

## Health Promotion Behaviors and Quality of Life in Community-Dwelling Rural Elderly

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**Abstract:** Health promotion behavior is one of the main principles for determining health that is known as the basic factor in determining several diseases. Observing such behaviors by the elderly prevents complaint of various diseases and has possible effect in promoting health and increasing the elderly quality of life. **Aim:** was to describe health promotion behaviors and its relation to quality of life of community-dwelling rural elderly. **Method:** A cross sectional descriptive study with analytical component. **Setting:** The study was carried out in the houses of elderly persons who were living in two rural community settings (Al Baramon and Weesh El Hagar villages) affiliated to Mansoura District, Dakahlia Governorate, Egypt. **Tools:** Data was collected by using three tools, structured interview schedule sheet, Health promotion questionnaire, and WHO Quality of life-brief (WHOQOL-BREF). **Results:** The majority of the studied elderly follow more than one of health promotion behaviors. The majority of the studied elderly were physically inactive followed by poor sleep quality and periodic medical checkup. Quality of life varies between elderly who practice health promoting behaviors and who don't practice. **Conclusion & recommendation:** there is a need for a health promotion program to enhance positive thinking towards health behaviors and quality of life in easily accessible forms for the older person.

**Keywords:** Health promotion, quality of life, and elderly.

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### I. Introduction

Life expectancy for older adults in developed and developing countries has expanded because of improvement in general wellbeing and medical advances (Beaglehole et al., 2004).

Moreover, the chronic disabling conditions that frequently go with aging are related to increased prevalence of social and psychological disturbances. Therefore, factors as health status, extent of disability, perceptions about illness, available social support and psychological well-being are considered significant in determining the quality of life in elderly (Joshi et al., 2003).

As a more prominent number of individuals reach old age, medicine is challenged to improve new approaches to this population. Health promotion, not just treatment of disease but play the important role in improving the quality of life for older adults (Fried, 2000).

Elderly persons have higher possibility of suffering from multiple health disorders because of experience reduced physical and mental functions. Loneliness, impaired sexual activity and chronic metabolic disorders are some of causes can result in emotional disturbances. These issues can reduce life quality of elderly (Farzianpour et al., 2012). Health promotion behaviors in older adults have possible impacts in advancing health and quality of life and decreasing the cost of health care services (Lee et al., 2006).

Quality of life characterized as a person's impression of their position in life in the context of the culture and values systems in which they live and in relation to their goals, expectations, standards and concerns (Nejati et al., 2008).

Quality of life is a complex concept that includes a man's capacity and abilities with an aim of inspiring life when it can no longer be prolonged. This includes proper care of the body, mind, and spirit to maintain integrity of the whole person despite limitations brought by the present situation. This can be seen with the following dimensions of man-physical, psychological, social, religious, level of independence, environment, and spiritual (Beliran & Legaspi, 2014).

In Egypt few studies have explored the health promoting behavior among elderly. None of these studies was community-based and none was done in the Mansoura region. So this study was conducted in order to describe health promotion behaviors and quality of life of community-dwelling rural elderly.

## II. Aim of the Study

The aim of this study was to describe health promotion behaviors and its relation to quality of life of community-dwelling rural elderly.

### **The specific objectives are to:-**

1. Describe health promotion behaviors and quality of life of community dwelling rural elderly.
2. Find out the correlation between health promotion behaviors and quality of life of community dwelling rural elderly.

### **Research Question:-**

What is the relation between Health Promotion Behaviors and Quality of Life of Community-dwelling Rural Elderly?

## III. Subjects and Method

This descriptive cross-sectional design was carried out in two villages of Mansoura District, Dakahlia Governorate, Egypt, during the period from August 2016 to February 2017. The target population included elderly people living in the selected villages and fulfilling the following criteria: aged 60 years and above, able to communicate and accepted to participate in the study. Elderly diagnosed with acute organ failure, critically ill and psychiatric disorders were excluded.

A convenience sample of 300 elderly was included in the study. Within each village systematic random sample (every 6<sup>th</sup> home at Weesh El Hagar village and every 9<sup>th</sup> home in Al Baramon village). A total of 316 elderly were invited to participate in the study, however 300 of them completed the questionnaire (response rate 94.9%). Social worker affiliated to the Family Health Unit arranged for home visit on a mutually agreed day. The researchers completed the questionnaire through a direct interview with the elderly during home visits.

A pilot study was carried out on a sample of 20 elderly (10 from each village and not included in the full-scale study) to evaluate the applicability, clarity and feasibility of the developed tools.

### **Tools: there were three tools used in this study:**

**Tool (I): Health promotion questionnaire** was developed by the researcher after extensive literature review (*Walker et al., 1995; Santos et al., 2008; Lima et al., 2009; Wold, 2013*): to assess the health promotion activities among elderly persons. It evaluated the following items: Physical activity, Rest and sleep, Periodic medical examination, Immunizations, High risk behaviors especially smoking, psychosocial wellbeing, Spiritual wellbeing and Screening.

