

Correlation of Functional Capacity and Quality Of Life in Hypertensive Post Menopausal Females

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ABSTRACT

Background: Menopause is the permanent cessation of menstruation which is determined 12 months after the last menstrual period. Hypertension is diagnosed as systolic blood pressure is 140mmhg or more and diastolic blood pressure is 90mmhg or more. Functional capacity (FC) six minute walk test is used. The six minute walk assesses the tolerance to self limited exercises and is similar to daily life activities. Quality of life (QOL) is the general well being of individuals and societies, outlining negative and positive features of life. Quality of life SF=36 questionnaire is used.

Objective: To correlate the functional capacity and quality of life in hypertensive post menopausal females between the age group 45 to 55 years.

Method: In this correlation study 60 hypertensive post menopausal females between the age group of 45 to 55 years were included in this study who fulfilled the inclusion and exclusion criteria. First functional capacity was assessed using six minute walk test (6MWT) and quality of life assessed using (SF=36) scale. The data was collected and statistical analysis was done using Shapiro Wilk test. Spearman Correlation test was used to correlate the functional capacity and quality of life between hypertensive post menopausal females of age group 45 - 55 years.

Result: Statistical analysis showed that there is significant decrease in functional capacity and quality of life in hypertensive post menopausal females of age group 45 – 55 years.

Conclusion: Thus our study concluded that there is significant decrease in functional capacity and quality of life in hypertensive post menopausal women. There is positive but very weak correlation between functional capacity and quality of life in hypertensive post menopausal women between age group of 45 – 55 years.

Keywords: Functional capacity, Quality of life, Hypertensive Post menopausal females.

INTRODUCTION

Natural menopause is the permanent cessation of menstruation which is determined 12 months after the last menstrual period. [1]

Menopause can have psychological, physical and vasomotor symptoms along with sexual dysfunction. These symptoms can affect the quality of life. [1]

During this period, the body experienced hormonal changes and the fertility reduces and risk of physical and mental changes increased. [9]

According to WHO, quality of life is defined as an individual perception of their position in the context of the culture and value system in which they live and in relation of their goals.

Hypertension is major public health problem in developing countries. Hypertension is diagnosed when systolic blood pressure is 140mmhg or more and diastolic blood pressure is 90mmhg or more as per the guidelines of the United State National Health and nutrition assessment survey. [5]

Incidence of hypertension in postmenopausal women is greater than in males with 41% of postmenopausal females being hypertensive. Postmenopausal females are more affected as compared to males and premenopausal females. [2]

Many patients with mild to moderate hypertension have no symptoms. Antihypertensive drugs and other therapies may impact the quality of life. [8]

Functional Capacity Evaluation

Among the methods of functional capacity evaluation, the six minute walk test is applied due to its simplicity and easy use. The six minute walk test assesses the tolerance to self limited exercises and is similar to daily life activities. The American thoracic society (ATS) stabilised indications safety measures and produces to apply the six minute walk test. The distance walked during six minute walk test. It is used as a closure for the evaluation of adjustments for the study of factors associated with functional capacity. Menopause and hypertension related physiological psychological, physical changes may affect the functional capacity.

Quality of life

Quality of life (QOL) is the general well being of individuals and societies, outlining negative and positive features of life. It observes life satisfaction including everything from physical health, family,

education, wealth, religious beliefs, finance and the environment.

Quality of life (QOL) SF-36 questionnaire is used.

Components of SF-36 questionnaire are Score Ranges from 0 to 100. Lower scores = more disability, Higher score = less disability.

- Vitality
- Physical functioning
- Bodily pain
- General health perceptions
- Physical role functioning
- Emotional role functioning
- Social role functioning
- Mental health.

MATERIALS AND METHODS

The study was a correlative study 60 Hypertensive Post menopausal females between the age group of 45 to 55 years were selected using the convenient sampling method. Inclusion criteria clinically diagnosed hypertensive females, women on antihypertensive therapy, post menopausal women between age group 45 to 55 years. Exclusion criteria: Women undergone hysterectomy, hormone replacement therapy, neurological condition, women on exercise program, with psychological illness.. Material used Sphygmomanometer, stethoscope, pulse oximeter, cones, measuring tape, stop watch, chair, writing pad, pen, outcome measure SF=36 questionnaire.



Figure 1: Apparatus used in the study.

PROCEDURE

60 Subjects were selected based on inclusion and exclusion criteria.

Prior to the study a written informed consent was taken of each subject in the language best understood by them.

Subjects were explained about the procedure.

Demographic data of the subjects (name, age, gender) was taken.

The six minute walk test was performed as per the (ATS) guidelines in hypertensive post menopausal females between age group 45-55 years.

Age predicted formula= $(2.11 \times \text{height in cm}) - (2.29 \times \text{weight in kg}) - (5.78 \times \text{age}) + 667 \text{ m}$

Prior to the six minute walk test pre BP, pulse rate, respiratory rate, SPO2 was checked.

The distance for the test is measured using the measuring tape.

Instructions are given to the patient.

The stop watch is set and patient was asked to walk the marked distance.

The numbers of laps are counted.

