Health Status, Family Support and Depression among Residents of Elderly Homes and Those Living with Families in Benha City and Associated Factors

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Abstract:

Objectives : to (1) investigate the perceived health status , different health problems ,malnutrition and functional status of aged in elderly homes compared to those living with their families attending geriatric clubs (2) find out the prevalence of depression among two groups , association with family support ,elderly abuse and dependency state. **Methodology:** A case-control study was conducted. Cases comprised 70 elderly recruited from two homes for elderly in Benha city. Control group comprised 140 elderly participants matched for age ,gender and socioeconomic status recruited from two geriatric clubs Data being collected using a predesigned structured questionnaire including sociodemographic data, comprehensive physical and functional assessment of health status of elderly participants using different validated tools. **Results:** Ischemic heart diseases (50%) ,memory disorders and history of falls were highest among geriatric home residents (37.1% and 52.9% respectively). No significant difference were found regarding different health problems ,number of morbidities or medications . Higher percent of geriatric home residents nutritionally at risk (47.1%) , malnourished (15.7%) and underweight**.** Family support was significantly higher for elderly living with family . Abuse was reported by 7.1% among elderly living with family and higher among geriatric home group (65.7%) mostly of financial and emotional type beside depression in (74.3%) of them . Residence in geriatric homes is associated with elderly abuse , negative family support, depression , big family size, memory disorder and nutritional risk . **Conclusion and Recommendations** : Elderly people of both groups are unhealthy . Aged people in geriatric homes have a multisystem morbidity beside memory disorders ,falls ,depression , malnutrition ,elderly abuse and loss of family support. There is a great need to conduct more research to improve our understanding of elderly populations, their health and psychosocial problems. Social support and medical care of elderly residents in geriatric homes should receive more attention.

Keywords : Family support, depression, dependency, residents geriatric homes, clubs, Benha City.
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Introduction

As population ageing increases in both developed and developing countries, Egypt like many other countries is undergoing a demographic transition towards an ageing society. There were 4,400,000 persons aged 60 and over

representing 6.9% of the total population in 2006, while the expected percentage of older population may reach 8.9% in 2016 and 10.9% in 2026 then 12% by 2030 [1,2] .

As a consequence of this graying of population, the care of older persons demands more attention and concerns about health, mental, social and financial resources [3]. Older people often have age related diseases with complex multisystem problems and at increased risk for morbidity and mortality [4].

Traditionally, care for older persons was a duty of the Egyptian family. Family support is particularly important for older persons, especially when they require assistance due to debilitating chronic conditions and diseases, However, effects of urbanization, with the increase in women's participation in the work force, industrialization and a decline in the extended family, may weaken this traditional support system and caused a decline in the capacity of the Egyptian families to adequately care the elderly [5, 6].

In the recent years, institutional care became indispensable due to unavailability of care givers and the financial, emotional and physical burden of caring [7]. Therefore, in Egypt number of social welfare institutions for elderly people has increased. There was 115 house in 2007 and rose to 152 house at the end of 2013 and reached 176 houses in 2015 [8] The expected increase of the number of establishing elderly homes shows clearly the size of the problem of the increasing number of the elderly[2].

Many studies have confirmed that family and/or social support improves physical and mental health [9]. Financial support plays a vital role in health status of elderly people. Data from many developing countries demonstrate that

most of the elderly persons either co-reside with their adult children or receive financial or instrumental support from them specially those living in nursing or elderly homes [10-12].

Depression is a medical illness in which the person has feelings of sadness, discouragement and lack of self-worth, it frequently goes without diagnosis and treatment [12]. The depression risk increases among elderly living in elderly and nursing homes. Prevalence of depression in the nursing home population is very high, three to four times higher than in the community-dwelling elderly [13, 14]. Major depression in nursing-home population range from 10-22% [15]

Depression, especially when institutionalization occurs, is often related to the threat or to the actual rupture of affective bonds and support that comes mainly from the family[17] Thus, a high degree of social support is associated with a lower risk for severe depressive symptoms and a better prognosis for recovery from depression, in the elderly [18].

