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Quality Of Life For Elderly People With Cardio-Vascular Diseases At Home in Rural Areas

Dr.Eman.N.Ramadan⁽¹⁾, Prof.Dr.Howyida.S.Abd-ElHameed⁽²⁾, Prof.Dr.Nawal.M.Soliman⁽³⁾
& miss Boshra. A.Abdo⁽⁴⁾

Community Healthy Nursing Department Faculty of Nursing Benha^(1,2) & Ain Shams⁽³⁾
Universities

Abstract Nowadays, the health related to quality of life has received increased attention as an important outcome measure for elderly with chronic illnesses. **The aim** of this study was to assess the quality of life for elderly people with cardiovascular diseases in rural areas. **A descriptive** study was used for the study. **A convenience sample** of 250 cardiovascular elderly residing rural areas they were distributed as 100 elderly representing 10% of attendants of Health Insurance Hospital and 150 elderly who represented 10% of attendants of Benha University Hospital. **The study Two tools** were designed for data collection **1) an interviewing questionnaire** to assess a) studied sample characteristics b) studied sample knowledge about cardiovascular diseases c) The quality of life of the studied sample ,according to WHO quality of life 2007 **2) an observational checklist** for assessing cardiovascular elder's home environment. **The study results** revealed that a statistically significant difference was detected between the quality of life score and elderly aged 65 - < 70 years. Males had significantly higher quality of life scores than females regard the level of education, enough income, free work, good home environment and knowledge about cardiovascular disease. However, no significant statistically difference was found between total quality of life score and marital status. **This study concluded** that significant correlations were detected between total quality of life score and predisposing factors such as age, total knowledge score, psychological condition and home environment. **The study recommended** that development of a health educational program about healthy life style including adequate oral hygiene, healthy diet, proper exercise, activity and rest patterns, no smoking and continuous follow up of elderly cardiovascular diseases .

Dr. Eman. N. Ramadan, Prof.Dr.Howyida.S.Abd-El Hameed Prof.Dr.Nawal.M.Soliman & miss Boshra. A.Abdo

Key words: Elderly, cardiovascular disease, quality of life.



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Introduction

Aging, the normal process of time-related change begins with birth and continues throughout life. Aging involves a gradual and progressive loss of function over time, so the effect of aging may place older people at higher risk for disease (1).

Elderly people constitute a vulnerable group that needs special care. In Egypt retirement begins at the age of 60 years in governmental and public and private sector jobs (2). By 2030, the elderly population throughout the world is expected to increase to 973 million people, and the number of elderly people will be more than triple in developing countries, which will account for 71% of the world's elderly population (3).

The total population in Egypt is 77.505.756 July, 2006, the percentage of the population aged 65 years and over accounts for 4.4% of the total population (4). Cardiovascular diseases are common chronic illnesses in older population, the heart valves becomes thicker and stiffer and the heart muscle, arteries lose their elasticity, calcium and fat deposits accumulate within arterial walls and veins become increasingly tortuous as a results of the normal physical changes associated with aging (5).

Quality of life may be seen positively in terms of life satisfaction and feelings of well-being, goals and expectations that have been achieved. It can also be seen as reflecting symptom severity, level of impairment or handicap and reflecting loss (6).

People living in rural areas have less access to health care than those in urban areas because of persistent poverty, fewer health services and practitioners, and transportation needed to travel longer distances to access acute and primary preventive services.

Public health nurses have historically provided care to people living in rural settings to promote health and prevent illness and injury (7). The goal of home health care nursing is to provide services to individuals and families and to promote, maintain and restore health. In most cases, this is achieved through short term, intermittent, direct nursing care made in home visit and supervise those services to assist with activities of daily living; teach clients, families and caregivers how to provide self-care; and use communication skills to enhance continuity of care (8).

Significance of the study

All over the world, heart disease and stroke incidence is increasing with increasing age, in 2001 50 - 74% of hospitalization for cardiovascular disease, coronary heart disease, angina, or stroke occurred among people over 65 years of age, and people over 85 years of age constitute 84% of cardiovascular and coronary heart disease deaths (9).