#### ❖ **Smoking index:-**

Smoking index was calculated by using the equation

$$\text{Smoking index (SI)} = (3 - a/15) [1/2 \text{ sq.root} (\text{sum of } p \cdot n \cdot x) - y]$$

(*Indrayan et al., 2008*)

Where, "a" is the age in years at start of smoking.

P = proportion of smoke inhaled (suggested value are p= 1 for regular cigarette, p= 0.67 for filter cigarette, p= 0.15 for passive smoking, p= 5.0 for cigar and p=2.5 for pipe).

n= number of cigarettes (or others) smoked per day.

x= number of years of specified smoking.

y= years elapsed since stopped by ex-smokers.

Smoking index = 0 for SI <1.

Smoking index was classified into three categories 0, < 20 and ≥ 20. It was translated by the researcher.

#### ❖ **International Physical Activity Questionnaire (IPAQ) (short form):-**

Physical activity was calculated using International Physical Activity Questionnaire (IPAQ) (short form) (*Craig et al., 2003*). The Arabic version is available at (<http://www.ipaq.ki.se>).

#### **Summary characteristics of IPAQ short form: (Craig et al., 2003)**

1. IPAQ evaluates physical activity undertaken across a comprehensive set of domains including:
  - a. Leisure time physical activity.
  - b. Domestic and gardening (yard) activities.
  - c. Work-related physical activity.
  - d. Transport-related physical activity.
2. The IPAQ short form examines three particular kinds of activity undertaken in the four domains presented previously. The particular kinds of activity that are assessed are walking, moderate-intensity activities and vigorous-intensity activities.
3. The items in short IPAQ form were organized to provide separate scores on walking, moderate-intensity and vigorous-intensity activity. Calculation of the total score for the short form requires summation of the duration (in minutes) and frequency (days) of walking, moderate-intensity and vigorous-intensity activities. At that point, classified into 3 different grades (low, moderate and high) according to specific formulates.

4. Both categorical and continuous indicators of physical activity are possible from both IPAQ forms. Though, given the non-normal distribution of energy expenditure in many populations, it is recommended that the continuous indicator be presented as median minutes/week or median MET–minutes/week rather than means (for example, mean minutes/week or mean MET–minutes/week). METs are multiples of the resting metabolic rate and a MET-minute is calculated by multiplying the MET score of an activity by the minutes performed.

❖ **Pittsburg Sleep Quality Index:-**

PSQI evaluates quality and patterns of sleep through self-reported sleep habits over the last month. It is an international measure with seven subscales; subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping pills, and day time dysfunction. A worldwide sleep quality score is then acquired by summing the seven components. Every component scores from 0 (not in the past month) to 3 points (3 or more times per week) and the worldwide score range from 0 to 21. A PSQI total score  $\geq 5$  indicates poor sleep quality. A score of 5 yielded a diagnostic sensitivity of 89.6% and a specificity of 86.5%, with an internal consistency ( $\alpha$ ) of 0.83 and test-retest reliability ( $r$ ) of 0.85 (Buysse et al., 1989). Arabic version of PSQI validated by Assad and kahla (2009).

**Tool (III): WHO Quality of life-brief (WHOQOL-BREF):-**

The World Health Organization quality of life brief ((WHOQOL-BREF) instrument (*WHO, 2004*) and translated into Arabic and tested for its validity and reliability by (*Ahmed, 2016*). The reliability was assured by spearman's correlation coefficient  $r=0.884$ . It is used to assess the individual's perceptions with regards to their culture and value systems, and their personal goals, standards and concerns. The WHOQOL-Bref produced a profile with four domain scores (physical health, psychological, social relationships, and environment) and two individually counted items about an individual's overall perception of quality of life and health. It contains 26 questions. Scoring of the items is made using a 5-point likert scale ranging from one (1) to five (5). The four domain scores are scaled in apposite direction with higher scores representing a higher quality of life.

**IV. Results**

**Table (1)** shows the socio-demographic data of the elderly. The mean age of elderly person was 65.1(4.7). Elders aged 60 to less than 70 years constituted 86.3% and more than 70 years were 13.7%. Males of the studied sample constituted 52% compared to 48% were female. The majority of the subjects 74.7% were married. The largest percentage of the study subjects 38% achieved secondary education. The elder's occupation before retirement, housewives constituted 35.3% of the sample and 32.3% were employee. The majority of the subjects 45.7% had enough income. About 95% of elderly were living with other members.