Many studies on the relationship between social and family support and health status of the elderly have shown that emotional support may be especially important for the elderly who face a variety of age-related challenges to their functional ability and health [19]. Moreover , poor social support leads to decline in psychosocial and mental health, which brings about problems of loneliness and depressive symptoms[20] .

While it is imperative to place population aging on the policy-map of Egypt as one of developing countries, a major impediment to doing so has been the lack of relevant, reliable data on the health and functional status with the underlying risk factors for elderly in

community as well as in institutional homes.

Therefore, the objectives of this study tries to (1) investigate the perceived health status , different health problems ,malnutrition and functional status of aged people in elderly homes in comparison to those who live with their families and attending (geriatric club).(2) find out the prevalence of depression among two groups , association with family support ,elderly abuse and dependency state.

Subjects and Methods:

Study design, sample and setting:

A case-control study was conducted subjects aged 60 years and older living in Benha city, AL- Qalyubia Governorate, Egypt. The cases comprised 70 elderly recruited from the only two homes for elderly in Benha city that received Governmental funds with no private ones. The control group comprised 140 elderly participants matched for age, gender and socioeconomic status recruited from two geriatric clubs in the same city through 3 months period (from April to June 2015). Through the data collection period, all attendants of geriatric clubs aged 60 years and more who lived with their families were eligible for the study. The elderly subjects who were unwilling to participate in the study and those living alone were excluded with 90.3 % response rate

Data collection tool

Data were collected through personal interview using a predesigned structured questionnaire by a research assistant who was trained on use of the instruments , anthropometric measurements and filling the questionnaire. Some of the data were

obtained from the participants" medical reports regarding health problems. All data was confirmed also by caregiver at elderly homes or family member when needed.

The study questionnaire involves 5 parts; *First part* :includes participants' sociodemographic data . Using the seven parameters ; occupation, education, family size, per capita income, crowding index, home sanitation and use of computer for assessment of socioeconomic status according to Fahmy et al. (2015) [21] scoring system for socioeconomic status with some modification . The total score was calculated and the cut-off points to be used for SES classification where a high level was indicated as at least 70%, a medium level as 40 to less than 70%, and a low level as less than 40% of total score. *Second part* :includes comprehensive physical and functional assessment of health status of elderly participants using the geriatric review of systems adopted from the geriatric health questionnaire designed by Jogerst [22] as a tool for brief yet comprehensive assessment of geriatric patients and The Katz Index of Independence in Activities of Daily Living,1970; commonly referred to as the Katz ADL, It is the most appropriate instrument to assess functional status as a measurement of the elder's ability to perform activities of daily living independently. Elders are scored yes/no for independence in each of six functions. Score of 6 = High; patient is independent (full function). From score 3-5 =Moderate impairment; elderly need assistance, 2 or less implies severe functional impairment; dependent elderly and score of 0 = Low; very dependent [23, 24]. *Third part:* includes assessment of family support received by elderly participants using family

subscale of the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al, 1988. The MSPSS is a brief, easy to administer self-report instrument containing twelve items rated on a five-point Likert-type scale. It is meant to measure an individual's perception of how much he or she receives outside social support and has been tested on people from different age groups and cultural backgrounds and found to be a reliable and valid instrument [25-27]. MSPSS consists of three sub-scales: Family, Friends, and Significant Others. Family support subscale consists of 4 questions with 20 total score. From 16-20 score: high family support, less than 11 = low family support. *Forth part*: depression scale using a validated Arabic version of Personal Health Questionnaire Depression Scale (2009) [28]. The PHQ-8 is an eight-item questionnaire including during the last 2 weeks, how often have you been bothered by any of the following problems (Little interest or pleasure in doing things , Feeling down, depressed, or hopeless, Trouble falling or staying asleep, or sleeping too much , Feeling tired or having little energy, Poor appetite or overeating ,Feeling bad about yourself, or that you are a failure, or have let yourself or your family down, Trouble concentrating on things, such as reading the newspaper or watching television, Moving or speaking so slowly that other people could have noticed or the opposite – being so fidgety or restless that you have been moving around a lot more than usual[28] .

