Factors Associated with Loneliness among Institutionalized and Community Dwelling Elders

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Abstract

Satisfying social relationships are vital for elder's mental and physical health. Deficits in the quality of these social relationships can lead to feelings of isolation and loneliness in elders. ***Objective:*** *To identify factors associated with loneliness among institutionalized and community dwelling elders.* ***Settings:*** *The study was carried out in all governmental elderly homes in Dakahlia Governorate and two outpatient clinics affiliated to Mansoura General Hospital and the Specialized Medical Hospital.* ***Subjects:*** *151 elderly persons were included in the study (61 elders from elderly homes and 90 from outpatient clinics.* ***Tools:*** *five tools were used: Mini-Mental State Examination, Socio-demographic structured Interview Schedule Sheet, Barthel Index Scale, UCLA Loneliness Scale, and Geriatric Depression Scale.* ***Results:*** *The main factors associated with loneliness among institutionalized elders were sex, level of education, occupation before retirement, health perception, and presence of depression. While, marital status, occupation before retirement, income, health perception, and presence of depression were the factors associated with loneliness among community dwelling elders.* ***Conclusion:*** *Loneliness is prevailing among institutionalized elders than community dwelling elders. The main factors associated with loneliness for both groups were elders' occupation before retirement, their perception of health and presence of depression.* ***Recommendations:*** *Increase elders' awareness about their health, and encourage their participation in volunteer and recreational activities.*

Keywords: Loneliness, Elders, Institutionalization, Community dwelling.

Operational definition:

Institutionalized elderly: Elderly people residents in elderly homes.

Community dwelling elderly: Elderly people attending outpatient clinics and residing in their own homes.

Introduction

Loneliness is a negative and distressing feeling that accompanies discrepancies between one's desired and actual social relationships. It is also an individual's subjective experience about lack of satisfying human relationships. Loneliness may be perceived as isolation either social or emotional. Emotional Loneliness may be the loss or absence of confiding in attachment to a special and beloved person. It is normally associated with bereavement, causing feelings of emptiness and desolation. Whereas social loneliness is connected to the absence of a network of friends with common interests, with feeling of boredom and passivity[1,2].

Loneliness is one of the most common psychosocial problems facing elderly. It is considered a serious social and public health problem. Loneliness is a unique experience that occurs in all stages of life and is a significant problem for many older people. This is because of the multiple losses as (loss of spouse, health, work and status) associated with aging that precipitate isolation and withdrawal. These losses affect significantly elders' social relations and ties[3,4]. Also, loss of home or relocation is another factor that may cause loneliness. Relocation to the elderly home triggers negative feelings as feeling of loss of home, independence, autonomy, privacy and social role. All these losses may interfere with social connection with families and friends, due to the lack of sufficient space and the time constraints of the elderly homes[5]. Prevalence of loneliness varied from country to another in different societies. In United States overall prevalence of loneliness among elderly was 19.3% in 2009[6] and older adults who are in poor health, Poor social skills and live alone are most prone to loneliness as reported by Victor et al. (2000)[7]. These factors represent obstacles to social involvement**.** Eastern European nations having the highest proportions of lonely people about 10–34% in 2011[8]. In Saudi Arabia the percent of loneliness was 4.5% in 2000[9]. In Egypt, a study conducted by Sayied et al, 2012)[10] in Assuit about feeling of depression and loneliness among elders attending geriatric clubs revealed that 72% of elders suffer from severe loneliness and 36% suffer from moderate loneliness. In Alexandria, another study conducted by Lachine, 1998[11] reported that the majority (80.5 %) of residents in elderly homes suffered from severe loneliness.

Loneliness may fluctuate at different time points, and during the life cycle. Loneliness is associated with serious consequences[12] such as loss of dependence and its related consequences as low self-esteem ,memory disturbance and isolation which necessitate long term care and increase possibility of care giver stress . A study conducted in Finland 2013 showed that loneliness predicts depressive symptoms, mental health decline, greater cognitive decline, lower quality of life and poor physical health. More importantly, loneliness has been associated with increase in mortality and suicidal ideation[13].