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In Egypt, cardiovascular diseases the main cause of death, being responsible for 42.5% of all deaths, while 20 years earlier they accounted for only 12.4% of mortality. Statistics from the Egyptian Ministry of Health show that there is an increase in life expectancy; over the past three decades, it increased for males from 51.5 to 62.8 years and for females from 53.8 to 66.4 years. The increasing number of elderly people with cardiovascular disease, increases the need for special care to perform activity of daily living in a healthy manner, especially in rural areas due to people living in rural areas have less access to healthcare, persistent poverty and fewer health services, practitioner and transportation. So it's important to conduct this study to assess quality of life for elderly people with cardio vascular diseases (3).

Aim of the study:

The present study aimed to assess the quality of life for elderly people with cardiovascular diseases in rural areas through:

- 1- Assess the life style of elderly people with cardiovascular diseases in rural areas
- 2-Assess the factors affecting quality of life of elderly people with cardiovascular diseases in rural areas

Research question:

What are the relationship between the sociodemographic characteristics, home environment and the quality of life of elderly people with cardiovascular diseases in rural areas?

Subjects& Methods:

Research design

A descriptive design was used in used in conducting this study.

Setting

The study was carried out at homes of elderly people who were attending to cardiovascular outpatient clinics of Benha University Hospital and Benha Health Insurance Hospital. The study setting was selected by random sample and it was a representing (10%) from all Qalyubia Governorate hospitals.

Sample

A convenience sample of 250 elderly was recruited for the study. The study sample included 100 elderly persons complaining from cardiovascular diseases representing 10% of attendants (1103) during the years 2008 – 2009 from Benha Health Insurance



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Hospital, and 150 elderly persons with cardiovascular disease representing 10% of attendants (1551) in the same period from Benha University Hospital. The elderly patients were recruited according to the following inclusion criteria. The elderly diagnosed as cardiovascular diseases, aged 60 years and above, both gender and residing in rural area.

Research instrument (tools): two tools were used to collect study data:

1- An interviewing questionnaire: was developed by the researcher and supervisors and it covered by three parts. **The first part** was concerned with studied sample characteristics as age, gender, educational level, occupation, marital status, income, residence, and accompanying person with elderly patient. **second part** was designed to assess studied sample knowledge about cardiovascular diseases as type, definitions, causes, signs and symptoms, complications and treatment. Also knowledge about practices through asking questions about daily activities as personal hygiene, nutrition, exercise, movement, medication, toileting, rest and sleep, and smoking habits.

The scoring system for patient knowledge and practical knowledge was one point for the correct answer and zero for wrong or incorrect answer. The total score was summed up and divided by number and also converted into percent and the patient was considered having good knowledge if > 65%, average knowledge from 50% - < 65% while < 50% was considered a poor knowledge.

The third part of this tool was developed to assess the quality of life of the studied sample, according to (WHO quality of life 2007) which consisted of (26) items and divided into four domain (7 items) for physical health, (8 items) for psychological health, (3 items) for social relationships and (8 items) for environmental health. Each domain was assigned score using (5) point scale for each items, each studied participant was circles the number of his or her best represent, opinion based on his or her life. The (5) point scale ranged from "not at all" (a score of one (1) to completely response (a score of (5) five). These scores were converted into number and percentage and the studied sample was considered having a better quality of life when total score 56% or more and average quality of life was from 50% to < 56% while equal or less than 50% was poor quality of life level.

2- An observational checklist was used for assessing cardiovascular elder's home environment; it was adapted from Portney and Watkins (2006) and it composed of (15)



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closed- ended questions that observed by researcher through checklist for assessing home condition as type of home, residence, ventilations, source of water, sewage disposal, garbage refuse, indoor pollution from keeping animals and birds, fume, home cleanliness, furniture arrangement, covering of floor, separate kitchen, safety of home stairs, light in home room and toileting, appropriate toile well prepared for elders and crowding inside and outside home.

This tool was assigned score of (30) present and suitable, (15) present but moderately suitable, (> 15) not suitable for elderly.

Validity: Content validity was done through five experts from Faculty Members of Community Health Nursing Department to test relevance and completeness.