According to the scoring system of the PHQ-8, If two consecutive numbers are circled, score the higher (more distress) number. If the numbers are not consecutive, do not score the item. Score is the sum of the 8 items. If more than 1 item missing, set the value of the scale to missing. A score of 10 or greater is considered major depression, 20 or more is severe major depression [28].

Fifth part: includes assessment of nutritional status of participants that was done according to Arabic version of the Mini Nutritional Assessment (MNA) short form tool validated by Abd-Al-Atty, et al.(2012) beside anthropometric measurements (29).   MNA   was developed as a reliable screening test to detect malnutrition in old-aged people. Without any laboratory data, nutritional status of the patients can be easily predicted   with   questions   and anthropometric measurements (30).

Mini Nutritional Assessment (MNA) nutrition screening tool that was recently revised in 2009 by Nestlé Nutrition Institute. The MNA-SF was found translated into different languages including Arabic and these Arabic versions were revised by Nestlé Nutrition Institute and available at www. mna-elderly.com (31).

 MNA-SF   score ≥ 12 excludes malnutrition and/or malnutrition risk, which rendered   further assessment unnecessary.   MNF-SF   score <12 indicates full MNA test. Total score >23 means normal nutritional status, 17-23 shows   malnutrition   risk   and <17 indicates   malnutrition.   Mid-arm circumference <21 cm   and   calf circumference <31 cm are related with malnutrition risk (30,31).

Before the start of the study, the questionnaire was pre-tested with 10 elderly subjects as validation They were excluded from the study. Some essential modifications were made to better adapt the statements and answers to Arabic context.

Anthropometric measurement:

Height and weight measurements used to calculate BMI were taken in a private area using standard techniques or alternative methods when needed as recommended by the WHO [32] . Body mass index (BMI) was calculated manually as the weight in kilograms divided by the square of the height in meters). BMI between 20.00 and 24.99 kg/m² is optimal weight in elderly according to ESPEN guidelines. A BMI <20.00 kg/m² suggests that the patient is underweight while overweight with BMI ≥ 25.00 kg/m². MAC and CC was measured as per standard techniques applicable for the ambulatory and non-ambulatory individuals [33].

Ethical consideration

The required administrative regulations were fulfilled. The district health and social affairs authorities approved the content of the study before it was conducted. An official permission letters were obtained and directed to the administrators of geriatric homes and clubs in Banha City. The objective of the study was adequately explained to participants and their consent was obtained with assured confidentiality.

Statistical analysis :

SPSS 16.0 (SPSS Inc., Chicago, IL) statistical software was used to analyze data. Continuous variables were described by means± standard deviations. Discrete variables were described as counts and percentages. The differences of means were tested with the independent *t* test for parametric data , Mann-Whitney test for non-parametric and the comparison between qualitative variables with the chi-square test. Bivariate correlation analyses were conducted to evaluate the relationship between the independent variables, depression and family support subscale Score. A multiple regression analysis was performed to identify which variables are independently associated with residence in elderly home. Statistical significance was set at P-value < 0.05

Results

Sociodemographic characteristics of the two groups was reported in(Table 1) . Mean age for elderly participants of both groups was 66.1 ±3.5 ranged between 60-75 years old, elderly ≥ 70 years were 28.6%. Female / male ratio was 0.84 (45.7%). Significant difference was found (p <0.0001) only regarding marital status where all elderly home residents either divorced, widowed or single. Also family size; most of home residents (77.1%) have family size of 5 members and more.

Table 2 shows the common health problems among elderly or geriatric home group and geriatric club who living with their families where ischemic heart disease was the most common heath problem among elderly home group (50%) while hypertension was the highest among geriatric club (46.4%) with no significant difference.

Hearing impairment was the most prevalent functional impairment especially among geriatric club group (90.7%) moreover it was also higher among resident elderly group (86.2%) with significant difference between two groups (P value =0.008). Significant difference was found regarding memory disorders and history of falls which were highest among geriatric home residents compared to other group (37.1% and 52.9% respectively). No significant difference was found regarding number of morbidities or medications. High

percent of elderly study participant who had 3 and more types of chronic diseases (48.1%) and took 5 and more medications daily for treatment.

