Original Research Article

A Study on Determinants of Health Promoting Behaviors in Older Adults

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ABSTRACT

Health promotion is the process of enabling people to increase control over their health and its determinants, and there by improve their health. The aim was to undergo a study on determinants of health promoting behaviors in older adults. The present study was carried out in August 2017. Purposive sampling was done to enrolled total 100 from different location of Faridabad. Questionnaire was formulated to collect qualitative data. The health promoting behavior was determined by using demographic profile and HPLP-II, MHLC standardized Questionnaire. The results revealed that the mean age of the subjects was 68.36, A negative Pearson correlation relationship (r=-.009) was found between the health promoting behavior of physical activity and powerful other locus of control. But there was a significant correlation between the health locus of control and nutrition at the level of 0.05 as well as 0. 01. Since there was no significant difference between those scoring low and high on the internal locus of control and the health -promoting behavior subscale of physical activity and nutrition respectively(p=0.964, p=0.754). Participants reported beliefs of internal health locus of control (21.27±6.40), then powerful other locus of control (21.77±6.56) followed by chance locus of control (21.04±6.34). Physical activity (19.77 ±4.07) on the other hand for nutrition was (23.49 ±5.46). The study concluded that age was not having significant relationship with the physical activity and nutrition(r=-.054, p=0.590, r=-.007, p=0.947) but a positive relationship between education with the physical activity and nutrition (r=0.038, p=0.794, r=0.138, p=0. .341).

Key Words: Health Promoting lifestyle profile –II (HPLP-II) , Multidimensional Health Locus of Control(MHLC)

I. INTRODUCTION

Health: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". [1]

Health Promotion: Health promotion is a process to improve healthy life and health conditions of the community. The promotion actions result from the state of actions in the respective actions by the community, the actions of the public health policies and the people themselves to develop their own potential, and interventions by various sectors. [2]

Older Adults: The UN defines a country as "Ageing" or "Greying Nation" where the proportion of people over 60 reaches 7 percent to total population. By 2011 India has exceeded that proportion (8.0 percent) and is expected to reach 12.6 percent in 2025. In order to study the implications of an ageing population in India, the changing Indian demographic configuration needs to be highlighted first. [3]

There is many importance of health promotion for older adults which is classified as: - Physiological Changes, Physical Discomfort, and Socio-psychological changes, Nutrition related problems among the older adults.

Physiological changes include the loos of teeth. Decreased neuromuscular coordination, with ageing, there is a decline in neuromuscular coordination, as a result properly holding of utensils become difficult. Alterations in sensory evaluation like taste and smell common with ageing. Almost one fourth of older adults have a reduced ability to detect basic tastes like sweet, sour, salty and bitter. Such changes are notable for the importance of smell and taste in contributing to the enjoyment of eating food. This physiological decline in food intake has been termed 'anorexia of ageing'.

Physical discomfort includes changes in body composition, change in gastrointestinal tract, the secretion of most of the digestive enzymes and digestive juices decline. There is also change in cardiovascular system with age. The palmary capacity declines throughout life, with age it may register a decrease of nearly 40%. The rate of blood flow through the kidneys decrease with age and so does the rate of glomerular filtration, which at the age of 80 year is nearly half of that age of 25year this indicate that decrease amount of blood pass through the kidney filtration system resulting in adversely affecting the elimination of reabsorption of nutrient and waste products into the general circulation. The bone demineralization and mineralization keep taking place throughout the life.

Socio -psychological and economic factors greatly affect dietary pattern and food preference of the elderly like food habits. Older adults who are concerned about lack of food may try skipping meals, cutting the size of meals, or even going without food for one or more days so as to avoid the problem of food shortage. Socioeconomic status of people is related to nutrition based health. A lack of enough income is an important cause of inadequate food intake and is a cause for concern in some older adults. Among the elderly living alone often there is a lack of motivation to cook regular meal for them. Even the elderly, who may not be living alone but are force to lead a lonely life due to family circumstances.