Ethical considerations and administrative issues:

An oral consent was obtained from each study subject, who agreed to participate in this study in order to gain their cooperation. They were assured about confidentiality of information given and that will be used only for the purpose of the study. They were also informed about their right to withdraw from the study at any time without giving any reason.

Pilot study

A pilot study was carried out on twenty five elderly patient with cardio- vascular diseases (10%) , to test content relevance, tools applicability, clarity of items needed to fill in the sheets using the interviewing questionnaire and observational checklist applied as. Those participants excluded from the main study sample.

Field work

Approval was taken from Benha university and health insurance hospitals directors up on a letter issued from the faculty of nursing dean to obtain permission for conduction of the study. Based on the results obtained from interviewing questionnaire and observational checklist as well as literature review. The data was collected from 250 elder patients with cardio vascular diseases in the form of individual visits at their homes from August 2008 to January 2009. The duration of home visit lasted 30-45 minutes in each study participant. Home visit were four days / week .Each visit started by explaining aim of the study through the researcher in order to obtain study participants acceptance to participate in the study and taking into consideration the use of simple language that suite the elder patient and their level of understanding .



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Statistical analysis

Statistical presentation and analysis of the present studied data were carried out, using the mean, standard deviation, chi-square, correlation coefficient, test by using the Statistical Package for Social Science (SPSS), version 11.

Results

Table (1) shows that more than half (54.4 %) of the studied elderly people were in the age group of 65 years to less than 70 years. More than half of them (57.6 %) were females; they are distributed between married (47.2 %) or widowed (45.6 %). Less than two thirds of them were illiterates (65.2 %), less than two thirds of them had not enough income (63.6 %). Most of them (90.4 %) were not working, and the majority of them (83.2 %) were under supervision of 1st degree relative persons.

Table (2) shows that more than one third (34.4%) had a good level about definition of CVD, less than half (49.6%) reported average level about CVD causes, and more than half of elderly people (51.2%) had good level of knowledge about signs and symptoms. The least percentage representing less than one quarter (21.2 %) had a good level of knowledge about the complications of CVD.

Table (3) in relation to personal hygiene, more than two fifths (42.0 %) reported good level of practice about frequency of baths, more than three quarters of them (78.8 %) had a good level about type of bath, more than half had average level for ability to bath (54.8%), more than half (54.4%) had poor level for method of dental care and more than half of elderly people gave poor level about frequency of dental washing (57.6 %). Concerning diet, more than half of elderly (54%) gave poor level for the type of healthy diet, less than quarter of them (23.2 %) had a good level in the preferred method of food preparation, and also less than tenth (9.6 %) gave good level for the appropriate diet frequency, and more than one tenth (11.6%) for the type and quantity of food. As regards exercise more than half of them had poor level about type of exercise (50.8%), and frequency of exercise (54.8%) and less than two thirds of them had poor level about duration of exercise (64.8%).

Table (4) shows that as regards medications, most of elderly people (96.4 %) had a good level for drug doses and almost three fifths had poor level about benefits (60.4 %) and less than two thirds gave poor level about regularity in taking the medications (63.2 %), less than three quarters had poor level about missing time of medication (73.2 %).



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Considering movement, more than half of elderly people (54.8%) reported average practice related to ability move. Regarding to toileting more than half of them (53.2 %) need little help in going to the toilet. So, they got average and less than two thirds (62.4 %) got poor for reducing an elimination problem. Concerning rest and sleep, more than quarter of them (26.0 %) gave good level about the rest times, and more than third of them (47.2%) had poor level about the appropriate rest duration. As for medical follow up, less than two thirds had poor level as they do not follow up regularly (63.6 %).

Table (5) shows that one third of cardiovascular elderly smoke (33.6%) and less than one quarter of them (23.6 %) smoke cigarettes, and 20.8 % of them smoke 20 cigarettes daily.