Table 3 presents the perceived health status by elderly participants of both groups where a relatively lower percent of elderly home residents (65.7%) who perceive their health condition from excellent to good compared to (92.8%) of other group with high significant difference (P <0.0001). The activities of daily living score level for geriatric home residents was better where only 40% of them compared to 56.4% of other group who need assistance in daily life activities with P value =0.02.

Table 4 showed that higher percent of geriatric home residents nutritionally at risk (47.1%) and (15.7%) who malnourished and the same percent found underweight while a higher percent of geriatric club attendees were overweight and obese (41.4% and 21.4%) respectively . health problems that affect nutrition were found among about two thirds of elderly home residents (62.9%).

Family support as shown in Table (5) was significantly higher for elderly living with family (geriatric club group) compared to geriatric home residents (P <0.0001). The perceived abuse was reported by only 7.1% among those living with family while it was significantly higher among geriatric house group (65.7%) mostly of both financial and emotional type. Depression was significant highly found as evaluated by PHQ-8 Scale in nearly three forth of elderly in geriatric homes (74.3%) between major and sever major depression (P <0.0001).

When all the significant factors highly found and reported by geriatric home group were simultaneously entered in a multivariate logistic regression analysis, residence in geriatric homes found to be associated with elderly abuse (OR=12.88, CI 3.92-42.2)   P<0.001, negative family support where (OR=4.12, CI 1.4-12.12) (P = 0.01), depression (OR =0.12, CI 0.03-0.42) (P=0.001), big family size (OR=0.08, CI 0.02-0.25) (P<0.001), memory disorder (OR =0.18,CI 0.04-0.81)(P= 0.02)   and nutritional risk (OR =0.15, CI 0.02-0.92) (P=0.04) (Table 6).

Discussion

Older adults living in facilities for the elderly will have to adjust to a changed living situation, and this adjustment can lead to serious psychosocial problems of loneliness and depression in absence of positive social, family and emotional support [33] especially for the elderly who face a variety of age-related challenges to their functional ability and health [34]. Family support Pakistan However, geriatric and nursing homes rarely meet all the psychological needs of their residents leading to adverse effects on the physical and psychological well-being of the residents [35]

In the present study, in spite of relatively young age of elderly participants compared to other studies investigate different and common health problems among elderly population in Egypt and other developing countries, it was found that all elderly participants in study sample suffering at least one of chronic diseases and relatively high percent (48.1%) have three or more chronic morbidities with no significant difference between who living with families and those in geriatric homes.

Poor nutritional status was found among 48% of elderly participants . However ,it was significantly higher among residents of geriatric home compared to those

attending geriatric club that came in line with study done by Khater and Abouelezz ,2011[36] and this reflects the extreme shortage of geriatric heath care and nutritional services and the need for urgent plan for this increasing problem.

The high prevalent ischemic heart diseases and hypertension followed by diabetes and high percent of elderly suffering of hearing and visual impairment among both elderly groups also came in line with many studies that investigate the common health problems among elderly in Egypt and developing countries [37-39].

However, memory disorders and history of falls which were highest among geriatric home residents compared to elderly group living with families can be attributed to psychosocial effects and stressful factors associated with residence in elderly homes [35,40] that also reflected on the perception of their health status compared to those living with their families despite the relatively same health problems and comorbidities.

The rising number of older people will be associated with an increase in age-related functional limitations, i.e. ability to perform basic activities of daily living. Dependence is an important, yet neglected topic in public health because of the significant consequences for the dependent person, their caregivers and wider society In Egypt, a countrywide household survey has shown that 8.27% of people over 50 years of age suffer from at least one such functional limitation[41].

In the present study, by assessment of ADL ,more than half of elderly participant living with their families needed assistance in performing daily activities (56.4%) while a significant higher percent of elderly

home residence live independently (60%) .

These results came in accordance with previous studies in Alexandria which reported that the majority of residents in elderly homes were independent in performing activities of daily living [42-44] and this in contrast with Hallaj et al, 2010 who reported that more than half the elderly in geriatric homes (52.7%) needed assistance in performing daily activities and had explained this by the low income and health status of study participants that affect their functional performance[45] .