Aim of the Study

To identify factors associated with loneliness among institutionalized and community dwelling elders.

Research Question:

What are the factors associated with loneliness among institutionalized and community dwelling elders?

Materials and Method

Materials

Design: Descriptive research design was used in this study.

Settings: This study was conducted in all governmental elderly homes in Dakahlia Governorate namely; Dar El-Aml, Dar El-Malak Mikhael in Mansoura city and Dar El-Walaa in Met-Gamr city and the outpatient clinics of the Specialized Medical Hospital which is affiliated to Mansoura University and the Mansoura General Hospital affiliated to the Ministry of Health. These clinics were selected in this study because they are the only available outpatient clinics for elders.

Subjects: All elders residing in the previously settings and fulfilling the following criteria, aged 60 years and more, with normal cognitive function or mild cognitive impairment and willing to participate in the study. The total sample included in this study is 151 elderly persons (61 from elderly homes) and (90 from outpatient clinics; 45 from each clinic).

Table (1): distribution of elders according to the number selected from each of the selected elderly homes:

Elderly homes	Total number of residents	Selected sample
Dar El-Walaa	24	22
Dar El-Aml	23	21
Dar El-Malak Mikheal	18	18
Total	*61*	*61*

Tools: Five tools were used for data collection:

Tool I: Mini–Mental State Examination (MMSE)

This scale was developed by Folstien M 1975 (Folstien, 1999)[14].It was translated into Arabic language by, validated and tested for its reliability (r =.093) by Abd El Moniem, 2012)[15]. It assesses the elder's cognitive function. It consists of 11 items that investigate the memory, orientation to time and place, attention, calculation naming, repetition, registration, language, praxis and copying of a design. This tool was used to exclude patients with severe degree of cognitive impairment. The MMSE scale score is 30 points and is classified as follows: Score of 24-30 indicates normal cognitive function, Score of 18-23 indicates mild cognitive impairment, score of 0-17 indicates severe cognitive impairment.

Tool II: Socio-demographic Structured Interview Schedule

It was developed by the researchers after reviewing the related literature and used to collect the following data:

1. Socio-demographic characteristics of elders such as age, sex, marital status, education, occupation before retirement, income and residence place.
2. Health profile of elderly such as medical health history, medication taken, fall history, elder's subjective feelings about their health, physical status as (vision and hearing, level of mobility and use of assistive devices).
3. Psychological status as presence of persons for help in performing daily activities and sharing interests; spiritual status as performing religious rituals, praying, and fasting.
4. Social activities as elders' visits inside or outside elderly homes or their own homes, volunteer work, hobbies and interests.

Tool III: Barthel Index Scale

The Barthel Index Scale was developed by Mahoney & Barthel 1965[16] to measure the activities of daily living of elders. This scale was translated into Arabic by Hallaj (2007)[17], validated and tested for its reliability (r=0.971). The scale consists of 10 questions which assess the person's abilities in the areas of feeding, moving (from wheel chair to bed and return), personal toilet, getting on and off toilet, bathing self, walking on level surface, propelling a wheelchair, ascending and descending stairs, dressing/undressing, and controlling bowel and bladder. The Barthel Index score is 20 points and is classified as follows: Score of 0 to 7 indicates dependence, score of 8 to 12 indicates independence with assistance, score of 13 to 20 indicates independence.

Tool IV: UCLA (University of California, Los Angeles) Loneliness Scale

It was developed by Russell, Peplau and Cutrona (1980)[18], and used to measure loneliness among elderly people. It consists of 20 items. Responses were measured on 4-point likert scale: (4) always, (3) sometimes, (2) rare and (1) never. The score was reversed in case of negative items (1,5,6,9,10,15,16,19 and 20) with a total score of 20-80. The higher the score, the

higher the feeling of loneliness. The total score was divided into: low feeling of loneliness 20-<40, mild feeling of loneliness 40-<60 and high feeling of loneliness 60-<80.