Most of the older adults are obese. They are not taking balanced diet according to the energy needs. Vary often the elderly fail to make adjustment in the energy intake for their decreased need associated with the sedentary life style and decrease in the basal metabolic rate. Osteoporosis is due to the 'decreasing bone mass and density'. As a result, the bones become porous, light and fragile becoming more susceptible to fractures. It is more common in females after menopause. Malnutrition/Under nutrition due to various physiological and socio-physiological changes, food intake of the elderly may have decreased drastically resulting in under nutrition and malnutrition.The risk of cancer increases with the age, as many form of the cancer have long latent period also; ageing appears to make the individual more sustainable to carcinogens. [4]

Nutritional need of the individual change as they age. Due to environmental changes physiological, psychological, social, and economic, they have to munch on healthy food, and these changes may affect their nutritional intake. Nutrients need and recommended dietary allowance looks forward at selection of nutrients and food components and outlines background information, recommended levels of intake, and current levels of intake and food and drink sources. The nutrients which are provided by food are: energy, protein, carbohydrate, fat, calcium, vitamin D, iodine, folate, zinc, Vitamin B12, sodium and water. Energy requirements decrease with ageing and can be distinguished according to gender, physical activity and body size. It is important that an adequate protein intake is maintained because muscle

mass decreases in elderly people but the formation of muscle protein can stimulate higher availability of protein.

Adequate dietary fiber is essential for proper functioning of the gut and has also been associated with risk reduction the chronic diseases including type 2 diabetes, heart disease, and cancers.

Some free fatty acids are essential in the diet which can affect the development of chronic disease. Saturated fats in diet are important in not only cardiovascular disease but in certain chronic disease conditions but exclude the intake of trans fat. Some minerals and vitamins are also important for the elderly like calcium, iodine, sodium and vitamin. [5]

AIM - A study on determinants of health promoting behaviors in older adults

OBJECTIVE
➢ To study demographic profile of selected population
➢ To study health promoting behavior of selected population through HPLP-II
➢ To examine relationship among health locus of control, health promoting behavior and selected demographic variable

HYPOTHESES
The following hypotheses were explored in this study.
1. Older adults, aged 60 years and older, whose scores are higher on internal locus of control engage more frequently in the health-promoting behaviors of physical activity and nutrition, than those who score lower on internal locus of control.
2. Age correlates negatively to health promoting behaviors of physical activity and nutrition among older adults.
3. Higher educational levels correlate positively to health promoting behaviors (physical activity and nutrition) among older adults.

II. METHODOLOGY
The present study was done on determinants of health promoting behaviors

in older adults. The study was conducted in Faridabad because it was feasible and easily accessible to collect data and data collection was started in December 2017. Purposive sampling was done to collect a sample size of 100 subjects among the age of 60-80 years. The inclusion criteria was aged above 60 years, able to read and write English and physically and mentally alert. The exclusion criteria was age below 60 years and subjects were suffering from any psychological and sever medical condition. All the Subjects were willing to participate and able the fill the defined questionnaire. A descriptive correlational study was design to examine relationship among selected demographic variable, health-promoting behaviors and health locus of control. Demographic variables were tested in relation to the dependent variables of health promoting behaviors like physical activity and nutrition were age and educational preparation. Demographic data of gender, living arrangements, marital status, economic status and self-reported health status were done. The current HPLP-II consists of six subscales, which are intended to measure healthy lifestyle domains related to: physical activity (8 items), nutrition (9 items), health responsibility (9 items), stress management (8 items), interpersonal relations (9 items), and spiritual growth (9 items). The Health-Promoting Lifestyle Profile II a summated behavior rating scale (range 52-208) that employs a 4- point response design (1 = never, 2 = sometimes, 3 = often, and 4 = routinely) to measure the frequency in the practice of health-promoting behaviors. This study utilized two subscales of the HPLP II, Physical Activity and Nutrition. [6] The Multidimensional Health Locus of Control Scale; Form A (MHLC-A) is an 18-item instrument with three subscales: Internal Health Locus of Control (EHLC), Powerful Others Health Locus of Control (PHLC), and Chance Health Locus of Control (CHLC). A self-report, 6-point Like format (within each subscale) included responses ranging from: 1 = strongly disagree, 2 =

moderately disagree, 3 = slightly disagree, 4 = slightly agree, 5 = moderately agree, and 6 = strongly agree. [7] Statistically analysis was done by using software SPSS 24 version.

III. RESULT AND DISCUSSION

For achieving the aim, present study enrolled total 100 from different location of Faridabad. Out of 100, 50% were females (n=50) and 50% were males (n=50) with the age of group of 60-80 years.

