QUALITY OF LIFE AND DEPRESSION AMONG ELDERLY RETIREMENT HOME RESIDENTS OF YEREVAN, ARMENIA: A COMPARATIVE SURVEY OF RETIREMENT HOME RESIDENTS AND HOUSEHOLD RESPONDENTS AGED 65 YEARS OLD AND OVER.

Master of Public Health Thesis Project Utilizing Professional Publication Framework

ZARA SRAPYAN, MD
MPH Candidate

College of Health Sciences
American University of Armenia

Primary Adviser: Haroutune K. Armenian, MD, DrPH
Secondary Adviser: Varduhi Petrosyan, MS, PHD Candidate

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List of Abbreviations

QoL	Quality of Life
CHSR	Center for Health Services Research and Development
WHO	World Health Organization
RA	Republic of Armenia
US	United States
RH	Retirement home group
HH	Household group
SF-36	Short Form-36
GDS	Geriatric Depression Scale
MCS	Mental Component Summary
PCS	Physical Component Summary
MLR	Multiple Linear Regression
CI	Confidence Interval
SD	Standard Deviation
Pl	Place of living
G	Gender

ABSTRACT

Background: The elderly population is at highest risk for increased use of both acute and long-term health care services, and researchers have been increasingly interested in identifying health related problems associated with aging, particularly the quality of life (QoL). The goal of this study was to determine whether the depression was associated with QoL of the elderly population of Yerevan. *Objectives* were (1) To assess the QoL of the elderly in retirement homes (RH) and elderly living in household (HH), and determine the differences; (2) To estimate depression rate among elderly of RH and elderly living in HH; and (3) To determine how depression influences the QoL. *Methods*: Study design constituted an analytical cross-sectional survey with group comparison. The study population included elderly people living in RH (study group) and HH (comparison group). Study participants were selected through simple random sampling: 104 from RH and 101 from HH. Study instruments were Short Form (SF)-36 and Geriatric Depression Scale GDS). Each respondent was provided with verbal disclosure statement. *Results:* Despite the cross-sectional study design that was chosen due to time constraints, the results of the study were highly significant. The prevalence of depression in the RH group was 76.0 % vs. 81.2% in HH. The mean of mental component summary score (MCS) was 34.09 for HH group vs. 45.26 for RH group (p=0.000). The mean of physical component summary scores (PCS) was 42.67 for HH group vs. 39.34 for RH group (p=0.003). Multiple linear regression analysis revealed that depression was negatively associated with PCS and MCS score of the QoL after adjusting for place of living and gender. *Conclusion:* The study confirmed the significant association between the QoL components of elderly people and depression. Longitudinal assessment would be able to better describe the dynamics of the relationship between depression and QoL.

1. BACKGROUND INFORMATION

Description of the problem

Geriatrics is a discipline "encircling psychosocial, physiological, economic, and historical factors" for adults aged 65 and older who are considered as elderly [1, 2]. Geriatrics focuses on two major goals: promotion of independence or control over life and preserving quality of life (QoL) [1].

The number of elderly people is rising all over the world, particularly in industrialized countries [3]. Currently, there are approximately 580 million people aged 65 years and over throughout the world. By 2020, this number is estimated to exceed 1 billion [3]. The elderly population is at highest risk for increased use of both acute and long-term health care services, and researchers have been increasingly interested in identifying health related problems associated with aging [2].

Aging is a natural process. However, with age, elderly become more resistant to changes in their body and more prone to stress; these factors can possibly lead to depression. The negative attitude toward aging can affect the QoL of elderly people [4]. The World Health Organization (WHO) has defined the QoL as "an individual's perception of his/her position in life in the context of the culture and value systems in which the person lives and in relation to goals, expectations, standards and concerns"[5].

The health status and QoL of elderly persons are geriatric medicine and public health problems. However, little is known about health, social, environmental and spiritual determinants that affect this multifaceted issue of QoL [4]. For older adults, QoL is becoming much more than rating of physical health status; the emotional and social health are also recognized as very important factors for the well being of elderly people [6]. Quality of life can

include physical, psychological, social, spiritual, and functional well being, as well as factors that impact elders' ability to function and achieve satisfaction in living [7].

The popular and professional literature has had an increased focus over the past several years on the QoL of elderly people. In the United States (US), a study explored the impact of chronic insomnia on daytime functioning of elderly by evaluating QoL [8]. The researchers came to conclusion that mental health status and role of emotional QoL dimensions were worse in severe and mild insomniacs than in good sleepers [8]. The Illawarra Coordinated Care Trial was one of nine Australian trials undertaken to see whether different models of coordinated care could improve the health of elderly people [9]. In this study the QoL of elderly residents of nursing homes was measured by the Short Form 36 (SF-36) questionnaire. The study indicated that physical and mental component summary (PCS & MCS respectively) scores were low at the beginning of the study, but after the intervention of the program the self-reported health status improved for 40% participants of he study [9].