The scale was translated into Arabic language and tested for its content validity and reliability by Abdel-Salam (1996)[19] (r= 0.87).

Tool V: Geriatric Depression Scale (GDS) short form

The Short Form GDS was developed by Sheikh, & Yesavage, 1986[20] and consists of 15 questions. It was translated into Arabic language, validated and tested for its reliability (r=.70) by El Husseini, 2013[21]. Questions from the Long Form GDS which had the highest correlation with depressive symptoms in validation studies were selected for the short version. Of the 15 items, 10 indicates the presence of depression when answered positively, while the rest (question numbers 1, 5, 7, 11, 13) indicates depression when answered negatively. Scores of 0-4 are considered normal; 5-8 indicates mild depression; 9-11 indicates moderate depression; and 12-15 indicates severe depression.

Method

1- The necessary approvals were obtained from the responsible authorities.

2- The head of the out patient clinics and the directors of the institutions were informed about the purpose of the study, the date and the time of starting data collection.

3- Tool II was developed by the researcher after a thorough review of literature.

4- The Arabic version of Tool I, Tool III, Tool IV and Tool V were used for data collection.

5- Study tools were revised by 8 experts in the related fields of Gerontological Nursing, Community Health Nursing, Psychiatric and Mental Health Nursing in Alexandria University and Community Nursing and Community Medicine of Mansoura University to test its content validity and feasibility and necessary modifications were done.

6- A pilot study was carried out on 12 elderly patients from El-Aml elderly club at Mansoura city to test clarity and feasibility of the tools and the approximate time needed for the interview. Accordingly the necessary modifications were done.

7- Survey to all residents in elderly homes was done to identify those fulfilling the study criteria.

8- Based on the schedule of the outpatient clinics, the researcher visited the clinic of the Specialized Medical Hospital on Sunday and Wednesday, and the clinic of General Hospital on Tuesday, and Thursday weekly for three months.

9- All the elders who attended the clinics and fulfilled the study criteria during the period of data collection were included in the study.

10- Each elderly was interviewed individually by the researcher after explaining the purpose of the study. Time of the interview ranged from 30 to 45 minutes.

11- Elders' ability to perform ADLs and their level of depression were measured by the researcher using Barthel Index Scale and GDS Short Form Scale.

12- Level of loneliness for each elderly person was measured by the researcher using UCLA Scale to identify factors associated with loneliness among institutionalized and community dwelling elders.

13- The data collection involved a period of three months starting from the

middle of August till the middle of November 2014.

Ethical considerations:

Verbal consent from each elderly person was obtained after explanation of the study purpose. Anonymity, privacy of each patient, and confidentially of the collected data were assured throughout the study.

Statistical Analysis

After data were collected it was revised, coded and fed to statistical software SPSS version 16. The 0.05 level was used as the cut off value for statistical significance and count and percentage and Chi Square (X^2) were statistical measures used in this study.

Results

Characteristics of institutionalized and community dwelling elders:

Table (1) shows that the age of the studied subjects in elderly homes ranged from 60 up to 85 years. The majority of institutionalized and community dwelling elders (83.6%, 96.7%) respectively are 60 to less than 75 years (young old). Males were more prevalent in the study sample than females. They constituted 59.0% and 61.1% of institutionalized and community dwelling elders respectively. More than one third (39.3%, 38.9%) of both groups were widows respectively. About 36.1% of institutionalized compared to 16.7% of community dwelling elders had a university degree. While 27.9% and 56.6% of institutionalized and community dwelling elders respectively completed their primary, preparatory or secondary education. Nearly half of institutionalized elders 49.2% and 37.8% of community dwelling elders were house wives. While employee and technical workers constituted 21.3%, 16.4% respectively of institutionalized and 24.4%, 15.6% respectively of community dwelling elders. The income was reported to be enough for 36.1% of institutionalized elders and 41.1% of community dwelling elders. The main source of income was pension for 91.8% and 91.1% of both groups respectively.

