 e-ISSN No: 2581-8058

INTERNATIONAL JOURNAL OF PANCHAKARMA AND AYURVED MEDICINE

Original Article

An Epidemiological Survey Study to Know the Life Style of Geriatric Population w.s.r. to Physical Activity.

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Abstract

With advancement in age the chances of having disease increases and lifestyle plays a crucial role in preventing them. Physical activity is an important component of one's daily life and its importance is more in elderly as they are susceptible to several diseases. A lack of physical activity is common in older adults.Ayurveda includes *Vyayama* in daily regimen (*Dinacharya*) and it plays a great role in maintenance of good health and has positive influence on *Mana* (mind).**Aim:** -To establish the relation between physical activity status in elderly and their health status using Physical activity scale in elderly (PASE). **Background:** Elderly havelow levels of physical activity, which increases their health risk and may influence their day to day activity. **Methodology** -An interview based cross sectional survey study was conducted among 50 elderly subjects of age group 60-85 years. A specially designed questionnaire PASE was selected to assess physical activity in older adults over a seven-day period. Both activity frequency and duration were assessed. **Results:**PASE scores were calculated and a comparison between two groups depending on their health status were done.Unpaired T-test was applied and the p value(0.0062)found to be statistically significant. **Conclusion:** Improper physical activity habits prove important risk factor for early ageing. Physical activity should be promoted in elderly especially those suffering from chronic diseases. To improve the quality of life of the elderly, holistic approach in making them active and healthy is necessary.Follow of ayurvedic principles will be helpful in reducing the prevalence of disease.

Keywords: Physical Activity Scale for the Elderly (PASE), older adults, physical health,Ayurveda.

INTRODUCTION

The word GERIATRICS has been derived from latin word "geras" meaning "To grow old.According to Population Census 2011 there are nearly 104 million elderly persons (aged 60 years or above) in India; 53 million females and 51 million males. A report released by the United Nations Population Fund and HelpAge India suggests that the number of elderly persons is expected to grow to 173 million by 2026.

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greater burden of ailments as compared to other age groups.[i]The Indian elderly are more likely to suffer from chronic than acute illness. There is a rise in NCDs, particularly cardiovascular, metabolic, and degenerative disorders.[ii]*Ayurveda* has considered *Jara* or old age as a natural and inevitable process. *Vriddhavastha* may be of two types: timely (if it manifests after the age of 60 – 70 years) or untimely[iii].[iv]It occupies the prime place among the *Yapya* diseases in the context of *Agryadravya* (foremost) described in *charak.*[v]Jara is considered as one of the swabhavikvyadhis which means every individual has to go through this phase.The concept of aging (Jara) has been dealt with, keeping in view of the *Tridosas, Saptadhatus, Malas, Srotas, Indriyas, Agni* and *Ojas.* When all of these are in homeostasis the body functions well. But due to old age, increase of *Vata,* vitiation of *Pitta* and decrease in *Kapha* causes an impact on the various other components of body, thus allowing the aging to take over.*Vyayama* of Ayurveda is compared to the physical activity of contemporary concept of physical education.[vi]*Vyayama* mainly brings lightness to the body,increase ability to do work and resistance to disease and balances the *doshas* along with stimulation of *agni*.[vii]Thus in old age the importance of vyayama is more as all the above components are deranged so to maintain them *vyayama* must be incorporated.The WHO guidelines 'Global Recommendations on Physical Activity for Health', included recommendations for physical activity in older adults.[viii] A key message is that at least 150 min per week of moderate intensity physical activity is required for health benefit in older adults.Physical activity in older people has been associated with health benefits such as decreased cardiovascular mortality.[ix]Epidemiological studies show a strong inverse relationship between physical activity, health and all-cause mortality.[x]*Acharya Charaka* has also mentioned *Vyayama* or physical activity for the management of some cardiac disease in the person having optimum strength.[xi]*Acharya Sushruta* has mentioned that there is no anti-obesity measure equal to physical exercise and same as shown by some study that routine physical activity has been shown to improve body composition (e.g., through reduced abdominal adiposity and improved weight control).[xii]

Keeping in view all these points PASE was selected to access the physical activity status of healthy adults and those suffering with chronic diseases like Diabetes,

Hypertension, Cardiovascular diseases etc. PASE was developed to assess physical activity in older adults over a seven-day period. Both activity frequency and duration are assessed.

Aim

To establish the relation between physical activity status in elderly and their health status using PASE.

Objectives

- To find association between physical activity and diseaseprobability among elderly.
- To study Preventive aspect of physical activity among elderly.