Aging study conducted in the US among 659 subjects in the Veterans Administration (VA) revealed that depressive symptoms were associated with reduced levels of functioning across all the domains in the SF-36 [10]. In the study conducted in Southern Brazil, depression was significantly associated with lower life satisfaction and worse indexes of QoL among elderly people [11]. Normative studies in gerontology indicated that different conditions such as stroke, cancer, diabetes and high blood pressure were factors that affect the QoL of elderly people [12]. However, in 1999, psychogeriatric research results demonstrated that depression had a greater effect on QoL of the elderly than some serious health conditions [12]. Depression is among the top three medical conditions that cause the most detriment to QoL in elderly population. One study showed that people having suffered from major depression after experiencing a heart

attack had a three- to four-fold increased risk of death over the next six months [12]. There was

a strong relationship between depression and other illnesses that affect the elderly, including

Alzheimer's disease, Parkinson's disease, coronary artery disease, diabetes and cerebrovascular

diseases [13]. Depression can make other illnesses harder to treat, and recovery is often more

prolonged and difficult [13]. Although depression is widespread in the elderly, it is not a normal

part of aging [4].

Depression is a medical illness characterized by persistent sadness, discouragement, and

loss of self-worth [4]. These feelings are accompanied by reduced energy and concentration,

sleep problems (insomnia), decreased appetite and weight loss [14]. Often some symptoms of

depression such as fatigue, loss of appetite, and sleeping difficulties are associated with aging

process or any medical condition rather than with depression [14]. The etiology of geriatric

depression is unknown [6]. In general, the overall prevalence of depression in the world among

the elderly is 10-12% [15]. The rate of depression in the elderly population is most likely

underestimated because depression may present differently in the elderly, without the full

spectrum of typical and easily recognizable depressive symptoms [16]. Another fact, which can

affect the true rate of depression among the elderly, is that many studies of depression exclude

patients in institutions, such as nursing homes, although the elderly residents of nursing homes

are twice at risk of being depressed than those living with their families or getting home care [13,

15,16].

Studies have shown that depression can be associated with different illnesses. In a

prospective population-based study conducted in Baltimore, it was determined that depressive

disorders could increase the risk for the onset of type II diabetes [17]. A community-based study

conducted in a Dutch hospital in 1999 showed that rates of cognitive impairment, functional

impairment, and 3-year mortality were higher among depressed patients than among non-depressed controls [18]. A population-based investigation conducted in Baltimore in 1994 found that depression exacerbated the consequences of myocardial infarction [19]. Anxiety and depression have been associated with poorer blood glucose control and more complications in patients with diabetes mellitus [13]. Minor and major depression has also been associated with increased risk of cardiac mortality in individuals both with and without cardiac disease at baseline [20].

Although minor depression was associated with increased rates of social dysfunction, disability, medical illness, increased risk of a major depressive episode, not many studies focused on minor depression [13]. The prevalence of minor depression among the elderly patients of long-term care facilities was estimated to be 27% in the US [13]. Two other studies have estimated the prevalence of depression to be approximately 30% among the residents of nursing homes in the US [15].

Situational analysis for Armenia

Poor QoL and depression among elderly are issues of major concern in Armenia. Every sixth person in Armenia is 65 or older [21]. Living conditions of most elderly people classified as one of the most vulnerable groups have deteriorated because of ongoing social-transition and low socio-economic status of the population. Many elderly people in Armenia who are no longer able to care for themselves are relying upon Retirement-homes to get supportive care [21].

Elderly people related issues are coordinated by the Department of Disabled and Elderly People's Affair of the Ministry of Social Security of the Republic of Armenia (RA) [22]. The system has two retirement-homes in Yerevan, which provide institutional and home care to

elderly people. Based on data of the RA Statistical Center, there are 320 000 people aged 65 and older in Yerevan, and the number of residents in the retirement homes of Yerevan is 450 [22].

No studies concerning the association between QoL and depression of the elderly population in retirement homes have been previously conducted in Armenia. However, in 2000, Center for Health Services Research and Development (CHSR), American University of Armenia conducted a household survey in Armavir. The study revealed depression among 82.1% of women aged 60 years and over [23]. The experience of other countries and the relevant literature suggest the need to conduct a study in Armenia in order to assess health related QoL of elderly residents of retirement homes of Yerevan and identify how depression is associated with their QoL. A survey of retirement home residents and elderly living in households would be appropriate to compare the data between these two settings.

Research goal and study objectives

The aim of this survey was to assess the QoL of the elderly population in Yerevan, including the residents of retirement homes and elderly living in household and to determine whether the depression is associated with their QoL.

The objectives of this study were as follows:

- To assess the QoL of the elderly living in retirement homes and household
- To estimate the depression rate among elderly living in retirement homes and household
- To determine how depression influenced the quality of life
- To determine whether differences existed between the data from retirement homes and households

Based on the experience of other countries and a literature review it was expected that (1) depression was negatively associated with the QoL of the elderly people and (2) residents

of retirement homes were more likely to have poor QoL than elderly living with their families.

2. METHODOLOGY

Study design

This study utilized a cross-sectional analytical design. In this design, the student-investigator conducted interviewees in two groups: the elderly living in retirement homes formed the study group and the elderly living in household formed the control group. According to Campbell and Stanley [24] notation this design appears as follows:

$X\ O_1$

O_2

where X means intervention, which in this case is the fact of living in a retirement home, and O_1, O_2 (posttest) are the interviews administered in two groups.