According to elders' perception about their health status 37.7% of institutionalized elders perceived their general health as good and 34.4% as fair. Whereas, 43.3% of community dwelling elders reported their general health as good, and 36.7% as fair. **(Table 2)**

Hypertension is the most prevailing disease reported by both groups (54.1% and 52%) respectively for institutionalized and community dwelling elders. Intact vision and hearing were reported by 42.6% and 80.3% respectively for institutionalized elders compared to 31.1% and 80% respectively of community dwelling elders. About 70.5% and 67.8% reported moving without any help of both groups. In relation to fall, nearly the same percent (23% and 23.3%) in both groups reported previous falls. The majority of institutionalized and community dwelling elders were independent in performing ADLs. **(Table 2)**.

Loneliness among Institutionalized and community dwelling elders:

Table (3) shows the distribution of institutionalized and community dwelling elders according to their feeling of loneliness. It is noticed from the table that 41% of institutionalized elders reported high feeling of loneliness, and 44.3% reported mild feeling compared to 25.6% and 41.1% respectively of community dwelling elders. The differences between the two groups are statistically significant P=0.022.

Factors associated with loneliness among institutionalized elderly:

It appears from **table (4)** that sex, education and occupation before retirement affected significantly the feeling of loneliness among institutionalized elders P=0.001, P=0.048 and P=0.037 respectively. Also, elders' perception about their health

P=0.008 and presence of depression P=0.000 significantly affected feeling of loneliness.

Factors associated with loneliness among community dwelling elders:

Tables (5) shows a statistically significant relation between loneliness and marital status P=0.003, occupation before retirement P=0.005 and income P=0.002. Also, elders' perception about their health P=0.000, and presence of depression P=0.000 and presence of companionship P=0.0000 affected significantly elders' feeling of loneliness.

Discussion

Loneliness is a universal phenomenon for human beings of all ages**,** yet a common and distressing one for many older adults**.** Feeling of loneliness can affect general health of older adults by decreasing immunity and increasing vulnerability to diseases. Also, loneliness may cause cognitive deterioration which may be mistaken as dementia. Psychologically, loneliness may cause depression and its associated negative consequences which may lead to suicide[22] **.**

Identifying the factors associated with loneliness can enhance in preventing its occurrence among elders. So, the aim of this study is to identify factors affecting loneliness among institutionalized and community dwelling.

The present study revealed that loneliness is a significant problem among more than half of institutionalized elders compared to more than one third of community dwelling elders and had a statistical significant relation with institutionalization (table 3). This may be interpreted as more than half of institutionalized elders were widows or divorced, while more than half of community dwelling elders were married. Moreover, the presence of companionship gives elders a chance to share experiences, ideas and interests to their families which is considered a buffer and protective system against feeling of loneliness. This was observed in the present study where the majority of community dwelling elders live with their families which had a significant relation with the feeling of loneliness (table 5). This is similarly with a study in Portugal by Aylaz et al. (2012)[23].

In addition, moving to an institution or elderly home is another challenge facing elders' life. Institutionalization does not mean only loss of home, but also loss of privacy, roles, old memories, neighborhood, social relations and elderly's ability to control his environment. All these losses may indicate loss of one's life which in turn predispose to the feeling of loneliness. These are in agreement with a study carried out in Spain by Flores et al (2010)[1] which reported that loneliness is more prevalent among institutionalized elders than non-institutionalized ones. While, a study done in Egypt, Assiut by Sayied et al (2012)[10] revealed that the majority of non-institutionalized elders had severe feeling of loneliness. This difference in results may be due to absence of elderly homes in Assiut which is considered a stigma for their community and the only available service for elders is elderly clubs. Also, a study carried out in Netherlands by Dykstra et al. (2005)[24] found that loneliness is not common in residential settings. Residential settings in developed countries involves many services as day care center, hospital care center and respite care that not necessitates institutionalization and provide temporary care. Also, early separation of sons and daughters from their families in developed countries makes living alone or loss of family ties a usual pattern of their living.