The presence of chronic diseases and their complications also affects ability to perform activities together with the psychosocial factors as depression, isolation, and loss of family and emotional support , which affect the desire and motivation to carry out activities [46]

In the current study, depression among the elderly in geriatric homes were more than those living with their families and attending club (74.3% and 17.1% respectively) (P<0.0001) and no significant correlations were found between depression score with age or number of morbidities which came in agreement with the study done by El Shabrawy et al ,2009 [47] who found that depression among elderly in geriatric homes in Beni Suef city; Dakahlia Governorate is about 89.7 % in comparison to only 56.7 % of elderly who live with their families with no association with age or chronic disease affection .

The unexpected low percent of elderly group attending geriatric club who have depression (17.1%) may be attributed to positive family support reported among 73.6% of them as evaluated by family subscale of Multidimensional Scale of

perceived social support (MSPSS) compared to only 32.9% of geriatric home group.

Despite these results, family support is still high since Arab culture stresses respect for older people, values highly the natural bond between all members of the family and places enormous obligations on family to support members in old age, most older adults in Arab countries and consequently Egypt live at home and receive care from one or more family members like children, spouses or other close relatives as reported by Abdelmoneium & Alharahsheh, 2016[6].

The relatively high percent of elderly in geriatric homes who reported negative family support (67.1%) was not surprising, as most of geriatric home residents group reported family troubles (25.7%) and loneness (20.0%) as the main causes of their admission to elderly home.

In the current study, elderly abuse was also self-reported by 26.7% of geriatric home group which was mainly financial and emotional. Research in both areas; elderly abuse and declined family support are limited, particularly in Arab countries. The study conducted in Yemen revealed the various types of elder abuse and it showed that psychological abuse had the highest prevalence whereas physical abuse was the lowest [48]. The study in Cairo concluded that providing care for an elder person is stressful and how much burden can cause abuse to the elderly. The studies recommended new interventions for better in-home services that better meets the social needs of old people [49].

In the current study, with all previous study findings, the relationships between different included variables were

obvious when correlation was done where data analysis detected the significant inverse correlation (P < 0.001) between family support and depression score (r = - 0.257), family size (r = - 0.185) (P = 0.007) , MNA Score (nutritional risk) (r= - 0.239) (P<0.001) and significant positive correlation with number of medications (r= 0.245) (P<0.001) whoever no significant correlation found with age, SES, ADL Score and number of morbidities.

The inverse correlation between geriatric depression and social support corroborates the arguments stating that the lower the social and same family support, the higher the incidence of diseases or disorders in the elderly [40] and also in agreement with the study done by Pimentel et al ,2012 who stated that social support can mitigate depressive symptoms in the elderly[50].

Logistic regression identified the strong association between residence in geriatric homes with elderly abuse , negative family support, high depression score , big family size, memory disorder and nutritional risk . All these results through the light on the complex inter relationship and association between these variables

Conclusion and Recommendations

Elderly people either living in geriatric homes or living with families are unhealthy. The most common health and psychosocial problems aged people in geriatric homes face include multisystem morbidity beside memory disorders, falls, depression, malnutrition, elderly abuse and loss of family support. Depression inversely correlated with family support, ADL score, SES and

positively with family size and number of medications

There is a great need to conduct more research to improve our understanding of elderly populations, their health and psychosocial problems. There must be a social and health programs about the importance of family support for the elderly in our community that will save a lot of medical and hospital care cost. Social support and medical care of elderly residents in geriatric homes should receive more attention.

Limitations of the Study

Some difficulties were encountered by the researcher during the process of data collection. Some were resolved such as entering elderly homes, but this affected the study in that it required more time with the residents to collect the data . The researcher had to visit geriatric homes several times to establish a trusting relationship and gain the cooperation of the elderly person before collecting the necessary data.