This study design was proposed to estimate the difference in the QoL of elderly people with depression among those who lived in retirement homes and those who lived in household, and to reveal possible association between the quality of life of elderly people and depression among them.

Study population

The study participants in both retirement and household groups were men and women aged 65 and older. Interviews were conducted with elderly who met the inclusion criteria described in Table 1. Elderly people living alone were excluded from the household group on the base of an assumption that their quality of life and depression level could be influenced by additional factors that were not affecting elderly living with their families or in a community of retirement home residents. Unlike elderly in the household group, the study group included

elderly people with different demographic characteristics, such as refugees or people from regions.

Sample size

The sample size was calculated taking into consideration the number of groups involved in the study and the continuous dependant variable of the study that was represented by PCS and MCS scores of SF-36. To determine the required sample sizes for detecting a difference in mean QoL between individuals of retirement home group and household group with a significance level of 0.05 and a power of 0.80, STATA program **(sampsi 0 5, p (0.8) sd1 (12) sd2 (12)**) was used. Based on the results of the pretest and previous studies, and assumed equal variances the $\sigma1=\sigma2=12$ [9]. As a result, the estimated required sample size was calculated as: $n_1=91$; $n_2=91$

The expected response rate was 80%, due to which the actual sample size was calculated to be 114 participants for each group.

Sampling methodology

Simple random sampling was used as the sampling technique of the survey, since it provided equal probability for each individual to be selected. The Armenian Pension Fund, as well as the administration of Retirement homes provided all the necessary information for performing a simple random sampling [26]. Simultaneous data collection among retirement homes residents and elderly of Yerevan allowed the assessment of differences between QoL of elderly population in retirement homes and elderly population of Yerevan, and worked to recognize the depression among them. The duration of each interview ranged from 15 to 20 minutes. The student-investigator conducted face-to-face interviews with study participants from May 5 to May 16, 2003. During the interviews conducted in households, the student-investigator faced different problems, such as refusal of people to participate in the study, or

their unwillingness to open the door or change of potential participant's places of residence. In order to ensure the necessary number of participants for the comparison group, some of interviews were conducted with the neighbors, relatives or spouses of participants.

Survey variables

The quality of life of elderly people, *dependent variable* of the study, was measured by physical health summary (PCS) scores, and mental health summary (MCS) scores from the SF-36.

The *independent variables* were the following:

- Depression

- Place of living

Depression was an ordinal variable. In this study, Geriatric Depression Scale was used to measure the depression score in elderly.

Place of living was a nominal variable and had two levels being in a study group (retirement home) or a control group (household).

The *intervening variable* was the gender.

Study instruments

The main tools used in this study were two questionnaires: SF-36 (see Appendix 1) and Geriatric Depression Scale-30 (GDS-30) (see Appendix 2). The questionnaires were chosen based on the specific research question to be addressed in this study.

In 1980-1990's the US Rand Corporation developed the SF-36 questionnaire to be used for assessment of the health related QoL of adults [27]. This instrument uses a 36 item questionnaire on eight dimensions: physical functioning, bodily pain, role limitation due to physical health problems, role limitation due to emotional problems, general mental health,

social functioning, energy/vitality, and general health perceptions. In addition to this, one item asks about health change over the past year. Items are scored and aggregated to provide a scale ranging from 0 to 100 (0 = poor health and 100 = good health) [28].

The Physical Component Summary (PCS) and Mental Component Summary (MCS) scores, reflecting overall physical and mental health status, respectively, are derived from the eight original scales of the SF-36. Scoring of the SF-36 for the eight original scales and the PCS and MCS summary scores followed the methods of Ware et al [28]. The scoring for the PCS and MCS is from 0 to 100 points. Both scales are positively scored. The higher the score, the better the physical or mental status of a person [28]. The cutoff level for the PCS for people over sixty-five is 43, and the cutoff level for the MCS for the same group is 52 points [28]. Table 2 presents descriptions of the health status associated with very high and very low scores on the PCS and MCS scales [28].

Three scales (physical functioning, role-physical, and bodily pain) correlate most highly with the physical component and contribute most to the scoring of the PCS measure [28]. The mental component correlates most highly with the mental health, role-emotional, and social functioning scales, which contribute most to the scoring of the MCS measure [28]. The SF-36 has demonstrated high reliability and validity [27]. The SF-36 was translated into Armenian language and adopted by the CHSR [30]. In 2000, a validation study of the SF- 36 was conducted by the CHSR in Nork Marash Medical Center of Armenia. International Quality of Life Assessment project confirmed the Armenian version of the SF-36 in 2001 [30]. This study revealed that there was a poor agreement between self-administered and interviewer-administered questionnaires. However, the SF-36 was suitable for use with an elderly population in a face-to-face interview setting [29].