The main common factors associated with loneliness among institutionalized and community dwelling elders were elders' occupation before retirement, elders' subjective feeling about their health and feeling of depression (tables 4,5). Occupation gives a person position, prestige

and a degree in the society (Mee et al, 2004)[25]. It was observed from this study that type of occupation had a significant relation with the feeling of loneliness among institutionalized and community dwelling elders as nearly half and one quarter of institutionalized elders and most of community dwelling elders who were employees and housewives developed loneliness (table 4,5). The same results were reported by other studies in Portugal by Aylaz et al. (2012)[23] revealed that type of occupation, professional status affect social level which leads to loneliness. Level of income affects welfare and prosperity of elders. Limited income among nearly half of community dwelling elders affected significantly their feeling of loneliness (table 1,5). This is because adequate income helps elders to meet their basic needs, participate in recreational and social activities that promote social interaction. This is in a similar way with Pinquart and Sorensen's (2001)[26] who found that low income affect social status and consequently leads to the feeling of loneliness. Moreover, low level of education is associated with low social status and income in the society that predispose to loneliness as observed in the present study where elders with low level of education among institutionalized elders had a high feeling of loneliness. The same was reported in Finland by Drageset et al (2011)[12] and Savikko (2013)[13].

Elders' perception about their health is another factor associated with the feeling of loneliness among institutionalized and community dwelling elders (table 4,5). Nearly one third of institutionalized and community dwelling elders who perceived their health as fair had a mild or high feeling of loneliness. This perception may arise from prevalence of chronic diseases among elders .In the present study; the majority of institutionalized and community dwelling elders suffer from chronic diseases as Hypertension and Diabetes Mellitus (table 2). Presence of disease can give sense of frailty, weakness and unproductive which hinder the elders' ability to interact with others. This result is in line with a study done in U.S.A by Theeke (2013)[27].

Depression is a common mood disorder in later life [28]**.** It is parallel with feeling of loneliness. Depression affected significantly the feeling of loneliness among institutionalized and community dwelling elders (table 4,5). Similarly a study done in Alexandria-Egypt by Lachine, 1998 [11] and a study done in Sweden by Nyqvist et al, 2013[29] reported that feeling of depression is closely related to feeling of loneliness as depressed people tend to be alone and less satisfied about their life. Conversely, a study done in Egypt by Sayied et al (2012)[10] reported that the majority of non institutionalized elderly in Assuit did not have depression as they keep in contact with their families, assume different responsibilities and participate in decision making.

In the present study, Loneliness affected males more than females among institutionalized elders (table 4). This result may be related to the fact that males usually do not verbalize their feeling to anyone. Moreover, dual role of women in community as homemaker, caregiver and assume occupational roles give them more responsibilities and duties compared to men who are concerned about occupational role that may be lost in later life by the age of retirement. This is in accordance with a study conducted in china by Wang et al (2011)[30] who reported that feeling of loneliness is more prevalent among men than women.

On the other hand, other factors such as marital status, income and doing religious rituals appeared to have a significant association with the feeling of loneliness among community dwelling elders. Practicing religion rituals promotes morals and spirituality and increase social contacts with others. Also, elders perceive that religious activities as coping measures and a source of physical and psychological cure as reported by a study conducted in Alexandria, Egypt by Elhussein (2008)[21].

While age, and elders' ability to perform activities of daily livings (ADLs) among institutionalized and community dwelling elders did not affect significantly the feeling of loneliness. As the majority of institutionalized and community dwelling elders were young old and able to perform ADLs independently.