**Table (2)** shows that 96.7% of the studied samples did more than one behavior. 2.7% perform high physical activity, 75.0% were non-smoker, 6.3% had good sleep quality, 11.0% received influenza vaccine, 0.7% received pneumonia vaccine, and 21.3% made screening for diseases, 84.0% had one or more disease and 10.3% made annual medical examination.

**Table (3)** shows quality of life among elderly persons. This table shows that QOL is divided into for domains, first one (Environment) with mean of  $15.4\pm 3.9$  followed by Psychological health, social relationship and physical health with mean of ( $13.8\pm 2.5$ ,  $12.3\pm 2.5$ ,  $11.8\pm 2.1$ ) respectively. There was a statistically significant difference in psychological health, physical health, environment, social relationships according to levels of physical activity, spending free time with relatives, discussing problems with relatives, screening. There was a statistically significant difference between environment, social relationships, levels of physical activity and influenza vaccine.

**Table (1): Socio-demographic characteristics of elderly persons**

Items	Elderly persons(n=300)	
	N	%
<b>Age (in years):</b>		
60 - < 70	259	86.3
$\geq 70$	41	13.7
Mean $\pm$ SD	65.1 $\pm$ 4.7	
<b>Sex:</b>	156	52.0
Male	144	48.0
Female		
<b>Marital status:</b>	19	6.3
Single	224	74.7
Married	57	19.0
Widow/ divorced		
<b>Education levels:</b>	107	35.7

Illiterate	79	26.3
Primary school	114	38.0
Secondary and above		
<b>Occupation before retirement:</b>	55	18.3
Not working	106	35.3
Housewife	97	32.3
Employee	42	14.0
Others*		
<b>Current work:</b>		
Yes	21	7.0
No	279	93.0
<b>Income:</b>	137	45.7
Enough	88	29.3
Not enough	75	25.0
More than enough		
<b>Income source:</b>	218	72.7
Pension/Social affairs	82	27.3
Others**		
<b>Living condition:</b>	15	5.0
Alone	285	95.0
With other family member/s		

\*Others: seller, farmer, worker

\*\*Others: family member (son, relative) & additional work

**Table (2):** Health promotion behaviors of the studied elderly

Items	Elderly persons (n=300)	
	N	%
One or more behavior	290	96.7
<b>Types of health promotion behaviors</b>		
-Physical activity (high)	8	2.7
-Non smoker	225	75.0
-Good sleep quality	19	6.3
-Vaccination		
<i>Influenza vaccine</i>	33	11.0
<i>Pneumonia vaccine</i>	2	0.7
-Screening	64	21.3
-Annual medical checkup	31	10.3

**Table (3):** Quality of life in relation to health promotion behavior

Items	No.	Psychological health		Social relationship		Environment		Physical health	
		Mean(SD)	pvalue	Mean(SD)	pvalue	Mean(SD)	pvalue	Mean(SD)	Pvalue
<b>Quality of life</b>									
		13.8 (2.5)		12.3(2.5)		15.4(3.9)		11.8(2.1)	
<b>Physical activity levels:</b>									
Low	210	13.3(2.7)	≤0.001	11.9(2.6)	≤0.001	14.5(4.2)	≤0.001	11.4(2.2)	≤0.001
Moderate/high	90	15.2(1.4)		13.3(2.1)		17.5(1.99)		12.9(1.2)	
<b>Sleep quality:</b>									
Poor	281	13.7(2.6)	0.10	12.2(2.5)	0.17	15.4(4.0)	0.82	11.8(2.1)	0.93
Good	19	14.8(1.3)		13.1(2.3)		15.6(2.0)		11.9(1.5)	
<b>Medical checkup:</b>									
No	269	13.8(2.6)	0.40	12.3(2.4)	0.38	15.5(3.9)	0.35	11.8(2.1)	0.37
Yes	31	14.2(2.5)		12.7(3.0)		14.8(3.8)		12.1(2.2)	
<b>Smoking index categories:</b>									
<20	20	12.9(2.6)	0.25	11.4(3.1)	0.22	12.9(4.4)	0.04	11.1(1.9)	0.12
≥20	55	13.7(2.9)		12.3(2.9)		15.2(4.2)		12.0(2.2)	
<b>Spend free time with relatives/friends</b>									
No	55	12.4(2.9)	≤0.001	11.4(2.7)	0.003	13.7(4.6)	0.001	11.1(2.2)	0.002
Yes	245	14.2(2.3)		12.5(2.4)		15.7(3.7)		12.0(2.0)	
<b>Discuss problems or interests with relatives/friends</b>									
No	74	12.8(2.9)	≤0.001	11.7(2.8)	0.02	13.5(3.9)	≤0.001	10.9(2.3)	≤0.001
Yes	226	14.2(2.4)		12.5(2.3)		16.0(3.7)		12.1(1.9)	
<b>Annual influenza vaccine:</b>									
No	267	13.8(2.5)	0.43	12.4(2.4)	0.02	15.6(3.9)	0.006	11.9(1.9)	0.005
Yes	33	14.2(2.9)		11.4(3.3)		13.6(4.2)		10.9(2.5)	
<b>Annual pneumonia vaccine:</b>									