The GDS-30 reproduced from standard assessment scales for elderly people was a result of joint workshops of the Research Unit of the Royal college of Physicians and the British Geriatrics Society held in 1992 [31]. This self-reported questionnaire was developed and validated for use in the elderly population as a screening tool for depression [31]. In this questionnaire, participants were asked to respond to 30 questions by answering yes or no. The GDS has excellent reliability and validity (test-retest reliability = 85; internal consistency = 0.94) [31]. Scores from 0 to 10 are considered as normal, 11 to 20 indicate mild depression and 21 to 30 indicate severe depression [31]. A score of 10 out of 30 is the usual cut-off point. This level provides 100% sensitivity for major depression with 20% false positive. The GDS was found to have 92% sensitivity and 89% specificity when evaluated against diagnostic criteria [32].

Two independent translators translated the GDS-30 into Armenian. One of the translators was familiar with the GDS, while the other one was not. A backward translation into English was made and compared to the original English version. The Armenian version of the GDS-30 was pre-tested among 12 elderly people. The GDS-30 questionnaire could be a good complement to the SF-36 and provide an assessment of the association of depression with the QoL of elderly.

Ethical consideration

The Departmental Institutional Review Board within the College of Health Sciences at the American University of Armenia approved the research plan prior to implementation of the study. A verbal disclosure statement was provided to each respondent in Armenian, which contained necessary information about the title of the research project, its purpose, procedures, risks and benefits, confidentiality and voluntariness (see Appendix 3). The study was considered

as minimal risk for elderly people. The probability of anticipated discomfort and inconvenience associated with the study was not greater than those encountered in their daily life.

Interviews were conducted anonymously, without use of identifiers, such as name and telephone number of respondents. The use of identifiers was irrelevant to this study, as the interviews were conducted only once. However, information about place of living and status was noted, such as resident or not resident of a retirement home. Thus, a sequential study number was assigned to each participant.

Data entry

The data were entered into the SPSS-11 package. All variables were coded (see Appendix 4). To eliminate the possibility of additional errors data cleaning and double entry with error checking were performed. Results of the exploratory data analysis did not reveal any missing or unusual values. Data analysis was performed in SPSS 11.0, STATA 7.0 and MS Excel statistical software.

3.RESULTS

Administrative information

Two hundred and five elderly people participated in the study, including 104 from retirement homes and 101 from households. Response rate in the retirement home was 83%, and the response rate in randomly selected household elderly was 51%. Taking into consideration that the response rate in household group was lower than expected, additional 37 participants selected through snowball method were included in the study. The t-test analysis indicated no statistically significant differences between the groups of randomly and non-randomly selected

participants in the household group (see Appendix 5). Therefore, these two groups were combined into one control group (household group) throughout the study.

The mean age of participants in the retirement home group was 75.5 (SD 6.3; Median 74.3) while in the household group was 73.6 (SD 6.4; Median 73.1). Male participants comprised 31% of the retirement home group and 33% of the household group.

Domains

The t-test analysis was performed to detect any significant differences in mean transformed scores related to eight domains of SF-36 between the two groups. Table 3 presents the data on eight health profiles of elderly people by place of living.

The mean score for physical functioning was statistically significantly higher for residents of retirement homes. While, for bodily pain, general health, vitality, social functioning and mental health the mean difference was significantly higher for elderly people living in their houses.

To reduce the SF-36 summary measures from the eight-scale profile to two summary measures without substantial loss of information, the PCS and MCS measures were calculated for both groups based on Health Assessment Lab guidelines [28]. The PCS and MCS scores of the two groups were compared by the t-test and presented in Table 4.

Assessment of physical status by place of living indicated that the PCS mean score for the elderly living in retirement homes was statistically significantly lower than that for the group of elderly living in their homes (39.34 vs. 42.67, respectively). Assessment of the MCS score by place of living revealed that the mean MCS score for the elderly living in retirement homes was statistically significantly higher than that among the household elderly (45.26 vs. 34.09 respectively).

Prevalence of depression

Table 5 represents the prevalence of depression in both study groups based on the cutoff level of depression scores for respective categories. In retirement homes, 24.0% of elderly people were not depressed, 48.1% had moderate depression and 27.9% had severe depression. In household data, the rates of moderate and severe depressions were 41.6% and 39.6%, respectively. Only 18.8% of elderly in household group were not depressed at all. The odds ratio for development of any level of depression in retirement home's elderly was 0.73 (CI:0.35; 1.51), based on the cutoff level of 10 points as a boarder between the absence and presence of depression. Hence, there is a statistically significantly lower odds of depression in retirement home group as compared to household group.

Multiple Linear Regression (MLR)

A MLR modeling was performed to explore the association between QoL as a continuous variable and depression after adjusting for place of living and gender. MLR models were used to identify the factors associated with the physical component summary scores and with the mental component summary scores. The results of unadjusted and adjusted analyses and bivariate analysis performed in order to identify the "best" models are presented in Table 6 and Table 7. During the MLR, interactions of variables were created and regression analysis with interactions was conducted. However, the results demonstrated no interaction between the variables. The "best" models were chosen based on goodness of fit testing: higher coefficient of determination (R^2), lower variance of the outcome variable (σ^2) and the residual plots. Collinearity diagnostic was made for all the variables under the study, and no evidence of collinearity was recognized in both models (see Appendix 6).