Table (6) shows that there are statistically significant relationships between all sociodemographic characteristics except marital status and total quality of life score, where it demonstrates that the highest level of total quality of life score (56.4%) is associated with the youngest age; (65 - < 70) versus only 53.9% of poor quality of life score. As for education, 71.8% of good quality of life scores are university level versus 96.4% of poor quality score are illiterate ($P < 0.001$). Good quality of life score with free work account for 24.4%, versus only (2.4%) of poor total quality score ($P < 0.001$). More than two thirds of good quality of life score were males (67.9%), while more than two thirds of poor score were females (69.1%) ($P < 0.001$). Less than one third of good QOL score (30.8%) were living alone, while only 10.9% of poor QOL were living alone ($P < 0.001$). All good score group (100%) have enough income, while only 5.5% of poor QOL score have enough income ($P < 0.01$).

Table (7) shows a highly statistically significant relationship was detected between the total quality of life score and home environment score, where it demonstrates that more than three quarters of good total quality of life score (78.2%) have suitable home environment score, while the majority of poor total quality score (82.4%) have not suitable home environment of elder ($P < 0.001$).

figure (8) shows that a highly statistically significant relationship was found between the total quality of life score and knowledge related to disease score, where it demonstrates that half of them having good total quality score (50.0%) have good knowledge score, while most of poor total quality score (40 %) have poor knowledge about CVD ($P < 0.001$).



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Table (9) shows negative statistically significant correlations between total quality score and age (-ve correlation, $p < 0.05$), and statistically positive correlations between total knowledge score (+ve correlation, $p < 0.001$), psychological condition (+ve correlation, $p < 0.001$), home environmental total score (+ve correlation, $p < 0.001$) and total quality score

Table (1): Personal characteristics of the studied subjects (n=250)

| Characteristics | No | % |
|---------------------|-----|------|
| Age | | |
| 65- | 136 | 54.4 |
| 70- | 86 | 34.4 |
| 75+ | 28 | 11.2 |
| Sex | | |
| Male | 106 | 42.4 |
| Female | 144 | 57.6 |
| Marital status | | |
| Married | 118 | 47.2 |
| Widowed | 114 | 45.6 |
| Single | 4 | 1.6 |
| Divorced | 14 | 5.6 |
| Education | | |
| Illiterate | 163 | 65.2 |
| Secondary | 28 | 11.2 |
| University | 59 | 23.6 |
| Income | | |
| Enough | 91 | 36.4 |
| Not enough | 159 | 63.6 |
| Occupation | | |
| Working | 24 | 9.6 |
| Not working | 226 | 90.4 |
| Accompanying person | | |
| 1st degree relative | 208 | 83.2 |
| none | 42 | 16.8 |

Table (2): Distribution of studied elderly people by their knowledge about cardiovascular disease (n=250)

| Items | Good | | Average | | Poor | |
|--------------------|------|------|---------|------|------|------|
| | No | % | No | % | No | % |
| Definition | 86 | 34.4 | - | - | 164 | 65.6 |
| Causes | 53 | 21.2 | 124 | 49.6 | 73 | 29.2 |
| Signs and Symptoms | 128 | 51.2 | 52 | 20.8 | 70 | 28.0 |
| Complications | 53 | 21.2 | 85 | 34.0 | 112 | 44.8 |

Table (3): Distribution of studied subjects by their question about daily activities (n = 250)

| Items | Good | | Average | | Poor | |
|--|------|------|---------|------|------|------|
| | No | % | No | % | No | % |
| Personal Hygiene: | | | | | | |
| -Frequency of baths | 105 | 42.0 | 104 | 41.6 | 41 | 16.4 |
| -Type of bath | 197 | 78.8 | - | - | 53 | 21.2 |
| - Ability to bath | 68 | 27.2 | 137 | 54.8 | 45 | 18.0 |
| -Method of dental care | 63 | 25.2 | 51 | 20.4 | 136 | 54.4 |
| -Frequency of dental washing | 106 | 42.4 | - | - | 144 | 57.6 |
| Diet: | | | | | | |
| - Type of healthy diet | 25 | 10 | 90 | 36 | 35 | 54.0 |
| - Preferred method of food preparation | 58 | 23.2 | 102 | 40.8 | 90 | 36.0 |
| - Diet frequency | 24 | 9.6 | 136 | 54.4 | 90 | 36.0 |
| - Type and quantity of food | 29 | 11.6 | 90 | 36 | 131 | 52.4 |
| Exercise | | | | | | |
| - Type of exercise | 104 | 41.6 | 19 | 7.6 | 27 | 50.8 |
| - Frequency of exercise | 28 | 11.2 | 85 | 34.0 | 137 | 54.8 |
| - Duration of exercise | 7 | 2.8 | 81 | 32.4 | 162 | 64.8 |