Conclusion

It can be concluded from the present study that, most institutionalized elders had a high feeling of loneliness than community dwelling elders. The main factors associated with the feeling of loneliness among institutionalized and community dwelling elders were occupation before retirement, elders' perception about their health and presence of depression. Specifically, for institutionalized elders, the main factors affecting loneliness were sex and level of education. While, marital status, income, and living with others appeared to be the main factors associated with the feeling of loneliness among community dwelling elders.

Recommendations

Based on the finding of the present study the following recommendations are suggested:

1. Encourage elders to increase their social network and recreational activities through participation in elders' clubs and volunteer activities available in Dakahlia Governorate. This will help in decreasing their feeling of loneliness and depression.
2. Emphasize the importance of keeping elders in their homes to avoid relocation stress syndrome and feeling of loneliness. This can be maintained by using either formal or informal caregivers to meet their needs and encourage their visits outside home and contact with others as old friends, relatives and develop new friends as possible.
3. Encourage elders to share in bringing up their offspring.

Table (1): Distribution of institutionalized and community dwelling elders according to their socio-demographic characteristics

Item	Institutionalized elders (N=61)				Community dwelling elders(N=90)			
	No		%		No		%	
Age in years:								
60 -	51		83.6		87		96.7	
75 -	6		9.8		3		3.3	
85+	4		6.6		0		0	
Mean ± SD	**69.21± 7.08**				**67.75±4.11**			
Sex:								
Male	36		59.0		55		61.1	
Female	25		41.0		35		38.9	
Marital status:								
Widow	24		39.3		52		57.8	
Divorced	18		29.5		35		38.9	
Married	11		18.0		3		3.3	
Single	8		13.1		0		0	
Level of education:								
Illiterate	7		11.5		10		11.1	
Read and write	15		24.6		14		15.6	
Basic education	10		16.4		29		32.2	
Secondary education	7		11.5		22		24.4	
University and above	22		36.0		15		16.7	
Occupation before retirement:	Male No	Female No	Male %	Female %	Male No	Female No	Male %	Female %
House wife	0	13	0	32.0	0	22	0.0	62.9
Employee	22	8	61.1	52.0	24	10	43.6	28.6
Technical worker	7	3	19.4	12.0	14	0	25.5	0.0
Farmer	0	0	0	0	12	0	21.8	0.0
Manual and business worker	7	1	19.4	4.0	5	3	9.1	8.6
Monthly income (LE):								
Enough	22		36.1		40		44.5	
Save	20		32.8		37		41.0	
Not enough	19		31.1		13		14.5	
#Source of income:								
Pension	56		91.8		82		91.1	
Social affairs	5		8.2		8		8.9	
Work	4		6.6		3		3.3	

means more than one answer.

Table (2): Distribution of –institutionalized and community dwelling elders according to their health status

Health condition	Institutionalized elders (N=61)		Community dwelling elders (N-90)	
	No	%	No	%
Elderly subjective feeling about their health:				
Very good	17	27.9	18	20.0
Good	23	37.7	39	43.3
Fair	21	34.4	33	36.7
Presence of chronic diseases:				
No	11	18.0	4	4.4
Yes	50	82.0	86	95.6
# Type of disease:				
Hypertension	33	54.1	52	57.8
Orthopedic diseases	17	29.5	37	41.1
Diabetes mellitus	9	27.9	24	26.7
Heart and coronary	18	14.8	16	17.8
Others	6	9.8	17	18.8

means more than one answer.

Table (3): Distribution of institutionalized and community dwelling elders according to their feeling of loneliness

Feeling of Loneliness	Institutionalized elders (N=61)		Community dwelling elders (N=90)		Test of significance
	No	%	No	%	
Low	9	14.8	30	33.3	X=7.66 P=0.022
Mild	**27**	44.2	37	41.1	
High	**25**	41.0	23	25.6	

* Significant, at $P \leq 0.05$

Table (4): Factors associated with feeling of loneliness among institutionalized elders

