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Co-relation of WHOQOL-BREF Scale and FACIT Fatigue Scale among Disabled Elderly & Non Disabled Elderly Population in Rural Area

Dr. Rameshwari G. Korbekar[1], Dr. Shyam D. Ganvir[2]

[1]Master in Physiotherapy 2nd Year, Batch 2016-17, Speciality – Community Medical Sciences
Dr. Vithalrao Vikhe Patil College of Physiotherapy, Ahmednagar

[2]Principal and HOD of Community Health Sciences, Dr. Vithalrao Vikhe Patil College of Physiotherapy, Ahmednagar

Abstract: ***Background: A physical disability is any type of physical condition that significantly impacts one or more major life activities. That is a pretty broad definition, but the types of physical disabilities, their causes, and the manner in which they impact a person's life are wide-ranging and virtually limitless[1]. Early results from a pilot phase of the Longitudinal Aging Study in India showed that 13% of "older Indians sampled have some type of disability that affects at least one activity of daily living.[1]" Fatigue is a significant geriatric syndrome which has only recently been defined in the elderly population, and it can affect work performance, family life, and social relationships negatively.[2] While the fatigue rate in the general population is 10e25%[3], it is as high as 50% in the elderly population.[4] Ultimately, fatigue can be considered a complex health condition and it is associated with many domains of functionality among older adults. So, it is important to find out the correlation between the impact on overall quality of life in general health in physically disabled & Non-disabled elderly person & to find out impact of fatigue in physically disabled elderly person. Aim: To study the Co-relation between WHOQOL-BREF SCALE and FACIT Fatigue Scale among Disabled Elderly Population & Non disabled Elderly Population in Rural Area. Objectives: 1) To assess the impact on overall quality of life in general health in physically disabled & Non disabled elderly person. 2) To assess fatigue in physically disabled & Non disabled elderly person. 3) To find out the correlation between the WHOQOL-BREF Scale & FACIT Fatigue Scale in disabled elderly population. 4) To find out the correlation between the WHOQOL-BREF Scale & FACIT Fatigue Scale in non disabled elderly population. Procedure: The ethical clearance was obtained from the ethical committee of the DVVPF's COPT, Ahmednagar. Informed consent was signed before prior of participation. Instruction were given to the participants about study and its benefits & risk in their own language and inform consent will be taken from them. Subjects were selected based on inclusion criteria. And the Assessment Performa of disabled & non disabled elderly population including demographic data was filled. The WHOQOL- BREF Scale will be administered to find out Quality of Life and the fatigue was assessed by the FACIT Fatigue Scale. Data Analysis: The Statistical Package for Social Sciences (SPSS) release 20.0 for Windows was used for data analysis. Pearson Co-relation Coefficient was used to Correlated between the WHOQOL-BREF Scale & FACIT Fatigue Scale among Physically Disabled & Non Disabled Elderly Population with the significance of level was set at 0.05 . Result: The Pearson Corelation test shows the statistical result in the WHOQOL – BREF Scale & FACIT Fatigue Scale have a weak correlation in disabled elderly population & have a high correlation in non disabled elderly population. Conclusion: Result of the present study suggest that WHOQOL – BREF Scale & FACIT Fatigue Scale in disabled elderly population are not statistically correlated while there is a statistical correlation of the WHOQOL - BREF Scale & FACIT Fatigue Scalke in non disabled elderly population.***

1. Introduction

A physical disability is any type of physical condition that significantly impacts one or more major life activities. That is a pretty broad definition, but the types of physical disabilities, their causes, and the manner in which they impact a person's life are wide-ranging and virtually limitless. Physical disabilities can be the result of congenital birth issues, accidental injury, or illness. When you consider the huge number of possible causes of physical disabilities, you can quickly see how it is impossible to provide a comprehensive list naming each condition. Additionally, one physical condition might be considered disabling to one person but not the next. The key aspect in defining physical disability is not whether a person has a specific condition but how that physical condition impacts his or her daily life.