No	298	13.8(2.6)	0.47	12.3(2.5)	0.69	15.4(3.9)	0.48	11.8(2.1)	0.77
Yes	2	15.1(1.2)		13.0(0.47)		17.3(1.9)		12.3(1.1)	
<b>Screening:</b>									
No	236	14.3(2.2)	≤0.001	12.6(2.1)	≤0.001	16.4(3.0)	≤0.001	12.3(1.7)	≤0.001
Yes	64	12.2(3.2)		11.2(3.3)		11.7(4.7)		10.2(2.5)	

Independent t-test.

### V. Discussion

Caring for older adults in the community can be a challenging task for public health nurses. This examination investigated the connection between health promotion behaviors and QoL among elderly. The goals of health promotion behaviors are to preserve function and independence, and improve QoL.

Based on the current research findings, the studied sample involved in approximately 9 health promotion behaviors, and participation in such behavior was less than 70 years old, achieved secondary education, were married, living with their families and don't work. This is in agreement with *Ghayth (2014)* who found that two thirds of the studied elderly aged 60-70 years. But this is in disagreement with *Kang et al. (2008)* who found that more than half of the samples were primary educated and also with a study conducted in Egypt by *Ghayth(2014)* which reported that the majority of the studied elderly were illiterate (able to read and write).

More than half of the studied elderly samples were physically inactive. This agrees with a study conducted in Thailand by *Chamroonsawasdi et al. (2010)*, found that low level of exercise have been practiced in, this may be due to change in culture .The majority of the elderly had a good nutritional practice. These results are congruent with a study conducted in Thailand by *Chamroonsawasdi et al. (2010)*, found that more than half of elderly had good eating behavior .Regarding presence of chronic disease, hypertension was reported by almost quarter of the studied elderly followed by diabetes mellitus.

Regarding to social relations and its support, more than two thirds of the studied elderly sample reported that they had good social support, personal relationship with others and strong relation with family members. This result goes in the same line with a study conducted in Bangkok, Thailand by *Jaiyungyuen et al. (2008)*, found high level of social support to elderly people. From the researchers' point of view in Egyptian cultures and traditions people are usually respecting elderly and involving them in everyday life activities to improve their self-satisfaction and motivation.

Regarding screening, the present study found that the prevalence of hypertension screening was low. This go in agreement with a study conducted in Egypt by *Abd El-kareem (2014)* which reported that the percentage for HTN screening was low. The present study revealed that, small percentage of the studied elderly sample had Influenza vaccine yearly. This is disagree with a study conducted in Italy by *Chiatti et al. (2011)* who said that high percentage among community-dwelling Italian elderly reported to be vaccinated against seasonal flu.

The present study indicated that, more than two thirds of the studied elderly samples were identified as poor sleepers. In the same line with a study conducted in Malaysia by *Rashid et al. (2012)*, who found that the prevalence of poor sleep quality among these residents was high.

The present study also revealed that, there is low consumption rate of cigarettes among the studied elderly sample. This is in the line with *Sulander et al. (2004)*, who said that smoking declined slightly among elderly.

Concerning the relation between socio-demographic characteristics and quality of life, the present study revealed that, there are statistically significant relations between age and all domains of quality of life except social relationships. This is disagree with a study conducted in the United Kingdom by *Akehurst et al. (2002)*, which reported that as one grows older, life satisfaction and quality of life decrease not only due to functional insufficiency, but also due to chronic diseases.

The present study indicated that the studied elderly sample practicing health promoting behaviors and there is a significant relation between health promoting behaviors and quality of life among older adults. This results are in congruent with a study conducted in Turkey by *Şenol et al. (2014)*, who found a relationship between health-promoting behaviors and quality of life of elderly individuals, kayseri, Turkey.

Finally there are many factors affecting quality of life among the elderly such as physical activity, social communication immunization and screening. These factors found to be statistically significant in influencing and maintaining health-promoting behaviors among the elderly.

### VI. Conclusion& Recommendations

**Conclusion:** this study concluded that the majority of the studied elderly follow one or more health promotion behaviors. The majority of the studied elderly were physically inactive followed by poor sleep quality and periodic medical checkup. Quality of life varies between elderly who practice health promoting behaviors and

who don't practice.

**Recommendations:**

- A health promotion program should be designed to enhance positive thinking towards health behaviors and quality of life in easily accessible forms for the older people.
- The findings of this study can be used as a database for further research on health-promoting behaviors of older people.

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