Item	Loneliness of Institutionalized (N= 61)								Test of significance
	Low feeling		Mild feeling		High feeling		Total		
	No	%	No	%	No	%	No	%	
Sex									
Male	4	6.6	10	16.4	22	36.1	36	59.0	14.86
Female	5	8.2	17	27.9	3	4.9	25	41.0	0.001*
Education									
Illiterate	3	4.9	4	6.6	0	0.0	7	11.5	
Read and write	0	0.0	10	16.4	5	8.2	15	24.6	
Primary &- preparatory	3	4.9	3	4.9	4	6.6	10	16.4	18.46
Secondary	0	0.0	4	6.6	3	4.9	7	11.5	0.048*
University and higher	3	4.9	6	9.8	13	21.3	22	36.0	
Job before retirement									
Employee	4	6.6	10	16.4	16	26.2	30	49.2	
House wife	3	4.9	10	16.4	0	0.0	13	21.3	
Technical worker	2	3.3	4	6.6	4	6.6	10	16.4	13.43
Manual and business worker	0	0.0	3	4.9	5	8.2	8	13.1	0.037*
Farmer	0	0.0	0	0.0	0	0.0	0	0.0	
Subjective feeling of elderly about their health									
Very good	4	6.6	4	6.6	9	14.8	17	27.9	
Good	2	3.3	17	27.9	4	6.6	23	37.3	37.96
Fair	3	4.9	6	9.8	12	19.7	21	34.4	0.000*
Depression									
Normal	9	14.8	1	1.6	1	1.6	11	18.0	
Mild	0	0.0	21	34.4	12	19.7	33	54.1	54.16
Moderate	0	0.0	5	8.2	12	19.7	17	27.9	0.000*
Severe	0	0.0	0	0.0	0	0.0	0	0.0	

* Significant, at $P \leq 0.05$

Table (5): Factors associated with feeling of loneliness among community dwelling elders

Item	Loneliness of non-institutionalized (N= 90)								Test of significance
	Low feeling (20-<40)		Mild feeling (40-<60)		High feeling (60-80)		Total		
	No	%	No	%	No	%	No	%	
Marital status									
Married	25	27.8	19	21.1	8	8.9	52	57.8	16.32
Widow	4	4.4	16	17.8	15	16.7	35	38.9	0.003*
Divorced	1	1.1	2	2.2	0	0.0	3	3.3	
Job before retirement									
Employee	19	21.1	12	13.3	3	3.3	34	72.2	
House wife	4	4.4	13	14.4	5	5.6	22	62.9	
Technical worker	2	2.2	4	4.4	8	8.9	14	25.5	22.13
Farmer	4	4.4	4	4.4	4	4.4	12	21.7	0.005*
Manual and business worker	1	1.1	4	4.4	3	3.3	8	17.7	
Monthly income (LE)									
Not enough	6	6.7	18	20.0	16	17.8	40	44.5	17.34
Enough	15	16.7	15	16.7	7	7.8	37	41.0	0.002*
Save	9	10.0	4	4.4	0	0.0	13	14.5	
Elders' subjective feeling about health									
Very good	13	14.4	5	5.6	0	0.0	18	20.0	37.96
Good	13	14.4	22	24.4	4	4.4	39	43.3	0.000*
Fair	4	4.4	10	11.1	19	21.1	33	36.7	
Depression									
Normal	29	32.2	1	1.1	0	0.0	30	33.3	
Mild	1	1.1	35	38.9	9	10.0	45	50.0	118.8
Moderate	0	0.0	1	1.1	14	15.6	15	16.7	0.000*
Severe	0	0.0	0	0.0	0	0.0	0	0.0	
Practice religious rituals									
Yes	26	28.9	15	16.7	1	1.1	42	46.7	36.39
No	4	4.4	22	24.4	22	24.4	50	53.3	0.000*
Presence of companionship									
Yes	30	33.3	30	33.3	15	16.7	75	83.3	28.75
No	0	0.0	7	7.8	8	8.9	15	16.7	0.000*

* Significant, at $P \leq 0.05$

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