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Table (1): Sociodemographic characteristics of the studied groups:

Sociodemographic data	Elderly living with families (N=140)		Elderly home residents (N =70)		Total (N =210)		X² (P value)
	N	**%**	**N**	**%**	**N**	**%**	
Age (Mean ±SD)	66.1±3.4		66.3±3.6		66.1±3.5		0.5* (0.60)
Gender:							0.0 (1.00)
Male	76	54.3	38	54.3	114	54.3	
Female	64	45.7	32	45.7	96	45.7	
Marital status:							
Married	101	72.1	0	0.0	101	48.1	112.8 (0.00)
Divorced	0	0.0	20	28.6	20	9.5	
Widowed	38	27.1	46	65.7	84	40.0	
Single	1	0.7	4	5.7	5	2.4	
Education:							
Read and write	14	10.0	16	22.9	30	14.3	
Primary	21	15.0	12	17.1	33	15.7	8.9 (0.06)
Preparatory	25	17.9	11	15.7	36	17.1	
Secondary	32	22.9	17	24.3	49	23.3	
University	48	34.3	14	20.0	62	29.5	
Occupation :							
Not working	23	16.4	18	25.7	41	19.5	2.6 (0.08)
Working	117	83.6	52	74.3	169	80.5	
Family income:							
Not enough	15	21.4	21	15.0	36	17.1	
Enough	38	54.3	70	50.0	108	51.4	2.9 (0.20)
More than enough	17	24.3	49	35.0	66	31.4	
Family size							
< 5 members	100	71.4	16	22.9	116	55.2	
≥ 5 members	40	28.6	54	77.1	94	44.8	44.5 (0.00)
Socioeconomic status:							
low	5	3.6	3	4.2	8	3.8	
Medium	73	52.1	36	51.5	109	51.9	0.07 (0.97)
High	62	44.3	31	44.3	93	44.3	
Socioeconomic score: (Mean ±SD)	31.9±6.6		31.7±5.3		31.1±6.2		0.22 * (0.80)

*t -test

Table (2): Common Health Problems of Elderly Participants of both groups

Morbidities	Elderly living with families (N=140)		Elderly home residents (N =70)		Total (N =210)		X² (P value)
	N	%	N	%	N	%	
Hypertension	65	46.4	32	45.7	97	46.2	7.1 (0.5)
Diabetes	44	31.4	20	28.6	64	30.5	0.2 (0.4)
Ischemic heart disease	63	45.0	35	50.0	98	46.7	0.4 (0.5)
Respiratory diseases	12	8.6	2	2.9	14	6.7	1.2 (0.8)
Gastrointestinal	40	28.6	21	30.0	61	29.0	19.5 (0.2)
Liver diseases	21	15.0	10	14.3	31	14.8	9.1 (0.4)
Renal diseases	30	21.4	13	18.6	43	20.5	10.1 (0.4)
Arthritis	35	25.0	20	28.6	55	26.2	0.3 (0.5)
Dental problems	13	9.3	8	11.4	21	10.0	0.2 (0.4)
Visual impairment	51	36.4	28	40.0	79	37.6	0.3 (0.4)
Hearing impairment	127	90.7	54	77.1	181	86.2	7.2 (0.008)
Memory disorders	27	19.3	26	37.1	53	25.2	7.9 (0.005)
History of falls	29	20.7	37	52.9	66	31.4	22.4 (0.000)
Morbidities **< 3** **≥ 3**	73 67	52.1 47.9	36 34	51.4 48.6	109 101	51.9 48.1	0.01 (0.9)
Medications **< 5** **≥ 5**	72 68	51.4 48.6	39 31	55.7 44.3	111 99	52.9 47.1	0.3 (0.5)

Table (3): Perceived Health Status and Activities of Daily Living for Elderly in both Groups

Variables	Elderly living with families (N=140)		Elderly home residents (N =70)		Total (N =210)		X² (P value)
	N	**%**	**N**	**%**	**N**	**%**	
Perceived health status							34.9 (0.00)
Excellent	0	0.0	1	1.4	1	0.5	
Very good	16	11.4	2	2.9	18	8.6	
Good	114	81.4	43	61.4	157	74.8	
Fair	5	3.6	21	30.0	26	12.4	
poor	5	3.6	3	4.3	8	3.8	
Activities of daily living (ADL)							
Independent	61	43.6	42	60.0	103	49.0	5.04 (0.02)
Need assistance	79	56.4	28	40.0	107	51.0	
ADL score (Mean ±SD)	5.3±1.1		5.1±1.06		5.2±1.1		1.1* (0.3)