In most of the developed countries, the accepted definition of "elderly" or "older person" is the chronological age of 65 years minimum; there "is no United Nations standard numerical criterion, but the UN agreed cut-off is 60+ years to refer to the older population." [1] The Government of India adopted the National Policy on Older Persons in January, 1999 and this policy defines "'senior citizen' or 'elderly' as a person who is of age 60 years or above."[1] In India, the elderly population accounted for 8.2% of the total population in 2011, and the number is expected to increase dramatically over the next four decades (to 19% in 2050).[1] The International Classification of Functioning, Disability and Health (ICF) defines disability as an umbrella term for impairments, activity limitations, and participation restrictions. Disability has been defined as a restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being.[1] "Operational measures of disability vary according to the purpose and application of the data, the conception of disability, the aspects of disability examined – impairments, activity limitations, participation restrictions, related health conditions, environmental factors.[1] Early results from a pilot phase of the Longitudinal Aging Study in India showed that 13% of "older Indians sampled have some type of disability that affects at least one activity of daily living." [1]

Fatigue is a significant geriatric syndrome which has only recently been defined in the elderly population, and it can affect work performance, family life, and social relationships negatively[2].

While the fatigue rate in the general population is 10e25%[3], it is as high as 50% in the elderly population[4]. In the literature, we haven't found any information about the fatigue rate in the elderly people who reside in rest homes. Fatigue is most commonly found in the elderly whose activities are limited[5], and it is reported that fatigue is the result of incapacity in elderly women[6]

Reports of fatigue are common in the older adult population and affect about 15-75% of community-dwelling older persons, depending on the studied population. Fatigue is about twice as common in women and increases with age possibly reaching 70% among older persons 85 years of age and older. Self-perceived fatigue is characterized as a subjective, conscious, and unpleasant symptom that involves the whole body and may be influenced by intrinsic and extrinsic factors. Under this perspective, a conscious report of tiredness is the most relevant information for fatigue evaluation. Self-perceived fatigue has a complex and multidimensional nature. Different types of fatigue may coexist in the same person, thus hampering the identification of etiological factors. The most frequent types are mental fatigue, which may be subdivided into emotional and cognitive, and physical fatigue, which may be subdivided into sleepiness, low strength, and energy loss. Studies highlight that there is a negative impact of self-perceived fatigue over mental and physical health and over functionality in older persons. Some studies have pointed out a substantial relationship between self-perceived fatigue, functional disability, and performance restriction in activities of daily living. Older persons that reported fatigue presented less handgrip strength, slower walking speed, and poorer physical functionality of the lower limbs, even after comorbidity adjustment.

Ultimately, fatigue can be considered a complex health condition and it is associated with many domains of functionality among older adults.

So, it is important to find out the correlation between the impact on overall quality of life in general health in physically disabled & Non-disabled elderly person & to find out impact of fatigue in physically disabled elderly person

2. Aims

To study the Co-relation between WHOQOL-BREF SCALE and FACIT Fatigue Scale among Disabled Elderly Population & Non disabled Elderly Population in Rural Area

Objectives

1) To assess the impact on overall quality of life in general health in physically disabled & Non disabled elderly person
2) To assess fatigue in physically disabled & Non disabled elderly person
3) To find out the correlation between the WHOQOL-BREF Scale & FACIT Fatigue Scale in disabled elderly population
4) To find out the correlation between the WHOQOL-BREF Scale & FACIT Fatigue Scale in non disabled elderly population

3. Materials & Methodology

Study Design: Pilot Study
Study Setting: Dr. Vithalrao Vikhe Patil Hospital
Duration Of Study: 6 months
Target Population: Physically Disabled Persons & Non Disabled Persons
Sampling Method: Convenient Sampling
Sample Size: 20

Eligible Criteria

Inclusion Criteria:

- Persons having disability including are- loss or absence or inactivity of whole or part of hand or leg or both due to amputation , paralysis , deformity ,or dysfunction of joints which affected his/ her " normal ability to move self or objects."
- Physically disabled greater than 40%
- Non Disabled Elderly Population
- Disabled Elderly Population
- Age- 60 & above

Exclusion Criteria

- Physically disabled lesser or equal to 40%
- Patient with Aphasia
- Medically unstable
- Mentally challenged

Outcome:

1) WHO-QOL BREF Questionnaire
2) Assessment of Fatigue in Older Adults: The FACIT Fatigue Scale (Version 4)

4. Procedure

The ethical clearance was obtained from the ethical committee of the DVVPF's COPT, Ahmednagar. Informed consent was signed before prior of participation. Instruction were given to the participants about study and its benefits & risk in their own language and inform consent will be taken from them. Subjects were selected based on inclusion criteria. And the Assessment Performa of disabled & non disabled elderly population including demographic data was filled. The WHOQOL BREF Scale will be administered to find out Quality of Life and the fatigue was assessed by the FACIT Fatigue Scale.