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Table (4): Distribution of studied cardiovascular elderly by their daily activities (medication, movement, toileting, rest & sleep, and follow up)n =250

| Items | Good | | Average | | Poor | |
|--------------------------------|------|------|---------|------|------|------|
| | No | % | No | % | No | % |
| Medication: | | | | | | |
| - Drug doses | 241 | 96.4 | - | - | 9 | 3.6 |
| -Benefits | 99 | 39.6 | - | - | 151 | 60.4 |
| - Regularity | 92 | 36.8 | - | - | 158 | 63.2 |
| - Missing time | 67 | 26.8 | - | - | 183 | 73.2 |
| Movement: | | | | | | |
| - Ability to move | 111 | 44.4 | 137 | 54.8 | 2 | 0.8 |
| Toileting | | | | | | |
| - Ability to go to bathroom | 117 | 46.8 | 133 | 53.2 | - | - |
| - Reducing elimination problem | 94 | 37.6 | - | - | 156 | 62.4 |
| Rest and sleep: | | | | | | |
| - Rest times | 65 | 26.0 | 69 | 27.6 | 116 | 46.4 |
| - Rest duration | 31 | 12.4 | 101 | 40.4 | 118 | 47.2 |
| Medical follow up | | | | | | |
| - Follow up regularly | 91 | 36.4 | - | - | 159 | 63.6 |

Table (5): Distribution of studied sample regarding smoking habit (n = 250)

| Items | No | % |
|---------------------------|-----|------|
| Smoking : | | |
| Do you smoke? | | |
| Yes | 84 | 33.6 |
| No | 166 | 66.4 |
| Smoking type (84) | | |
| Cigarettes | 59 | 70.2 |
| Hookah (Shesha) | 25 | 29.8 |
| Quantity of daily smoking | | |
| 20 cigarettes | 52 | 20.8 |
| 1-2 packs | 19 | 7.6 |
| 3+ packs | 13 | 5.2 |

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Table (6): Relationship between sociodemographic characteristics of studied subjects and their total quality of life score (n=250)

| Sociodemographic Characteristics | Total Quality Score | | | | | | χ^2 | P-value |
|----------------------------------|---------------------|------|---------|------|------|------|----------|---------|
| | Good | | Average | | Poor | | | |
| | No. | % | No. | % | No. | % | | |
| Age | | | | | | | | |
| 65 - | 44 | 56.4 | 3 | 42.9 | 89 | 53.9 | 16.71 | < 0.05 |
| 70 - | 34 | 43.6 | 2 | 28.6 | 50 | 30.3 | | |
| 75 + | - | - | 2 | 28.6 | 26 | 15.8 | | |
| Education | | | | | | | 226.5 | < 0.001 |
| Illiterate | - | - | 4 | 57.1 | 159 | 96.4 | | |
| Secondary | 22 | 28.2 | 3 | 42.9 | 3 | 1.8 | | |
| University | 56 | 71.8 | - | - | 3 | 1.8 | | |
| Occupation | | | | | | | 29.6 | < 0.001 |
| Free work | 19 | 24.4 | 1 | 14.3 | 4 | 2.4 | | |
| Don't work | 59 | 75.6 | 6 | 85.7 | 161 | 97.6 | | |
| Sex | | | | | | | 30.32 | < 0.001 |
| Male | 53 | 67.9 | 2 | 28.6 | 51 | 30.9 | | |
| Female | 25 | 32.1 | 5 | 71.4 | 114 | 69.1 | | |
| Marital Status | | | | | | | 5.4 | > 0.05 |
| Married | 37 | 47.4 | 3 | 42.9 | 78 | 47.3 | | |
| Widowed | 39 | 50.0 | 4 | 57.1 | 71 | 43.0 | | |
| Single | - | - | - | - | 4 | 2.4 | | |
| Divorced | 2 | 2.6 | - | - | 12 | 7.3 | | |
| Income | | | | | | | 205.84 | < 0.001 |
| Enough | 78 | 100 | 4 | 57.1 | 9 | 5.5 | | |
| Not enough | - | - | 3 | 42.9 | 156 | 94.5 | | |
| Accompanying person | | | | | | | 16.40 | < 0.001 |
| None | 24 | 30.8 | - | - | 18 | 10.9 | | |
| 1st degree relative | 54 | 69.2 | 7 | 100 | 147 | 89.1 | | |