Based on the investigation of the created models the "best" models were considered the regression of PCS on "depression," "gender," and "place of living," and the regression of MCS on "depression," "gender" and "place of living."

Table 6 showed that the risk of having low physical component summary scores was associated with being depressed, living in a retirement home, and being a female. After adjustment, one unit increase in depression score corresponded to 0.53 unit decrease in the mean PCS score of elderly, keeping all other factors constant.

The estimate of variance (σ^2) of regression model after adjustment was 9.04, indicating that the variability of the model decreased after putting all variables under the study into the model. The P-value for the F test statistic was less than 0.001, providing strong evidence against the null hypothesis. The coefficient of determination ($R^2 = 0.36$) indicated that 36% of the variability in the PCS variable was explained by the "place of living", "gender" and "depression" variables. This was a significant improvement over the smaller model including only the "place of living" and "gender" variables. Examination of the residuals indicated no unusual patterns (see Appendix 7)

Significant predictors of the MCS were also the same independent variables: "depression," "place of living," and "gender." However, the effect of confounder appeared in case of gender. In the unadjusted regression model, gender was not statistically significantly associated with the MCS score (Table 7). Nevertheless, after including depression in the model, the regression coefficient of "gender" drastically changed into the one statistically significantly associated with MCS. Thus, depression is a potential confounder for the gender.

Table 7 presents the results of "best" model of MLR with MCS scores for the total study population significantly associated with depression, place of living, and gender.

The "best" model indicated that being depressed, living in a household, and being a male were significantly associated with higher risk of having low MCS scores. In this model depression scores were highly negatively associated with the MCS, after adjusting for gender and place of living. The estimate of variance (σ^2=7.7) is the smallest for this model, indicating less deviation between the observed and fitted values. The p-value for the F test statistic is providing strong evidence against the null hypothesis (<0.001). The coefficient of determination (R^2) for this model was equal to 0.58. The inclusion of the "place of living", "gender" and "depression" variables explained 58% of the variability of the data, being a significant improvement over the smaller models. Examination of the residuals indicated no unusual patterns (see Appendix 8).

4. DISCUSSION

At the beginning of the study, it was hypothesized that depression could be associated with decreased QoL of elderly people. This study results detected statistically significant association between the increasing depression scores and decreasing QoL components scores (PCS and MCS), after controlling for the place of living and gender, thus confirming the research hypothesis stated in the introductory part of this study. These findings were consistent with the results of previous research [14,15,20,31].

One of the study objectives was to assess the QoL of elderly in retirement homes and elderly from household group, and to determine the existence of any differences between the survey data from retirement homes and households. Comparison of data on eight health profiles of elderly people by place of living showed that elderly living in retirement homes were less limited in performing physical activities, including bathing or dressing.

One of the interesting findings of this study was that elderly people living in retirement homes reported a higher estimation of their subjective QoL than those being under home care. Presumably, as a reasonable explanation for this could be considered the fact that majority of people living in retirement homes were refugees, lonely or elderly from regions and their current QoL had considerably improved as compared to their previous status. Besides, being in active struggle against unfavorable conditions of life, these individuals appeared to be more self-dependants. However, the fact that the study group had different demographic characteristics could be one of the limitations of the study. To get a better insight into this particular issue of interest further enhanced investigations are necessary.

It was also hypothesized that residents of retirement homes were more likely to have poor QoL than elderly living with their families. The assessment of the physical component of the QoL confirmed this hypothesis: the PCS score for the elderly living in retirement homes was statistically significantly lower than the PCS score for the household group. It could mean that the elderly people living in the retirement homes of Yerevan had severe bodily pain, frequent tiredness and substantial limitations in self-care, physical social and role activities. However, the assessment of mental status revealed that the MCS scores were higher for retirement home residents. It can be concluded that elderly people from household group were more prone to frequent psychological distress, substantial social and role disability due to emotional problems.

Some analysis was performed in order to compare the main components of the QoL of elderly people in Yerevan with the US norms for the elderly population aged 65 to 74. Generally, the study population had lower scores in comparison with elderly population of the US (see Appendix 9). Data analyses revealed statistically significant difference in the MCS mean scores. The average US elderly had MCS score 5.1 points higher than the scores of elderly

residents of Yerevan retirement homes. The mean difference in PCS scores was not statistically significant for these groups.

For the household group data analysis revealed statistically significant difference for PCS and MCS. The average US elderly had MCS score 16.3 points higher than those elderly from Armenia household group. However, the average PCS score was 4.7 points lower for the US population (see Appendix 9).

Other objective of the study was the elicitation of the depression rate among elderly of retirement home group and elderly from household group. It was identified that the prevalence of depression in retirement homes of Yerevan was 76%. This was twice higher than the prevalence of depression in nursing homes of the US [15]. The prevalence of moderate and severe depression among elderly in household group was 81%. Compared to the US data on the prevalence of depression, this percent was four times higher [15].

Despite the cross-sectional study design that was chosen due to time constraints, the results of the study were highly significant. However, longitudinal assessment with the clinical support would be more preferable for evaluating changes over time and the trajectory of QoL outcomes for the elderly people.