Methodology

An epidemiological survey study was conducted on 50 elderly irrespective of their health status whether healthy or unhealthy. Healthy individuals were those who were apparently healthy and only physical health was taken into consideration.Unhealthy individuals were those who were suffering from chronic diseases like obesity. Hypertensions etc. All participants were interviewed in the local language.

Study design-Cross sectional study

Survey Tool-Validated questionnaire-PASE was used. This tool is useful and acceptable for field research purposes and provides an inexpensive method of physical activity and health surveillance. Previous research has validated the use of the PASE score by comparing the questionnaire to both indirect and direct measures of physical activity.[xiii]

Written informed consent was taken after offering sufficientexplanations about the study and its aims.

Inclusion criteria

1. Age-60 to 85 of either sex.
2. Both healthy and diseased.
3. Subjects without any cognitive impairment.

Exclusion criteria

1. Subjects suffering from acute illness.
2. Subjects who are bed ridden, walk with helpof support.
3. Subjects not willing to participate in the study.

Observations

Demographic data

Distribution of subjects according to sex

26 Male subjects and 24 female subjects participated in the present study with mean age of 67.39 years in males and 66 years in females.

Health status

Out of 50 subjects 15 were healthy and 35 were among those suffering from chronic diseases.The distribution according to sex is shown in Fig.1

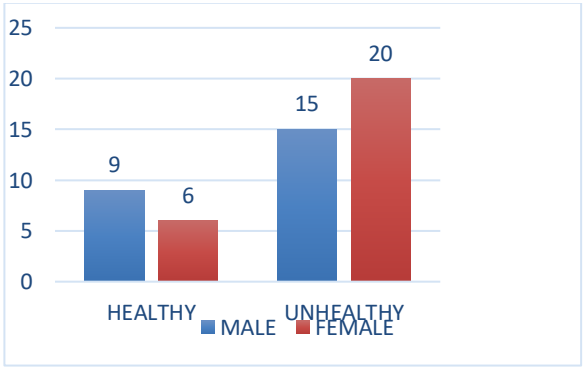

Figure 1

Duration of leisure time activity-In PASE questionnaire leisure time activity is one component which depicts their time spent on these activities for a period of one day for one week in hours. (Fig.2)

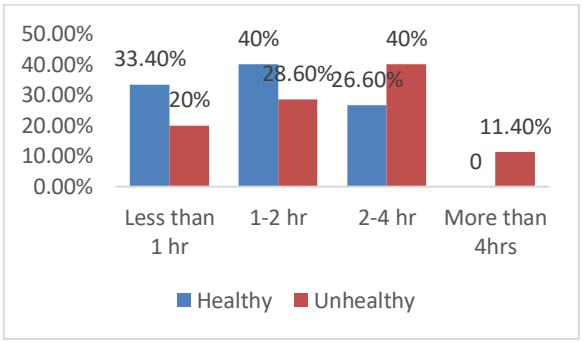

Figure 2

Physical activity in PASEis graded as mild, moderate and strenuous and is shown in figure 3,4 and 5 respectively.

Mild exercise includes walking, light sports or recreational activitiesetc.

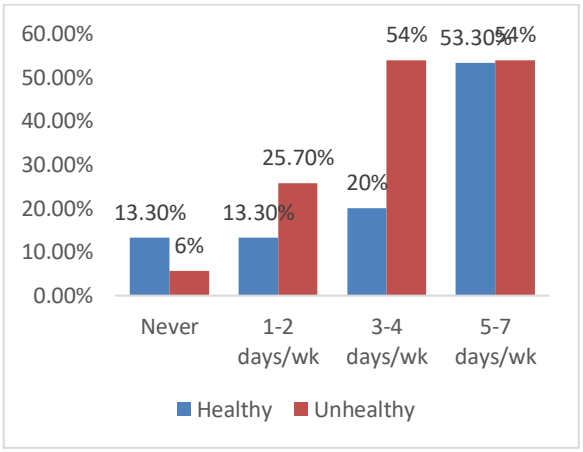

Figure 3

Moderate exercise includes moderate sports like tennis,dancing etc

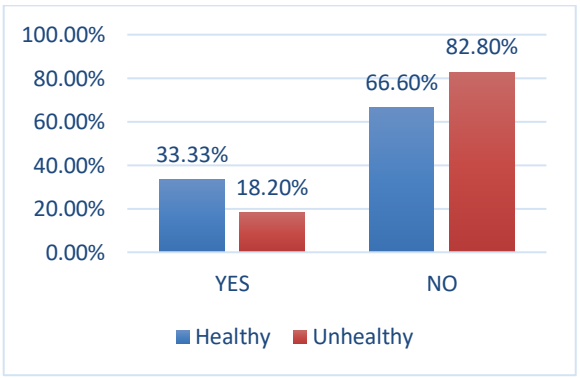

Figure 4

Sternous Execise includes jogging,swimming,cycling etc.