** Highly statistically significant difference (P ≤ 0.001)

* statistically significant difference (P ≤ 0.05)

Table (7): Relationship between home environment and total quality of life score of elderly people (n = 250)

| Home Environment | Total Quality of Life Score | | | | | | χ^2 | P-value |
|------------------|-----------------------------|------|---------|------|------|------|----------|---------|
| | Good | | Average | | Poor | | | |
| | No. | % | No. | % | No. | % | | |
| Good (> 18) | 61 | 78.2 | 2 | 28.6 | 14 | 8.5 | 121.40 | < 0.001 |
| Average (13- 18) | 2 | 2.6 | - | - | 15 | 9.1 | | |
| Poor (< 13) | 15 | 19.2 | 5 | 71.4 | 136 | 82.4 | | |

** Highly statistically significant difference (P ≤ 0.001)

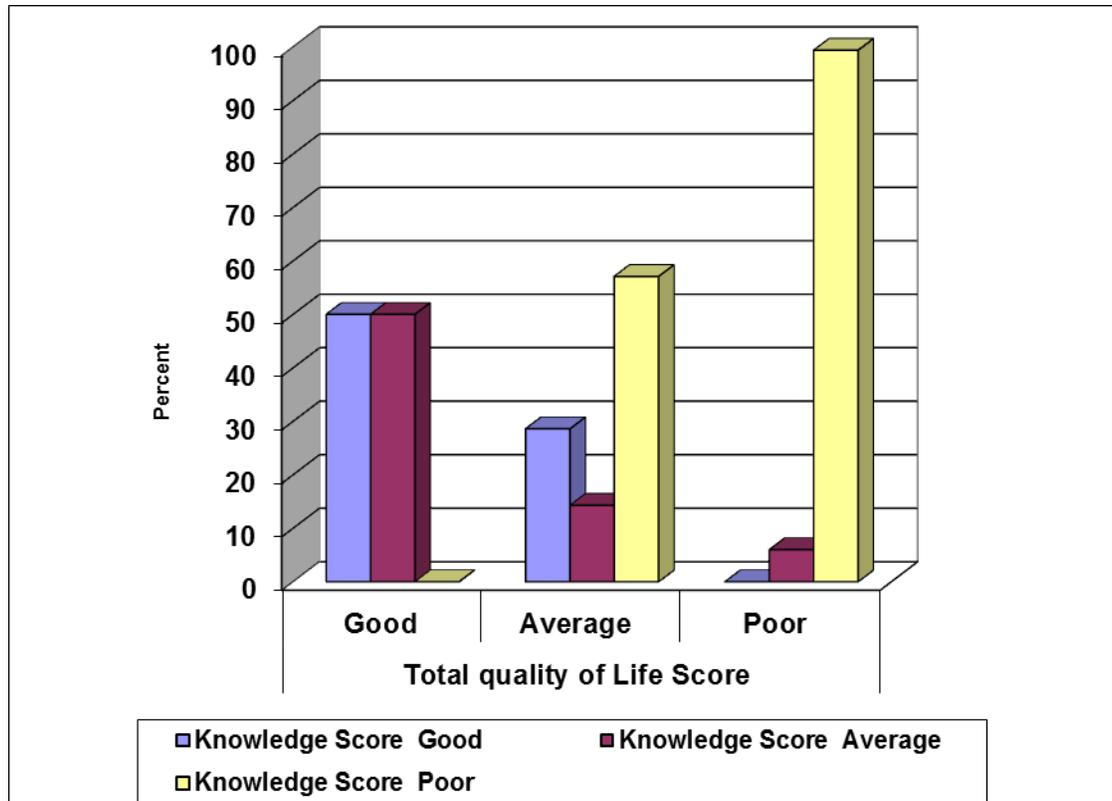


Fig. (8): Relationship between knowledge of cardiovascular elderly people in rural areas about disease and their total quality of life.