* t -test

Table (4): Nutritional Status of Elderly Participants of both Groups

Variables	Elderly living with families (N=140)		Elderly home residents (N =70)		Total (N =210)		X² (P value)
	N	**%**	**N**	**%**	**N**	**%**	
Nutritional assessment							9.19 (0.01)
Malnutrition	15	10.7	11	15.7	26	12.4	
At risk	42	30.0	33	47.1	75	35.7	
Normal	83	59.3	26	37.1	109	51.9	
BMI calcification							
Underweight	5	3.6	11	15.7	16	7.6	
Normal	47	33.6	27	38.6	74	35.2	11.7 (0.008)
Overweight	58	41.4	21	30.0	79	37.6	
Obese	30	21.4	11	15.7	41	19.5	
Health problems affect nutrition:							
Yes	57	40.7	44	62.9	101	48.1	9.2 (0.002)
No	83	59.3	26	37.1	109	51.9	
Number of food related problems (Mean ±SD)	1.1±1.5		2.1±1.9		1.44±1.7		3.44**(0.001)

 **Mann-Whitney test

Table (5): Family Support for Elderly Participants and Self Reported Abuse of both Groups

Variables	Elderly living with families (N=140)		Elderly home residents (N =70)		Total (N =210)		X^2 (P value)
	N	%	N	N	%	N	
Degree of family support [a]							
High	79	56.4	16	22.9	95	45.2	32.5 (0.00)
Moderate	24	17.2	7	10.0	31	14.8	
No support	37	26.4	47	67.1	84	40.0	
Source of support							
Spouse only	28	20.0	0	0.0	28	13.3	
Sons/daughters	65	46.4	12	17.2	77	36.7	47.6 (0.00)
Brothers/sisters	10	7.1	11	15.7	21	10.0	
No support	37	26.5	47	67.1	84	40.0	
Family support subscale [a] (Mean ±SD)	13.9±0.24		8.2±0.95		11.1±0.6		1.1* (0.30)
Elderly abuse							
Yes	10	7.1	46	65.7	56	26.7	81.8 (0.00)
No	130	92.9	24	34.3	154	73.3	
Type of abuse							
Financial	0	0.0	17	24.3	17	8.1	
Emotional	8	5.7	11	15.7	19	9.1	89.8 (0.00)
Both	2	1.4	18	25.7	20	9.5	
No abuse	130	92.9	24	34.3	154	73.3	
Depression score [b]							
No depression	116	82.9	18	25.7	134	63.8	
Major depression	24	17.1	48	68.6	72	34.3	67.9 (0.00)
Severe major depression	0	0.0	4	5.7	4	1.9	
Depression score (Mean ±SD)	6.38±4.1		13.93±5.4		8.9±5.8		**11.2 (0.00)

* t test   ** Mann-Whitney test , [a] Family Support subscale of Multidimensional Scale of perceived social support (MSPSS) , [b] Personal Health Questionnaire Depression Scale (PHQ-8) < 10 (no depression)   ≥ 10 points (major depression) ,≥ 20 (sever major)

Table (6): Logistic Regression Examining Factors Associated with Elderly Participants in Residents Homes   (N=70, R^2 =0.717)

Variables	Unstandardized β coefficients	Wald (P value)	(OR)	95% CI
Family support (-ve)	1.416	6.61 (0.01) [a]	4.12	1.4- 12.12
Big family size	-2.447	19.67 (0.00) [c]	0.08	0.02-0.25
Depression state	-2.047	11.44 (0.001) [b]	0.12	0.03-0.42
Elderly abuse	2.556	17.76 (0.00) [c]	12.88	3.92- 42.2
Nutritional risk	-1.881	4.16 (0.04) [a]	0.15	0.02- 0.92
Memory disorder	-1.708	4.94 (0.02) [a]	0.18	0.04-0.81
History of frequent falls	-0.483	0.58 (0.44)	0.61	0.17-2.12
Dependent state	0.833	2.28 (0.13)	2.30	0.78- 6.77
Perceived poor health status	-0.904	3.69 (0.05)	0.40	0.16-1.01

OR; Odds Ratio , CI ;Confidence Interval , [a]Significant at P < 0.05, [b] Significant at P < 0.01.
[c] Significant at P < 0.001