Data Analysis

The Statistical Package for Social Sciences (SPSS) release 20.0 for Windows was used for data analysis.

Pearson Co-relation Coefficient was used to Correlated between the WHOQOL-BREF Scale & FACIT Fatigue Scale among Physically Disabled & Non Disabled Elderly Population with the significance of level was set at 0.05

Data Analysis

Group 1: Disabled Elderly Population

Table 1: Correlation of WHOQOL-BREF (Physical Domain) Scale & Fatigue Scale

Disabled Elderly Population	
Physical Domain Score	Fatigue Scale Score
53	28
43	39
39	22
25	36
11	38
43	40
40	29
46	26
42	25
43	35

	Mean	SD
Physical Domain	38.50	11.92
Fatigue Scale	31.80	6.52

The Relationship Between Physical Domain & Fatigue Scale:
The value of R is -0.3924
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables i.e (Physical Domain & Fatigue scale) is weak.
So, Statistically there is no correlation between the Physical Domain & Fatigue Scale.

Table 2: Correlation of WHOQOL-BREF (Psychological Domain) Scale & Fatigue Scale

Disabled Elderly Population	
Psychological Domain Score	Fatigue Scale Score
75	28
46	39
50	22
37	36
37	38
50	40
37	29
42	26
54	25
46	35

	Mean	SD
Psychological Domain	47.40	11.43
Fatigue Scale	31.80	6.52

The Relationship Between Psychological Domain & Fatigue Scale :
The value of R is -0.322
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables i.e (Psychological Domain & Fatigue scale) is weak.
So, Statistically there is no correlation between the Psychological Domain & Fatigue Scale.

Table 3: Correlation of WHOQOL-BREF (Social Domain) Scale & Fatigue Scale

Disabled Elderly Population	
Social Domain Score	Fatigue Scale Score
41	28
67	39
67	22
33	36
58	38
50	40
33	29
67	26
66	25
67	35

	Mean	SD
Social Domain	54.90	14.51
Fatigue Scale	31.80	6.52

The Relationship Between Social Domain & Fatigue Scale :
The value of R is -0.161
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables i.e (Social Domain & Fatigue scale) is weak.
So, Statistically there is no correlation between the Social Domain & Fatigue Scale.

Table 4: Correlation of WHOQOL-BREF (Environment Domain) Scale & Fatigue Scale

Disabled Elderly Population	
Environment Domain Score	Fatigue Scale Score
59	28
59	39
56	22
37	36
34	38
59	40
46	29
47	26
56	25
59	35

	Mean	SD
Environment Domain	51.20	9.61
Fatigue Scale	31.80	6.52

The Relationship Between Environment Domain & Fatigue Scale :
The value of R is -0.162
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables i.e (Environment Domain & Fatigue scale) is weak.
So, Statistically there is no correlation between the Environment Domain & Fatigue Scale.

Group 2: Non- Disabled Elderly Population

Table 5: Correlation of WHOQOL-BREF (Physical Domain) Scale & Fatigue Scale

Non- Disabled Elderly Population	
Physical Domain Score	Fatigue Scale Score
64	42
42	25
49	40
52	35
55	46
45	31
31	30
56	42
38	28
41	30

	Mean	SD
Physical Domain	47.3	9.79
Fatigue Scale	34.9	7.14

The Relationship Between Physical Domain & Fatigue Scale :
The value of R is 0.812
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a strong positive correlation.
So, Statistically there is high correlation between the Physical Domain & Fatigue Scale.