Table (9): Correlations between factors affecting studied subjects condition and their total quality of life score (n = 250).

| Factors affecting quality of life | r | P-value |
|-----------------------------------|--------|---------|
| Age | - 0.17 | < 0.05 |
| Total knowledge score | 0.89 | < 0.001 |
| Psychological condition | 0.96 | < 0.001 |
| Home environmental total score | 0.65 | < 0.001 |

** Highly statistically significant difference (P ≤ 0.001)

* statistically significant difference (P ≤ 0.05)



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Discussion

The aim of this study was to assess the quality of life for elderly people with cardiovascular diseases in rural areas through; identifying the life style of elderly people with cardiovascular diseases in rural areas and assess the factors affecting quality of life of elderly people with cardiovascular diseases in rural areas.

As regards personal characteristics of the cardio vascular elderly, the present study findings showed that more than half of studied cardiovascular elderly people were in the age group ranging from 65 years to less than 70 years, while those from 75 years and above were more than one tenth (Table 1). This finding is in agreement with *Happ et al.*(10) who found in their study entitled "assessing the factors contributing to rehospitalization of elderly patients with heart failure" that, the age adjusted incidence of heart failure rises substantially after age 65 years, the prevalence, morbidity, and mortality from this condition will increase as the population ages increased.

Considering gender of cardiovascular elderly, results of the current study revealed that less than three fifths of cardiovascular elderly were females. This finding is consistent with *Coen* (11), who found that the ratio of cardiovascular events was higher in women than in men.

In the present study, less than half of the cardiovascular elderly were married, while less than two thirds were illiterate. As regards employment, in this study, most of cardiovascular elderly were housewives and had higher, illiteracy rate than the males. This finding is consistent with that reported in a study carried out on elderly concerning "compliance behaviors of elderly patients with advanced heart failure" from the school of Nursing, University of California Los Angeles by *Doering* (12), who found that half of the heart failure elderly were married and more than half of the patients were illiterate, with illiteracy rate among females double than that among males. In relation to economic condition, this study finding revealed that less than two thirds of cardiovascular elderly were low economic condition due to insufficient income and many factors such as poverty leaving in rural areas that has a negative effect on the quality of life of elderly cardiovascular patient preventing them from leading normal life and going to work, majority of study subjects were females and housewives, and higher illiteracy rate in females than in male in rural areas in addition to retirement and all these factors lead to poor health and quality of life of cardiovascular elderly people. This finding is in



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agreement with Covan (13), who found that generally cardiovascular elderly experience multiple loss of income and prestige from a career once practiced or the economic stability of an enjoyable job and one of the most important factors that increase the likelihood of elderly living in poverty are female sex, living alone, advanced old age, having poor health and not completing high school.

Considering the accompanying person in this study findings revealed that most of cardiovascular elderly people live with first degree relatives this may be due to the extended families prevailing in rural areas where all members of the family are living in the same home and also in the same social and economic condition, the family play the caregiver role toward his or her elderly patient. This finding is consistent with that reported by *Spilker et al.* (14) who described relationships among several generations of family members in terms of upward extension of households (i.e., older adults reside with adult children or grandchildren to receive care) and downward extension of households (i.e., grand children or adult children live with and are in some way dependent on grandparents and older parents).

As regard elderly knowledge about cardiovascular disease the present study revealed that knowledge of cardiovascular elderly about basic knowledge such as, concept of CVD, causes, signs and symptoms and complications were inadequate (Table 2). This is finding has been supported by *Wykle* (15), who stated that people with low level of education have lower utilization rates of checks and services for cardiovascular care and a worse outcome in terms of complications.

As regards practice about personal hygiene of cardiovascular elderly, results of the current study revealed poor level about the importance of continuous self-hygiene (Table 3). This is finding consistent with that of *Frantz* (16), who stated that health education of elderly and their caregivers plays a crucial role, both in the quality of control of the disease and in quality of life.