Contrary to the expected results, the QoL scores in both groups were low. It could be assumed that there were some additional reasons affecting the QoL of elderly and causing depressive disorders that were not explored in this study. One of the possible limitations of the current study was the fact that a few variables that could potentially affect QoL of elderly people were explored. More independent variables could better explain the reasons for deterioration of quality of elderly people's life. Taking into account the age of the respondents, another concern would be the accuracy of information provided by the participants.

Low response rate in the household group also created certain limitation to the study. However, in order to strengthen this factor, additional number of participants was collected, and these two groups were checked on internal consistency. No significant differences were identified between these two groups (see Appendix 5).

In this study, depression was significantly associated with worse indexes of life quality. The results supported the current concept that minor depression was prevalent in later life. However, conducting an additional survey could be useful in order to identify the potential causes of depression. The results of this study could be helpful for further investigations in this area, because of usefulness of SF-36 Health Survey for estimating the burden of depression and in monitoring changes in functional health and well-being over time among the depressed elderly.

The results of this study might not be generalized to the elderly population of Armenia, because only two groups were compared. Elderly living in regions were excluded from the study but the living conditions could be worse in the regions, and there could be other factors affecting the QoL and associated with the depression. It is recommended to conduct similar study in the regions of Armenia in order to identify potential differences between the capital city and regions. Taking into consideration that the population of retirement homes had different demographic characteristics, the results obtained from the retirement homes might be generalized to Armenian retirement homes.

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TABLES

Table 1: Eligibility Criteria for Study Population

	Inclusion criteria	Exclusion criteria
Study group	• Males and females aged 65 and over • Residents of Retirement homes of Yerevan • Elderly who agree to participate in the study	• Elderly with psychiatric diagnoses
Control group	• Males and females aged 65 and over • Elderly from general population of Yerevan, living with their families • Residents of Armenia registered in Yerevan • Elderly who agree to participate in the study	• Retirement home's residents • Elderly who live alone • Elderly with psychiatric diagnoses

Table 2: Descriptions of Very High and Very Low PCS and MCS Health Status Level

Scale	Very low	Very high
PCS	Substantial limitations in self care, physical social and role activities; severe bodily pain; frequent tiredness; health rated "poor"	No physical limitations, disabilities and decrements in well-being; high energy level; health rated "excellent"
MCS	Frequent psychological distress, substantial social and role disability due to emotional problems; health in general rated "poor"	Frequent positive affect; absent of psychological distress and limitations in usual social/role activities due to emotional problems; health in general rated "excellent"

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Table 3: The Mean Difference of Scores Between Household Group and Retirement Homes Group

SCALE	HH	RH	Mean dif	SD	95%CI	P-value
1.physical functioning	45.48	67.28	-21.80	33.02	(-28.21; -15.37)	<0.001
2.role-physical	46.87	50.99	-4.11	36.48	(-11.21; 2.98)	0.253
3.bodily pain	66.25	50.70	15.54	27.38	(10.22; 20.87)	<0.001
4.general health	48.79	38.57	10.21	26.31	(5.09; 15.33)	<0.001
5.vitality	62.60	34.31	28.29	26.11	(23.21; 33.36)	<0.001
6.social functioning	73.56	68.44	5.12	24.71	(0.31; 9.92)	<0.01
7.role-emotional	42.63	45.54	-2.91	44.90	(-11.64; 5.81)	0.509
8.mental health	58.65	35.80	22.85	24.52	(18.08; 27.62)	<0.001

Note: HH-household group, RH-Retirement homes group, SD-Standard deviation,
   P-value (2-tailed)

Table 4: The Mean Difference of Scores for the PCS and MCS Between Household Group and Retirement Homes Group

	HH	RH	Mean dif.	SD	95%CI	P value
PCS	42.67	39.34	-3.32	11.15	(-5.49; -1.15)	<0.01
MCS	34.09	45.26	11.16	11.47	(8.93; 13.39)	<0.001

Note: HH-household group, RH-Retirement homes group, SD-Standard deviation,
   P-value (2-tailed)

Table 5: Level of Depression in the Study Population by the Place of Living

Level of depression/ (Scores)	RH		HH	
	No	%	No	%
Normal condition (0-10)	25	24.0 %	19	18.8 %
Moderate depression (11-20)	50	48.1 %	42	41.6 %
Severe depression (21-30)	29	27.9 %	40	39.6 %

Note: RH-Retirement homes group, HH-household group.

Table 6: Summary Statistics of Associations Between PCS and Independent Predictor Variables (Linear regression model estimates)