Table 6: Correlation of WHOQOL-BREF (Psychological Domain) Scale & Fatigue Scale

Non- Disabled Elderly Population	
Psychological Domain Score	Fatigue Scale Score
70	42
58	25
56	40
50	35
62	46
56	31
49	30
55	42
49	28
42	30

	Mean	SD
Psychological Domain	54.7	7.81
Fatigue Scale	34.9	7.14

The Relationship Between Psychological Domain & Fatigue Scale :
The value of R is 0.577
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a strong positive correlation.
So, Statistically there is high correlation between the Psychological Domain & Fatigue Scale.

Table 7: Correlation of WHOQOL-BREF (Social Domain) Scale & Fatigue Scale

Non- Disabled Elderly Population	
Social Domain Score	Fatigue Scale Score
83	42
62	25
56	40
64	35
60	46
60	31
56	30
60	42
56	28
49	30

	Mean	SD
Social Domain	60.6	8.90
Fatigue Scale	34.9	7.14

The Relationship Between Social Domain & Fatigue Scale :
The value of R is 0.392
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a strong positive correlation.
So, Statistically there is high correlation between the Social Domain & Fatigue Scale.

Table 8: Correlation of WHOQOL-BREF (Environment Domain) Scale & Fatigue Scale

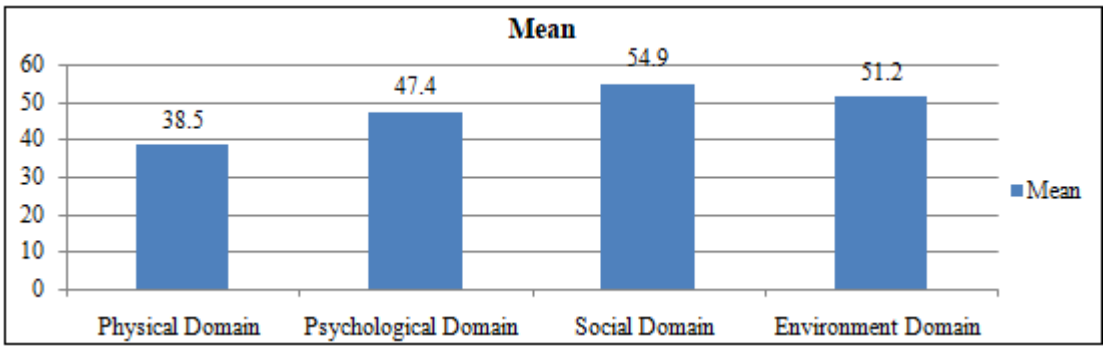
Non- Disabled Elderly Population	
Environment Domain Score	Fatigue Scale Score
78	42
65	25
62	40
80	35
74	46
54	31
52	30
75	42
48	28
52	30

	Mean	SD
Environment Domain	64	12.11
Fatigue Scale	34.9	7.14

The Relationship Between Environment Domain & Fatigue Scale :
The value of R is 0.689
Correlation is Significant at 0.05 level
The Pearson Correlation Coeeficient test shows a strong positive correlation.
So, Statistically there is high correlation between the Environment Domain & Fatigue Scale.

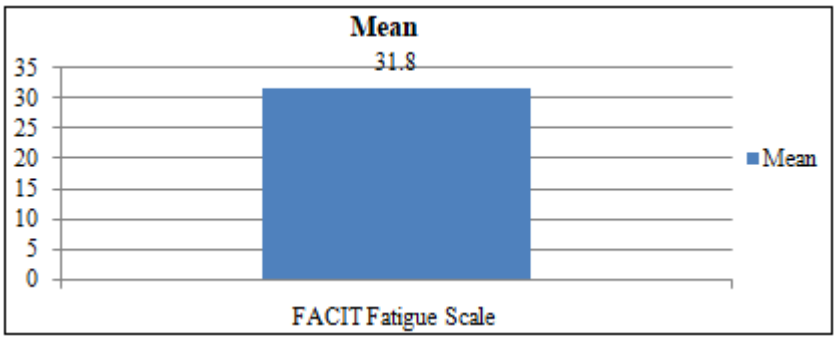
Data Analysis: Graph

Graph 1:



