SF-36 score was 98.1 ± 2.8 . Statistically significant relationships were found between the BI and SF-36 ($r = 0.41$; $P = 0.0004$); between age and SF-36 ($r = -0.24$; $P = 0.04$); and between age and BI ($r = -0.57$; $P = 0.0001$).

Conclusion: The results showed that among elderly people, there are correlations between, Physical Level of Independence and Quality of life.

KEYWORDS : Physical Level of Independence, Barthel index , SF-36 and Quality of Life, Elderly.

INTRODUCTION:

Physical function is associated with institutionalization, morbidity and mortality. Older people's functional independence is an important indicator of their health status.

It is well known that loss of independence is one of elderly people's greatest concerns. For this population, health is directly related to independence and the capacity to do things, work and come and go, even if the individual presents chronic diseases. Thus, the independence to perform activities of daily living becomes an essential element of proper development in old age and is part of the concept of successful aging.⁽²⁾

Limited exercise capacity, reduced vital capacity, poor muscular strength, restricted flexibility, decreased bone mass, and glu-cose intolerance manifest during the aging process. These physiologic changes lead to loss of physical function and dependence on assistance in performing activities of daily living (ADLs), requiring hospitalization or extended hospital, stays and reducing longevity. This transitional state is called frailty and may negatively impact physical, psychological, and social functions.

The complex interactions between the dimensions of frailty cause poor quality of life (QOL). The complex interactions between the dimensions of frailty cause poor quality of life (QOL). Fried et al, focusing on frailty phenotype, identified involuntary weight or muscle strength.

Falls are associated with significant morbidity and mortality in the elderly: they are the most common cause of accidental death and nonfatal accidental injury⁽⁵⁾. So the present study may be useful to see correlation between physical level of independence and quality of life among elderly dwellers population. The purpose of this trial was to investigate the association between physical level of independence and quality of life in non-frail elderly community dwellers population.

Outcome Measure:

BARTHEL INDEX SCALE- ($r=0.849$)

The Barthel Scale/Index (BI) is an ordinal scale used to

measure performance in activities of daily living (ADL). Ten variables describing ADL and mobility are scored, a higher number being a reflection of greater ability to function independently following hospital discharge. Time taken and physical assistance required to perform each item are used in determining the assigned value of each item. The Barthel Index measures the degree of assistance required by an individual on 10 items of mobility and self care ADL.⁽¹⁾

Patients with stroke, patients with other neuromuscular or musculoskeletal disorders, oncology patient Time to administer- Self report: 2-5 minutes; Direct observation: 20 minutes, Times may vary depending on clients tolerance and abilities. The MBI/BI is simple to administer. Requires training if administered by direct observation. It has been developed in many forms that can be administered in many situations and can be used for longitudinal assessment. The Barthel includes 10 personal activities: feeding, personal toileting, bathing, dressing and undressing, getting on and off a toilet, controlling bladder, controlling bowel, moving from wheelchair to bed and returning, walking on level surface (or propelling a wheelchair if unable to walk) and ascending and descending stairs. The original Index is a three-item ordinal rating scale completed by a therapist or other observer in 2-5 minutes. Each item is rated in terms of whether the patient can perform the task independently, with some assistance, or is dependent on help based on observation (0=unable, 1=needs help, 2=independent). The final score is x 5 to get a number on a 100 point score. Proposed guidelines for interpreting Barthel scores are that scores of 0-20 indicate "total" dependency, 21-60 indicate "severe" dependency, 61-90 indicate "moderate" dependency, and 91-99 indicates "slight" dependency. 2 Most studies apply the 60/61 cutting point.

SF-36 QUESTIONNAIRE - ($r=0.21$)

The SF-36 and RAND-36 include the same set of items that were developed in the Medical Outcomes Study. Scoring of the general health and pain scales is different between the versions. The differences in scoring are summarized by Hays, Sherbourne, and Mazel. The SF-36 consists of eight scaled scores, which are the weighted sums of the questions in their

section. Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight. The lower the score the more disability. The higher the score the less disability i.e., a score of zero is equivalent to maximum disability and a score of 100 is equivalent to no disability. To calculate the scores it is necessary to purchase special software for the commercial version, but no special software is needed for the RAND-36 version. Pricing depends on the number of scores that the researcher needs to calculate.