As regards practice about diet, this study revealed poor practice of study subjects about a healthy diet with regard to cardiovascular disease (Table 4). This finding is in agreement with *Doering* (12), who found that in elderly heart failure patient, dietary compliance rates have been reported to be between 22% and 70%, and the reasons for difficulty following diet

Regarding to cardiovascular elderly practice about exercise, the present study demonstrated poor level in relation to type of exercise, frequency and duration as nearly



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half of study subjects don't practice any exercise. These findings are consistent with those of *Guirguis* (17) from faculty of Nursing Ain Shams University, who stated that in the Egyptian society, especially within the low socioeconomic areas, females are not allowed to go out of their house except to fulfill their necessary needs. On the same context, *Klieman et al.* (18) reported specific cardiovascular benefits from exercise (walking), which include lower body fat ratios, lower blood pressure measurements, lower resting heart rates, improved physical working capacity and lower rates of myocardial infarction.

As Regards smoking, this study result revealed that more than one third of males were smokers, one quarter of the study subjects smoke cigarettes and most of them were males and not females (Table5). This is in agreement with *Burbank* (19), who reported that, health education of cardiovascular elderly addresses health practices such as nutrition, dental care, exercise, physical activity and avoidance of smoking and environmental tobacco smoke.

According to the research question about the relation between sociodemographic characteristics of cardiovascular elderly and their total quality of life score, the results revealed statistically significant association ($P < 0.05$) between total quality of life score, and age, were highly statistically significant associations ($P < 0.001$) between total quality of life score and education, occupation, sex, income and accompanying person and not significant ($P > 0.05$) in marital status (Table 6). These findings are on line with *Fries* (20), who reported that, sociodemographic characteristics such as income and education vary significantly among various groups (e.g., gender, cultural background, young-old versus old-old).

The previous findings are congruent with *Idler* (21), who stated that, health and functioning of elderly people with chronic disease have been improving during the past decades and these improvements are attributed to factors such as healthier life styles, improved environments, higher educational levels, advances in medical care and greater use of assistive devices.

According to the research question about the relationship between home environment of cardiovascular elderly and their total quality of life score, the finding of the present study showed that there is a highly statistically significant association ($P < 0.001$) between house environment and their total quality of life score (Table 7). This result is in accordance with *Scheidt, et al.* (22), who reported that the Competence Press



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Model suggests that the relationship between personal competence and environmental demands determines behavioral outcomes. According to this model, the more impaired a person is the more the environment influences the person's health and functioning.

As regards the relationship between knowledge of cardiovascular elderly about cardiovascular disease and their total quality of life score, the current study results revealed a highly statistically significant association ($P < 0.001$) (figure 8). This finding comes in agreement with *Betschart* (23), who stated that effective control of chronic diseases occurs most often in an informed and cooperative patient. Similarly, *Montross* (24) identified that, education approaches which help self-management ability through, improving knowledge and enhancing empowerment skills are particularly valuable.

According to correlations between predisposing factors affecting cardiovascular elderly condition and their total quality of life score, the results of this study revealed a negative statistically significant correlation - 0.17 at ($P < 0.05$) between total quality of life score and age and highly statistically significant associations between total quality of life score and total knowledge score, psychological condition and home environmental total score ($P < 0.001$) (Table 9). This finding is in agreement with *Meleis* (25), who clarified that risk factors are likely to occur in cardiovascular elderly and have a significant detrimental effect on their health and functioning, risk factors commonly arise from environments, acute and chronic conditions, psychosocial conditions or adverse medication effects.

Conclusion

The study concluded that the quality of life of cardiovascular elderly people is affected by their sociodemographic characteristics were significantly higher among those aged 65- <70 years. The study highlighted that significant correlations were detected between total quality of life score and predisposing factors such as age, total knowledge score, psychological condition and home environment.

RECOMMENDATIONS

This study recommended that all cardiovascular elderly and their caregivers must receive proper health education about cardiovascular disease and healthy life style that maintain cardiovascular functions and improve their quality life at outpatient settings during their follow up visits or during home visits. More attention is to be directed to encourage home visits and home care for cardiovascular elderly, by community health nurses.



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