Graph 1: Disabled Elderly Population – Mean of WHO QOL BREF Scale

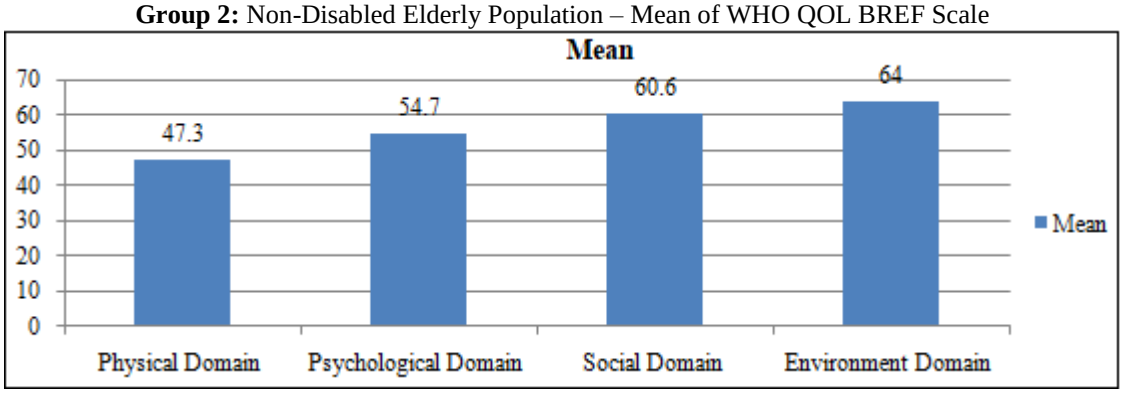
Graph 2:



Group 2: Disabled Elderly Population – Mean of FACIT Fatigue Scale

Graph 2:

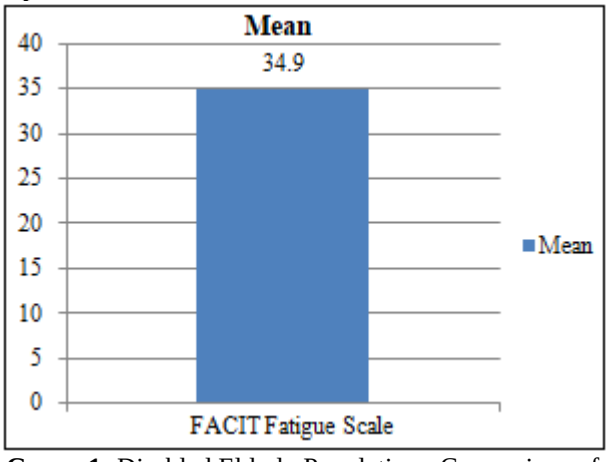
Group 2: Non-Disabled Elderly Population – Mean of WHO QOL BREF Scale

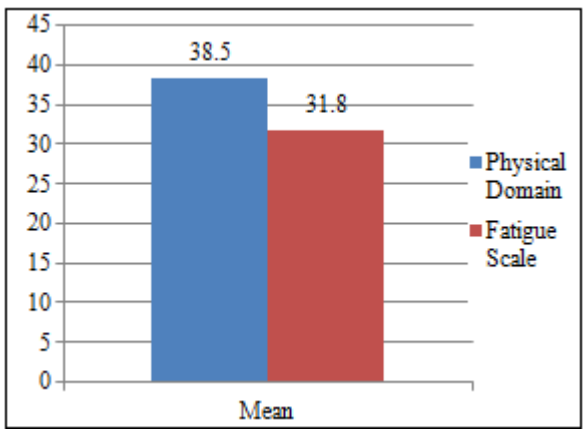


Graph 3 :
Group 2: Non-Disabled Elderly Population – Mean of FACIT Fatigue Scale

	Mean	SD
Physical Domain	38.50	11.92
Fatigue Scale	31.80	6.52

Graph No 5:



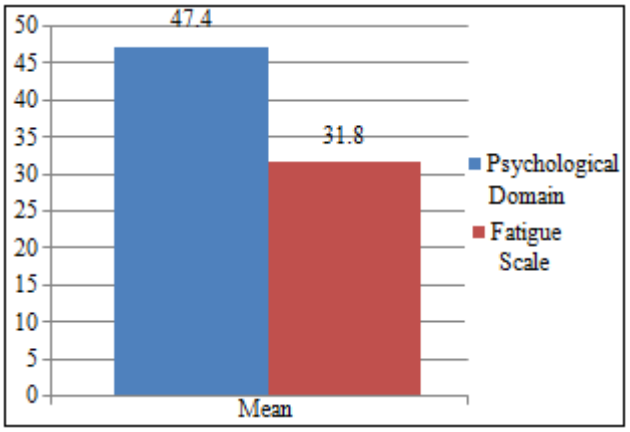


Group 1: Disabled Elderly Population : Comparison of Physical domain & Fatigue Scale Mean

Graph No 6:

Group 1: Disabled Elderly Population : Comparison of Psychological domain & Fatigue Scale Mean

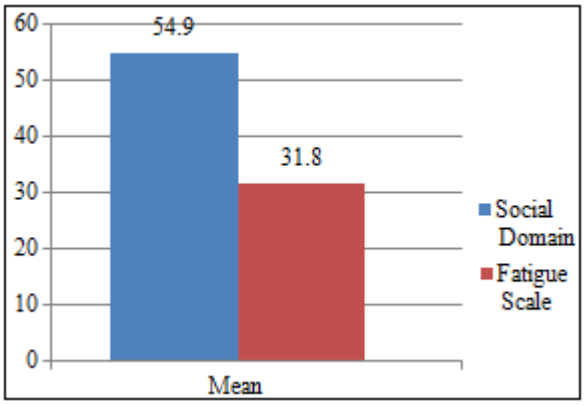
	Mean	SD
Psychological Domain	47.40	11.43
Fatigue Scale	31.80	6.52



Graph No 7:

Group 1: Disabled Elderly Population : Comparison of Social domain & Fatigue Scale Mean

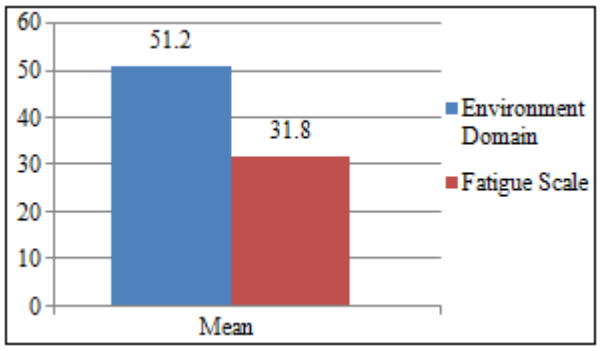
	Mean	SD
Social Domain	54.90	14.51
Fatigue Scale	31.80	6.52



Graph No 8:

Group 1: Disabled Elderly Population : Comparison of Environment domain & Fatigue Scale Mean

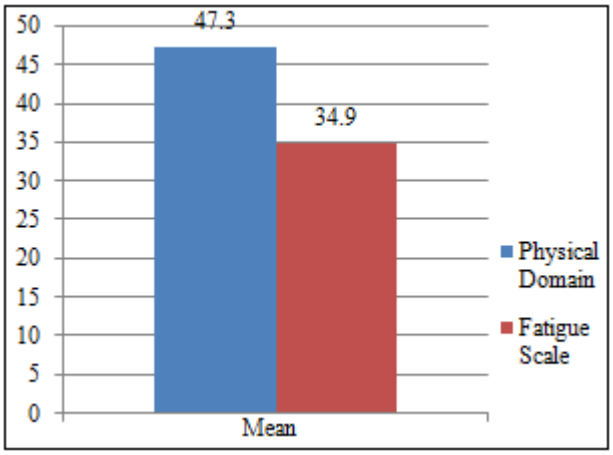
	Mean	SD
Environment Domain	51.20	9.61
Fatigue Scale	31.80	6.52



Graph No 9:

Group 2: Non Disabled Elderly Population : Comparison of Physical domain & Fatigue Scale Mean