The eight sections are:

- vitality
- physical functioning
- bodily pain
- general health perceptions
- physical role functioning
- emotional role functioning
- social role functioning
- mental health

Instructions for converting the individual scores into z-scores and to provide standardised combined scores (mean 50, standard deviation 10) for several populations (Australian women, combined or in three different age groups, also the general Australian and US population - for example younger people have better physical score averages) are on the website of the Australian Longitudinal Study of Women's Health. SAS code is provided as well.^[4]

An interesting point of the document is that physical health scores are counted negatively when calculating combined mental health scores and vice versa. In other words, to score highly on mental health it is better to have worse physical health and vice versa. This is the result of the negative weights that resulted from the principal component analysis used. If you have perfect physical and mental health, your scores are on a 50 mean / 10 standard deviation scale: 56.5 for physical health and 62.5 for mental health if you use the Australian population numbers in the ALSWH document. If you have perfect physical but the worst mental health your physical health score is 61.6 and for the opposite your mental health score is 66.2.

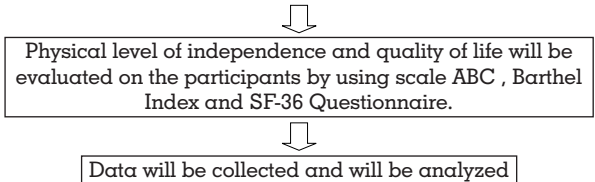
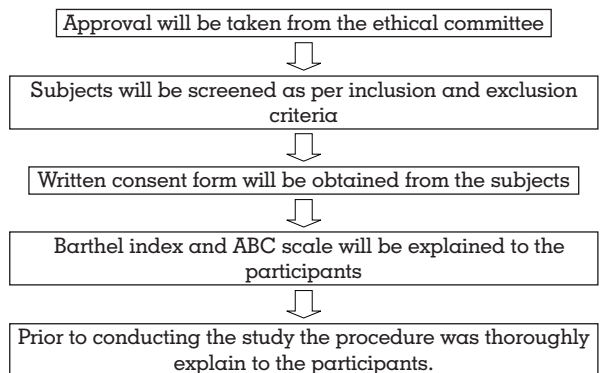
Procedure:

Recruitment of samples: Samples is recruited according to inclusion and exclusion criteria.

Material used: Scales ,pen, paper.

Evaluation:

- After obtaining clearance from the ethical committee from the Dr. Vithalrao Vikkhe Patil Foundation college of physiotherapy, Ahmednagar, instructions was given to the participants about study and its benefits and risk in their own language.
- Consent was taken from participants. 7 samples were recruited for the study which was calculated statistically.



- The participants was selected on basis of inclusion and exclusion criteria. Patient Aged 65 and more ,both genders were included in the study which was conducted in Dr. Vithalrao Vikkhe Patil Memorial Hospital, Ahmednagar.
- For the purpose of selecting the subject in the study they were evaluated with the Barthel index and SF-36 Questionnaire. Community dwelling elderly individuals within the age of 65-95 years, A standardized assessment consisting of taking a patient history. Participants were included if they are of 65-95 years. Both Male and Female and Elderly with mini mental score >25 and also with Frailty Phenotype index with non-frail elderly community dwellers population . Participants were excluded Participants were excluded below 65 years of age. Elderly individuals having the following; Cognitive impairment, Any diseases included balance disorders, Neurological disorders, Malignancy, Bone diseases., Excessive pain.
- As the study is Cross- Sectional study values are recorded and analysed.
- The data will be collected and analysed.

Result Analysis:

- 1) By using graph pad instat version 3.06, 32bit for windows statistical software
- 2) Unpaired t-test will be used to compare the score (mean, standard deviation) of , physical level of independence and quality of life in non- frail elderly community dwellers population.
- 3) Pearson correlation test will be applied to find out the association between level of independence and quality of life in non-frail population.

RESULTS:

Table 1. Demographics of participants.

Variables	Correlation coefficient (r)	Confidence interval	(r squared)
Physical Independence Vs Physical Functioning	0.1917	0.6562-0.8256	0.03674
Physical Independence Vs Physical Health	0.2024	0.8292-0.6498	0.04097
Physical Independence Vs Emotional Problem	0.1053	0.7037-0.7954	0.01109
Physical Independence Vs Emotional Fatigue	0.4542	0.4544-0.8996	0.2063
Physical Independence Vs Emotional well being	0.04067	0.7702-0.7350	0.01654
Physical Independence Vs Social Functioning	0.4264	0.8928-0.4813	0.1818
Physical Independence Vs Pain	0.3807	0.5222-0.8812	0.1450
Physical Independence Vs General Health	0.6716	0.1651-0.9462	0.4510
Physical Independence Vs Health Changes	0.4633	0.9018-04452	0.2146