Table1 Distribution of subjects on the basis of Demographic profile

Age	N	%	Mean± St. Deviation
60-65	30	30	
66-70	41	41	68.36±4.59
71-75	19	19	
76-80	10	10	
Education			
Matric	50	50	
High Secondary	31	31	
Graduated	16	16	
Post Graduated	3	3	

The table 1 shows the demographic data of the total subjects (n=100). The subjects when distributed based on age show that there are 30(30%) between the age of 60-65 years, 41(41%) between the age of 66-70 years, 19(19%) between the age of 71-75 years and 10(10%) between the age group of 75-80. The mean of the age was 68.36 years with a standard deviation of the age was 4.59.

The mean education level was 1.72 with the `standard deviation 0.83. Subjects with the matric level were (50)50%, higher secondary were 31(31%), graduation were 16(16%) and post-graduation were 3(3%).

Table2 Distribution of subjects based on Pearson Correlation of Health Locus of Control, Age, Education to Health Promoting Behaviors: Physical Activity and Nutrition.

Health Locus of Control	Physical Activity	Nutrition
Internal Health Locus of Control	.033	.290[**]
Powerful Others Locus of Control	-.009	.240[*]
Chance Locus of Control	.230[*]	.283[**]
Demographic Data		
Age	-.054	-.007
Education	.038	.138

*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

Table 2 showed a relationship between the selected health promoting behaviors and health locus of control. There was a negative relationship (r=-.009) between the health promoting behavior of physical activity and powerful other locus of control also showed a positive relationship between the health promoting behavior of physical activity and nutrition with the internal health locus of the control and chance locus of control. But there was a significant correlation between the health locus of control and nutrition at the level of 0.05 as well as 0.01.

But there was a negative relationship between the demographic profile (age) with the selected health promoting behaviors and positive relationship between the demographic profile (education) with the selected health promoting behaviors.

Table3 Distribution of subjects based on internal locus of control and health promoting behaviors.

Internal Control score						
Health Promoting Behavior	Low <27 (n=82)		High<27 (n=18)			
	M	SD	M	SD	T	df
Physical Activity	-.805	6.998	12.05	5.081	-0.056	1
Nutrition	-4.09	7.48	9.16	4.28	-0.407	1

Table 3 shows the "**hypotheses-I**, it was hypothesized that older adults, aged 60 years and older, whose scores are higher on internal locus of control engage more frequently in the health-promoting behaviors of physical activity and nutrition, than those who score lower on internal locus of control. Study participants were grouped according to high (27-36) and low (16-26) score result. T value shows that there was no significant difference between those scoring low and high on the internal locus of control and the health -promoting behavior subscale of physical activity and nutrition (t=-0.56, df=1,p=0.964, t=-0.407, df=1, p=0.754) respectively. Therefore, the hypotheses were rejected. Those who scored high on the internal health locus of control did not engage in health-promoting behavior subscale of physical activity and nutrition,

then those who score lower on internal locus of control."

"**Hypotheses-II,** it was hypothesized that age correlates negatively to health promoting behaviors of physical activity and nutrition among older adults. Age was not significant related to health promoting behaviors of physical activity and nutrition among older adults (r=-.054, p=0.590, r=-.007, p=0.947). Hence, the hypotheses were accepted."

"**Hypotheses-III**, it was hypothesized that higher educational levels correlate positively to health promoting behaviors (physical activity and nutrition) among older adults. Higher education was not significant related to health promoting behaviors of physical activity and nutrition among older adults (r=0.038, p=0.794, r=0.138, p=0. .341). Hence, the hypotheses were accepted."

Table 4 shows that the multidimensional health locus of the control tool was used to measure the health locus of control. Subject respond on internal health

locus of control (M=21.27, SD=6.40), then powerful other locus of control (M=21.77, SD=6.56) followed by chance locus of control, (M=21.04, SD=6.34). Study subject's score ranged from 6-36, respectively for each of dimension.