	R²	σ²	Place	Gender	GDS	PlG*	PlGDS	GGDS	PGD
Model			β (CI)	β (CI)	β (CI)	β (CI)	β (CI)	β (CI)	β (CI)
1.Pl	0.02	10.7	3.3* (0.30;6.33)						
2.G	0.04	10.8		-5.1** (-8.2; -1.870)					
3.GDS	0.26	9.4			-0.8** (-0.99;-0. 62)				
4.Pl+G	0.06	10.7	3.2* (0.27; 6.18)	-5.0** (-8.17; -1.82)					
5. Pl+ GDS	0.32	9.1	5.4** (2.80; 7.91)		-0.9** (-1.05;-0. 69)				
6.G+ GDS	0.28	9.4		-3.4* (-6.18;-0. 56)	-0.8				
7. Pl +G +GDS†	0.33	9.3	5.2** (2.69; 7.76)	-3.1* (-5.83;-0. 41)	-0.8** (-0.96;-0. 58)				
8.Pl+G+ PlG*	0.05	10.7	5.4 (-5.68;16.52)	-3.0 (-13.10; 7.00)		-1.3 (-7.65; 5.05)			
9.Pl+GDS+ PlGDS*	0.31	9.1	5.7 (-1.01; 12.51)		-0.8** (-1.02;-0. 65)		-0.02 (-0.39;0. 34)		
10.G+ GDS+ GGDS*	0.27	9.4		-0.4 (-7.54; 6.64)	-0.5** (-1.43;-0. 24)			-0.2 (-0.57;0. 21)	
11.Pl+G+ GDS+ PGD*	0.3	9.1	6.2 (1.29; 11.17)	-2.2 (-6.81; 2.29)	-0.8** (-1.16;-0. 34)				-0.03 (-0.17;0. 16)

Note: P-Place of living, G-Gender, GDS-Depression,
Interactions: PlG*= Place*Gender
        GGDS*=Gender*GDS,
        PGD*=Place*Gender*GDS
R^2- coefficient of determination
σ^2- estimate of variance
β (CI)- Regression coefficient (Confidence Interval)
 * p-value<0.05, ** p-value<0.01
†-"Best" model

Table 7: Summary Statistics of Associations Between MCS and Independent Predictor Variables (Linear regression model estimates)

	R²	σ²	Place β (CI)	Gender β (CI)	GDS β (CI)	PlG* β (CI)	PlGDS β (CI)	GGDS β (CI)	PGD β (CI)
Model									
1.Pl	0.21	10.7	-11.2** (-14.10; -8.22)						
2.G	0.0004	12.1		0.48 (-3.08; 4.05)					
3.GDS	0.45	8.9			-1.1** (-1.32;-0. 97)				
4.Pl+G	0.2	10.7	-11.1** (-14.11; -8.21)	0.2 (-2.93; 3.40)					
5. Pl+ GDS	0.57	7.8	-8.7** (-10.92; -6.52)		-1.0** (-1.20;-0. 88)				
6.G+ GDS	0.46	8.8		3.0* (0.40; 5.71)	-1.2** (-1.35; -1.00)				
7. Pl +G +GDS†	0.58	7.7	-8.6** (-10.79; -6.43)	2.6* (0.29; 4.96)	-1.1** (-1.22;-0. 91)				
8.Pl+G+ PlG*	0.21	10.7	-6.9 (-17.95; 4.20)	4.1 (-5.97; 14.09)		-2.5 (-8.89; 3.79)			
9.Pl+GDS+ PlGDS*	0.57	7.9	-11.8** (-17.62; -6.00)		-1.3** (-1.83;-0. 81)		0.2 (-0.13;0. 49)		
10.G+ GDS+ GGDS*	0.46	8.9		4.5 (-2.25; 11.18)	-1.0** (-1.69;-0. 37)			-0.1 (-0.46;0. 29)	
11.Pl+G+ GDS+PGD*	0.58	7.9	-10.8** (-15.05; -6.56)	0.7 (-3.17; 4.65)	-1.2** (-1.61;-0. 90)				0.1 (-0.05;0. 19)

Note: P-Place of living, G-Gender, GDS-Depression,
Interactions: PlG*= Place*Gender
        GGDS*=Gender*GDS,
        PGD*=Place*Gender*GDS
R^2- coefficient of determination
σ^2- estimate of variance
β (CI)- Regression coefficient (Confidence Interval)
 * p-value<0.05, ** p-value<0.01
†-"Best" model

Appendix 1: SF-36 Health Survey

SF-36 HEALTH SURVEY

INSTRUCTIONS: This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

                                                                                    (circle one)

       Excellent 1

       Very good 2

       Good 3

       Fair 4

       Poor 5

2. Compared to one year ago, how would you rate your health in general now?

                                                                                    (circle one)

       Much better now than one year ago 1

       Somewhat better now than one year ago..2

       About the same as one year ago...3

       Somewhat worse now than one year ago 4

       Much worse now than one year ago...5

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

(circle one number on each line)

	ACTIVITIES	Yes, Limited A Lot	Yes, Limited A Little	No, Not Limited At All
a.	**Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b.	**Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c.	Lifting or carrying groceries	1	2	3
d.	Climbing **several** flights of stairs	1	2	3
e.	Climbing **one** flight of stairs	1	2	3
f.	Bending, kneeling, or stooping	1	2	3
g.	Walking **more than a mile**	1	2	3
h.	Walking **several blocks**	1	2	3
i.	Walking **one block**	1	2	3
j.	Bathing or dressing yourself	1	2	3

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(circle one number on each line)

		YES	NO
a.	Cut down on the **amount of time** you spent on work or other activities	1	2
b.	**Accomplished less** than you would like	1	2
c.	Were limited in the **kind** of work or other activities	1	2
d.	Had **difficulty** performing the work or other activities (for example, it took extra effort)	1	2