After the walk post BP, pulse rate, respiratory rate, SPO2 was measured and after every 3 minutes, 6 minutes, 9 minutes vitals were recorded and recovery time was calculated.

The quality of life questionnaire (SF-36) is used. The patient answered the questions given in the questionnaire.

The data was collected and statically analysed the result was prepared.

Age predicted formula: $(2.11 \times \text{height in cm}) - (2.29 \times \text{weight in kg}) - (5.78 \times \text{age}) + 667 \text{ m}$.

STATISTICAL ANALYSIS:

Collected data entered in Microsoft Excel and Graph Pad Prism 8.3.1 was used for the data analysis. Normality of the data was tested by Shapiro Wilk test. The data was not normally distributed. To correlate the Functional capacity and Quality of life Spearman correlation test is used.

RESULT

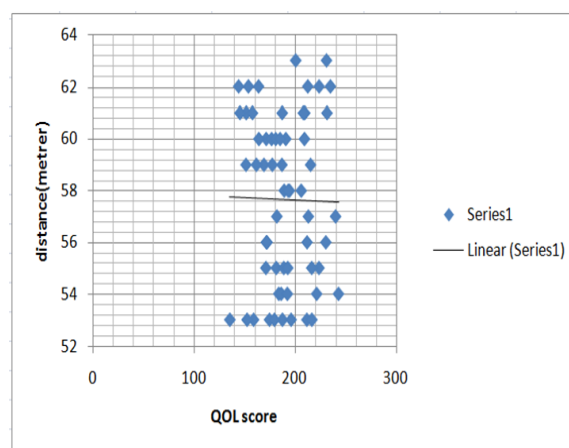
The result for Shapiro Wilk test the data was not normally distributed p value ($p < 0.0001$).

The result for Spearman Correlation test r value ($r = 0.02845$).

Variable	Mean	r value	p value
Difference between age predicted and distance walked	189.28	0.02845	<0.0001
Quality of life	57.65		

The graph shows correlation of Functional capacity (Distance walked) and Quality of life.

Graph : X axis = Quality of life score
Y axis Distance walked in metres



DISCUSSION

The correlation of functional capacity was assessed using six minute walk test and quality of life was assessed using the (SF=36) scale in hypertensive post menopausal females. A sample size of 60 and the age group 45 to 55 years.

The data was collected and statistically analysed using the Spearman correlation and the r value ($r = 0.02845$).

The present study indicates that there is a positive but very weak correlation between functional capacity and quality of life in hypertensive postmenopausal females.

Menopause is the permanent cessation of menstruation which is determined twelve months after the last menstrual period. Menopause affects the quality of life and functional capacity due to

its psychological, physical and vasomotor changes. Menopause affects quality of life depending on its age, work and BMI. [1] Menopause defined as hormonal deficiency in middle age women. [6]

Nearly 50 to 80% women complain of menopausal symptoms leads to sleep disturbances, tiredness and depression and thus affecting the quality of life. [1]

Quality of life (QOL) is the general well being of an individual and societies, outlining negative and positive features of life. According to World Health Organisation (WHO) quality of life is defined as 'an individual's perception of their position in the context of the culture and value system in which they live and in relation to their goals. [1]

Functional capacity refers to the capability of performing tasks and activities. The six minute walk test is used to assess the tolerance to self limited exercises and is similar to daily living activities. [4]

Assessment of functional capacity (FC) is useful in monitoring patient's progress and also helps to predict the prognosis. [7]

Poor aerobic exercise performance is associated with low functional capacity (FC) and may predict morbidity and mortality in cardiovascular disease. [7]

Hypertension is diagnosed when systolic blood pressure is 140mmhg or more and the diastolic blood pressure is 90mmhg or more as per the guidelines. Sattanathan Kaliyaperum (2016) et al conducted the study which shows that there is reducing in quality of life due to psychological and physical changes in life. The quality of life mainly affected in the mental, emotional and physical aspects of life. [3]

Hypertension is a systemic condition which poses a risk of various cardiovascular dysfunctions. Individual are more prone to chronic disease. Females who are having hypertension in their postmenopausal age affect the functional capacity and quality of life due to various psychological, physical and vasomotor changes. Hypertension is a

major risk factor for cardiovascular disease in females. [2]

Blood pressure typically lowers in premenopausal age, however after menopause the prevalence of hypertension in women is higher. However blood pressure increases in postmenopausal age. [2]

The present study indicates that the functional capacity and quality of life is reduced in hypertensive postmenopausal females age group 45 to 55 years. And there is positive but very weak correlation between functional capacity and quality of life in hypertensive postmenopausal females.

CONCLUSION

Thus our study concluded that the functional capacity and quality of life is reduced in hypertensive post menopausal females between the age group 45 to 55. The present study indicates that there is a positive but very weak correlation between functional capacity and quality of life in hypertensive postmenopausal females.

Clinical Implication

Hypertension and postmenopause can lead to prevalence of various musculoskeletal and cardiovascular conditions. The importance of various physiotherapeutic interventions are taught to the females who are hypertensive postmenopausal. Interventions like breathing exercises, incentive spirometer and daily aerobic training helps to improve their functional capacity and quality of life should be explained to them so that, their lung function can be improved.

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