Table 2. Outcome measure data at baseline

Variables	Mean
Age	68.14286
Height	113.4343
Weight	54.42857

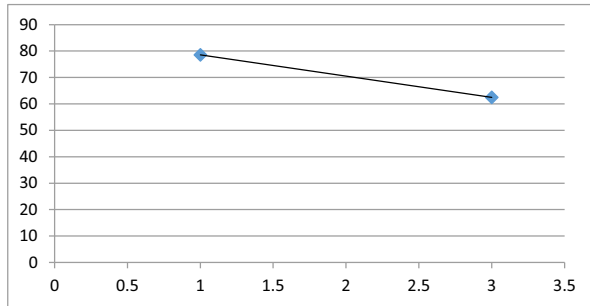


Figure 1. Relationship between Barthel Index and SF-36 Questionnaire scores among elderly people (n = 70); r = 0.41; P = 0.0004.

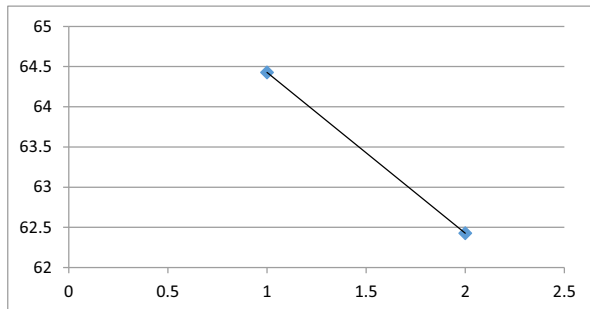


Figure 2. Relationship between age and SF-36 Questionnaire (n = 70); r = -0.57; P = 0.0001.

DISCUSSION:

The present study the increase in the population in general amounted to 21.6%, against 47.8% for the group aged 65 years or older. The aim of the present study was to correlate age, activities of daily living and Quality of Life among community-dwelling elderly people.

The aging process is related to decreasing balance and ability to perform daily activities, and this situation may lead to falls, fear of falling, dependence, institutionalization and death. Specifically with regard to daily activities, the need for help to perform simple daily tasks such as eating, bathing and walking is associated with a large number of negative health indicators, such as hospitalization, treatment costs, quality of life and, finally, death.¹⁸ In our study, the participants presented good scores in the Barthel Index (98.1 ± 2.8), thus indicating only slight dependence in carrying out daily activities.

At different stages of life, individuals may or may not be dependent, on either a temporary or a definitive basis. Dependence takes on greater importance when this appears because of events that occur during the final stage of life, and daily activities are affected by this dependence. According to Pires and Silva,⁵ loss of independence is one of elderly people's greatest concerns. For this population, health is directly related to independence and the capacity to do things, work and come and go, even if these individuals present chronic diseases. If elderly people remain autonomous (with the capacity to choose and decide by themselves) and independent (with the capacity to carry out actions alone, without depending on others), the difficulties will be smaller, both for themselves and for their families and society.

Our results also showed that, among the elderly appraised

here, there was an association between daily activities and Quality of life, thus indicating that elderly individuals who had better kept a good level of independence and quality of life. Mobility and functional ORIGINAL ARTICLE | Prata MG, Scheicher ME 100 Sao Paulo Med J. 2012; 130(2):97-101 level are among the most important factors necessary for an independent life. In this study, only nine participants (12.8%) had scores below 45 in the BBS. On the other hand, but with the same clinical meaning, other studies have shown that reduced balance may result in functional dependence among elderly people.

This study is in agreement with the study by Yümin et al.,²² which found a correlation between physical level of independence (as appraised using the BI) and Quality of life (as appraised using the SF-36). In previous studies, no statistically significant relationship was found between the level of daily activities and Quality of life.²³⁻²⁵ Such differences may be due to the characteristics of the samples analyzed in these studies.

In our study, the mean BI score for the elderly individuals studied was 50.9 ± 4.1, with a range from 36 to 56 (with nine participants presenting scores less than or equal to 45). We believe that inclusion of Quality of life in care and rehabilitation programs for the elderly would be useful in assisting elderly people to maintain their functional independence. More comprehensive studies are needed on this subject.

CONCLUSION:

Among the community-dwelling elderly people who participated in this study, good performance regarding daily activities and good Quality of Life were found. Moreover, there was a relationship between Physical independence activities of daily living and Quality of life.

Conflict of interest - None.

Funding Sources - None

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