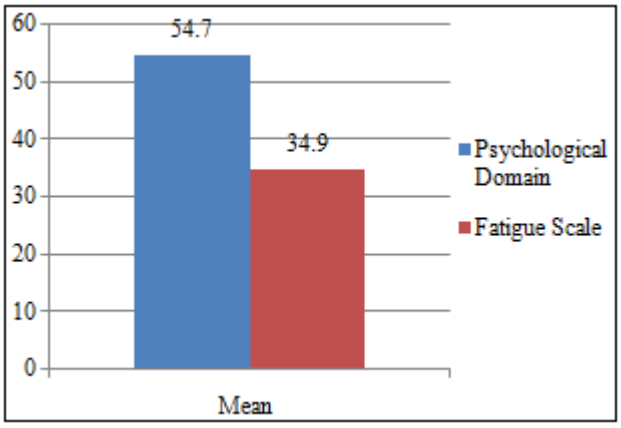
	Mean	SD
Physical Domain	47.3	9.79
Fatigue Scale	34.9	7.14



Graph No 10:

Group 2: Non Disabled Elderly Population : Comparison of Psychological domain & Fatigue Scale Mean

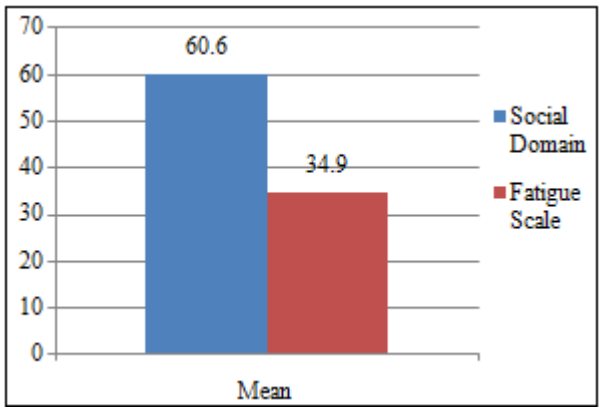
	Mean	SD
Psychological Domain	54.7	7.81
Fatigue Scale	34.9	7.14



Graph No 11:

Group 2: Non Disabled Elderly Population: Comparison of Social domain & Fatigue Scale Mean

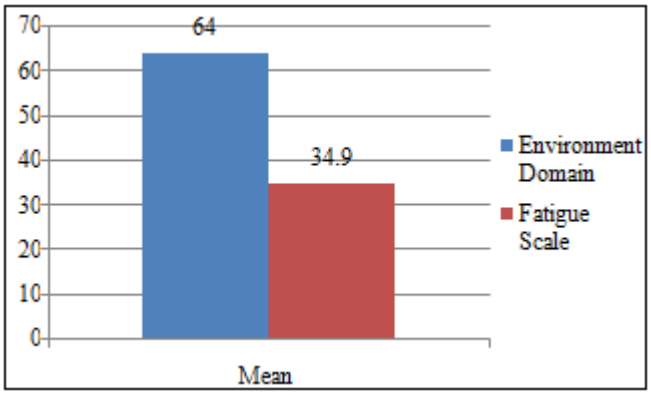
	Mean	SD
Social Domain	60.6	8.90
Fatigue Scale	34.9	7.14



Graph No 12:

Group 2: Non Disabled Elderly Population: Comparison of Environment domain & Fatigue Scale Mean

	Mean	SD
Environment Domain	64	12.11
Fatigue Scale	34.9	7.14



5. Result

The average age of the study, **Group 1** i.e Disabled Elderly Population was 70.5± 9.85 years. The group 1 included 10 individuals among this 3 were females & 7 were male. The disability percentage of the disabled elderly population was 54.3 ± 10.26 percentage. The pearson correlation coefficient test was used to correlate the WHO-BREF Scale & FACIT Fatigue Scale in disabled elderly population with the significance level was set at 0.05. The WHO-BREF Scale consist of 4 domains which are Physical Domain, Psychological Domain, Social Domain, Environment Domain. Each domain was correlated with the FACIT Fatigue Scale.

The **TABLE 1** consists of the relationship between physical domain & FACIT Fatigue Scale with the value of R is -0.3924. The pearson correlation coefficient test shows a negative correlation, the relationship between 2 variables is weak. So, statistically there is no correlation between the physical domain & FACIT Fatigue Scale.