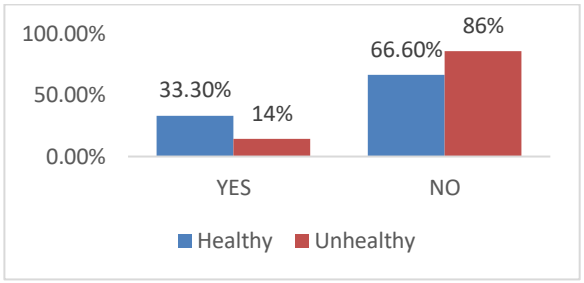

Figure 5

Work Related activity

Table 1.

Health status	**Working (in percentage)**	**Not working (in percentage)**
Healthy	40 %	60 %
Unhealthy	20 %	80 %

Average PASE score-PASE Score can range from zero to 400.The score for each subject was calculated and average scores of both groups were compared as shown in table 2.

Table 2.

Health status	PASE Score Average value
Healthy	241.70
Unhealthy	120.85

STATISTICAL ANALYSIS- Unpaired t-test was calculate using Graph Pad PRISM-5 software

Unpaired t-test results

p value and statistical significance: The two-tailed p value equals 0.0062

This difference is considered to be very statistically significant which means there is effect of physical activity on health.

DISCUSSION

The primitive objective of this study was to determine whether relationships existed between PASE scores and health status in older adults.Healthy adults were found to do much physical activity as compared to unhealthy. The mean PASE score of the group with the chronic health issue is less as compared with the score for those with no chronic health issue. (Table 2.)People below the desired PASE score, need to increase their physical activity and move their PASE score above the cut-off score for that parameter.

It was observed that healthy subjects were less engaged in leisure activities such as reading, watching TV or doing handcrafts both with respect to time and duration. Which shows they are having less sedentary lifestyle and unhealthy subjects were more towards the sedentary lifestyle(Fig.2)As sedentary lifestyle is major etiological factor for non-communicable diseases so incorporation of physical activity in their daily regimen may decrease the severity and chances of getting affected by these diseases.

Exercise patterns depending upon duration and type of activity were observed and categorized under mild. Moderate and strenuous exercise. The pattern shows thatmajority of subjects were doing mild exercise in both the groups. (Fig 3.) Not much subjects were doing moderate exercises but those who were performing among them healthy subjects were more. 33.3% of healthy subjects were into moderate exercise while only 18.20% unhealthy subjects were into moderate exercise. (Fig.4) Among unhealthy subjects 86% were unable to do strenuous exercise. (Fig.5) As described in *Ayurveda* that one should do physical activity as per one's ability and in old age due to decrease in overall strength the individual is unable to do strenuous exercises. This may be one reason of these observations. Working capacity is found less in unhealthy subjects both in terms of duration and type of work. (Table.1)

Extensive research has shown that physical activity can protect against health problems including cardiovascular disease and osteoporosis, and may reduce the risk or delay the onset of Alzheimer's disease and dementia in older adults. High impact physical activity has been found to increase bone density and consequently decrease the risk of osteoporosis. Physical activity affects cognition by causing physiological changes, such as increases in cerebral blood flow. It has been mentioned in Ayurveda that *vyayama* balances body, mind and soul and most helpful in psycho somatic disorders

Many elderlies did not achieve recommended levels of physical perceived benefits of exercise and notable barriers to exercise were as follows: lack of awareness, chronic disease-causing fatigue etc and lack of motivation. Walking is a part of *vyayama* which can be prescribed in all

age groups mainly in diabetes, hypertension and obesity.[xiv]If not much physical activity walking must be encouraged among elderly.

Conclusion

Ayurveda has emphasized on importance of *vyayama i*n daily regimen (*Dinacharya)*. Improper physical activity habits prove important risk factor for early ageing. Physical activity should be promoted in elderly especially those suffering from chronic diseases. To improve the quality of life of the elderly, holistic approach in making them active and healthy is necessary. Follow of ayurvedic principles will be helpful in reducing the prevalence of disease.

Limitation of study

- Sample size was less.
- Only physical aspect of health was included.
- Prakriti which can affect the physical activity level has not been assessed.

Future scope

Future research should attempt investigate the relationship between the activity level and the various health parameters, especially body composition and strength, which may provide stronger relationships between activity level and health.

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