Table 4 Distribution of subjects based on subjects score on MHLC and HPLP II

Scale	Score Range	Mean± St. Deviation
MHLC		
Internal Health Locus of control	6-36	21.27±6.40
Powerful other Locus of Control	6-36	21.77±6.56
Chance Locus of Control	6-36	21.04±6.34
HPLP-II		
Physical Activity	8-32	19.77±4.07
Nutrition	9-36	23.49±5.46

Health promoting lifestyle profile –II tool was used to measure the participants in health promoting activities: physical activity mean score was 19.77 with a standard deviation 4.07 on the other hand mean score for nutrition was 23.49 with a standard deviation 5.46. Study subject's score ranged from8-32 for physical activity and 9-36 for nutrition.

Table 5 Distribution of subjects based on rank scores for physical activity

Physical Activity	Mean± St. Deviation
Follow a planned exercise program.	2.87±1.16
Exercise vigorously for 20 or more minutes at least three times (such as brisk walking, bicycling, and aerobic, Dancing, using a stair climber).	2.47±0.96
Take part in light to moderately physical activity (such as sustained walking 30-40 minutes 5 or more times a week)	2.34±0.84
Take part in leisure-time (recreational) physical activities (such as swimming, Dancing, bicycling).	1.9±1.05
Do stretching exercises at least 3 times per week.	2.39±1.22
Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).	2.57±0.98
Check my pulse rate when exercising	2.12±1.28
Reach my target heart rate when exercising.	2.46±1.32

Table5 shows the HPLP-II mean score and standard deviation of the subjects on the basis of physical activity subscale. In this study, higher mean and standard deviation represent the most practice activities or behaviors by the older adult person. Score indicate that engagement in follow a "planned exercise program were the most frequently performed physical activity" shows a mean and standard deviation was 2.87±1.16 and then shows the get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking) show a mean and

standard deviation was 2.57±0.98. As per the analysis mean and standard deviation was 2.46±1.32 for the people who reached to the targeted heart rate while exercising, however who exercise vigorously for 20 mints or more at least 3 times a week has mean and standard deviation was 2.47±0.96. There were slightly difference between the mean and standard deviation for who do stretching exercises at least 3 times per week and take part in light to moderately physical activity (such as sustained walking 30-40 minutes 5 or more times a week) was 2.39±1.22 and 2.34±0.84. Few people with the mean and standard deviation 2.12±1.28

who keep check on pulse rate while exercising and very low mean and standard deviation score 1.9±1.05 represent the

people who take part in leisure time like swimming and dancing.

Table 6 Distribution of subjects based on rank scores for nutrition

Nutrition	Mean ± St. Deviation
Choose a diet low in fat, saturated.	1.99±1.03
Limit u se of sugars and food containing Sugar (sweets)	2.2±0.95
Eat 6-11 servings of bread, cereal, rice and pasta each day.	2.5±0.99
Eat 2-4 servings of fruit each day.	2.73±1.07
Eat 3-5 servings of vegetables each day.	2.76±1.26
Eat 2-3 servings of milk, yogurt or cheese each day.	2.49±0.99
Eat only 2-3-servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.	2.36±1.08
Read labels to identify nutrients, fats, and sodium Content in packaged food.	2.21±0.96
Eat breakfast	2.53±1.33

Table 6 shows the HPLP-II mean score and standard deviation of the subjects on the basis of nutrition subscale. Higher mean and standard deviation represented the activities or behaviors that were most practiced by the older adult person in this study. Score indicate that, who eat 3-5 servings of vegetables each day shows a mean and standard deviation was 2.76±1.26. Then mean and standard deviation for who eat 2-4 servings of fruit e ac h day was 2.73±1.07. There were slightly difference between the mean score and standard deviation for who eat breakfast and eat 6-11 servings of bread, cereal, rice and pasta each day was 2.53±1.33 and 2.5±0.99. However, the mean and standard deviation for who eat 2-3 servings of milk, yogurt or cheese each day was 2.49±0.99. The mean and stranded deviation for eat only 2-3-servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day was 2.36±1.08. Then there were also slightly difference between for who read labels to identify nutrients, fats, and sodium content in packaged food and who limit use of sugars and food containing sugar was 2.21±0.96 and 2.2±0.95. The lowest mean and standard deviation for choose a diet low in fat, saturated was 1.99±1.03.

IV. CONCLUSION

The study concluded that age was not having significant relationship with the physical activity and nutrition(r=-.054, p=0.590, r=-.007, p=0.947) but a positive relationship between education with the physical activity and nutrition (r=0.038, p=0.794, r=0.138, p=0. .341).

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