The **TABLE 2** consists of the Relationship Between Psychological Domain & FACIT Fatigue Scale with the value of R is -0.322. The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables is weak. So, Statistically there is no correlation between the Psychological Domain & Fatigue Scale.

The **TABLE 3** consists of the Relationship Between Social Domain & FACIT Fatigue Scale with the value of R is -0.161. The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables is weak. So, Statistically there is no correlation between the Social Domain & Fatigue Scale.

The **TABLE 4** consists of the Relationship Between Environment Domain & Fatigue Scale with the value of R is -0.162. The Pearson Correlation Coeeficient test shows a negative correlation, the relationship between the two variables is weak. So, Statistically there is no correlation between the Environment Domain & Fatigue Scale.

The average age of the study, **Group 2** i.e Non-Disabled Elderly Population was 67.7 ± 7.00 years. The group 2 included 10 individuals among this 5 were females & 5 were male. The pearson correlation coefficient test was used to correlate the WHO-BREF Scale & FACIT Fatigue Scale in Non-disabled elderly population with the significance level was set at 0.05. The WHO-BREF Scale consist of 4 domains which are Physical Domain, Psychological Domain, Social Domain, Environment Domain. Each domain was correlated with the FACIT Fatigue Scale.

The **TABLE 5** consists of the Relationship between Physical Domain & FACIT Fatigue Scale with the value of R is 0.812. The Pearson Correlation Coefficient test shows a strong positive correlation. So, statistically there is high correlation between the Physical Domain & FACIT Fatigue Scale.

The **TABLE 6** consists of the Relationship between Psychological Domain & Fatigue Scale the value of R is 0.577. The Pearson Correlation Coefficient test shows a strong positive correlation. So, statistically there is high correlation between the Psychological Domain & Fatigue Scale.

The **TABLE 7** consists of the Relationship between Social Domain & Fatigue Scale the value of R is 0.392. The Pearson Correlation Coefficient test shows a strong positive correlation. So, statistically there is high correlation between the Social Domain & Fatigue Scale.

The **TABLE 8** consists of the Relationship between Environment Domain & Fatigue Scale the value of R is 0.689. The Pearson Correlation Coefficient test shows a strong positive correlation. So, statistically there is high correlation between the Environment Domain & Fatigue Scale.

6. Discussion

In our study, correlation of WHO_BREF Scale & FACIT Fatigue Scale among disabled elderly & non-disabled elderly population in rural area. The 10 samples were included in the Group 1 which consists of disabled elderly population with above 40% disability among this 3 were females & 7 were male. The group 2 of non disabled elderly

population consists of 10 samples among this 5 were females & 5 were male.

Baumann et. al. 2009; Robb et. al. 2007; Thome et. al. 2004 conducted that elderly cancer patients also had poorer scores in different domains of QOL.

Brunet & Sabiston 2011 conducted that the side effects of cancer treatments in elderly cancer patients, such as fatigue, weight change, muscle loss, weakness & other co morbidities presumably lead to decreased daily activities. Physical symptoms such as pain, fatigue & sleep problems can provoke psychological distress, such as depression & anxiety.
Myung Kyung Lee et. al. 2016 conducted that elderly cancer patients with pain discomfort, anxiety & depression they were more independent in self care & handling of financial responsibilities. Elderly cancer patients had multiple physical & psychological symptoms that adversely affected functional disability & QOL.

H. Baumeister, K. Balke, M. Harter 2005 stated that review articles have shown consistently negative relationship between multiple chronic diseases & quality of life.

Kunal Kuvalekar et. al. 2015 conducted that QOL score was found to be low under the psychological domain reflecting on negative feelings, bodily image, appearance, spirituality & self esteem of respondents.

Avlund K. 2010 conducted that Aging processes are thought to be responsible for some unexplained fatigue among older people.

The present study suggest that the WHOQOL – BREF Scale & FACIT Fatigue Scale have a weak correlation in disabled elderly population & have a high correlation in non disabled elderly population.

7. Conclusion

Result of the present study suggest that WHOQOL – BREF Scale & FACIT Fatigue Scale in disabled elderly population are not statistically correlated while there is a statistical correlation of the WHOQOL - BREF Scale & FACIT Fatigue Scale in non disabled elderly population.

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