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5. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

(circle one number on each line)

	YES	NO
a. Cut down the **amount of time** you spent on work or other activities	1	2
b. **Accomplished less** than you would like	1	2
c. Didn't do work or other activities as **carefully** as usual	1	2

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

(circle one)

Not at all...1

Slightly 2

Moderately 3

Quite a bit 4

Extremely...5

7. How much bodily pain have you had during the past 4 weeks?

(circle one)

None 1

Very mild..2

Mild..3

Moderate..4

Severe..5

Very severe..6

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8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

(circle one)

Not at all 1

A little bit 2

Moderately 3

Quite a bit 4

Extremely 5

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks -

(circle one number on each line)

		All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
a.	Did you feel full of pep?	1	2	3	4	5	6
b.	Have you been a very nervous person?	1	2	3	4	5	6
c.	Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d.	Have you felt calm and peaceful?	1	2	3	4	5	6
e.	Did you have a lot of energy?	1	2	3	4	5	6
f.	Have you felt downhearted and blue?	1	2	3	4	5	6
g.	Did you feel worn out?	1	2	3	4	5	6
h.	Have you been a happy person?	1	2	3	4	5	6
i.	Did you feel tired?	1	2	3	4	5	6

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

(circle one)

All of the time 1

Most of the time 2

Some of the time 3

A little of the time 4

None of the time 5

11. How TRUE or FALSE is each of the following statements for you?

(circle one number on each line)

		Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a.	I seem to get sick a little easier than other people	1	2	3	4	5
b.	I am as healthy as anybody I know	1	2	3	4	5
c.	I expect my health to get worse	1	2	3	4	5
d.	My health is excellent	1	2	3	4	5

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ՑՈՒՑՈՒՄՆԵՐ: Այս հարցման նպատակն է պարզել Ձեր կարծիքը Ձեր առողջության վերաբերյալ: Դա ինֆարմավորություն կտա տեղեկանալու այն մասին, թե ինչպես եք Ձեզ զգում և որքանով եք ի վիճակի կատարել Ձեր առօրյա գործերը:

Պատասխանեք բոլոր հարցերին` նշելով Ձեր ընտրած պատասխանն այնպես, ինչպես

նշված է փակագծերում տրված ցուցումներում: Եթե դուք վստահ չեք, թե որ պատասխանն ընտրել,

ընտրեք այն պատասխանը, որն ամենից ավելի մոտ է Ձեր կարծիքին:

1. Ինչպե՞ս կգնահատեիք Ձեր առողջությունն ընդհանուր առմամբ:

    *(Շրջանակի մեջ վերցրեք
    միայն մեկ թիվ)*

    Գերազանց 1

    Շատ լավ 2

    Լավ.. 3

    Ոչ այնքան լավ... 4

    Վատ.. 5

2. Ինչպե՞ս կգնահատեիք Ձեր առողջությունն <u>այժմ</u>` <u>համեմատած մեկ տարի առաջվա հետ</u>:

    *(Շրջանակի մեջ վերցրեք
    միայն մեկ թիվ)*

    Շատ ավելի լավ այժմ, քան մեկ տարի առաջ 1

    Որոշ չափով ավելի լավ այժմ, քան մեկ տարի առաջ 2

    Այժմ գրեթե նույնը, ինչ մեկ տարի առաջ... 3

    Որոշ չափով ավելի վատ այժմ, քան մեկ տարի առաջ 4

    Շատ ավելի վատ այժմ, քան մեկ տարի առաջ.. 5

3. Ստորն թվարկված են մի քանի առօրյա գործողություններ: Արդյո՞ք <u>Ձեր ներկայիս առողջական վիճակը խանգարում է Ձեզ</u>՝ կատարել այդ գործողությունները: Եթե այո, որքանո՞վ:

(շրջանակի մեջ վերցրեք մեկ թիվ՝ յուրաքանչյուր տողում)

ԳՈՐԾՈՂՈՒԹՅՈՒՆՆԵՐ	Այո, շատ է խանգա- րում	Այո, քիչ է խանգա- րում	Ոչ, ամենևին չի խան- գարում
ա. **Ակտիվ գործողություններ**, օրինակ՝ վազել, ծանրություն բարձրացնել, զբաղվել ակտիվ սպորտաձևերով	1	2	3
բ. **Միջին ակտիվության գործողություններ**, օրինակ՝ սեղան տեղաշարժել, փոշեծծիչով մաքրել, սեղանի թենիս խաղալ կամ պարտեզում աշխատել	1	2	3
գ. Մթերքով պայուսակը բարձրացնել կամ տանել	1	2	3
դ. Աստիճաններով բարձրանալ մի քանի հարկ	1	2	3
ե. Աստիճաններով բարձրանալ մի հարկ	1	2	3
զ. Կքանստել, կռանալ կամ ծնկի գալ	1	2	3
է. Քայլել մոտ մեկ կիլոմետր	1	2	3
ը. Քայլել մի քանի հարյուր մետր	1	2	3
թ. Քայլել հարյուր մետր	1	2	3
ժ. Ինքնուրույն լողանալ կամ հագնվել	1	2	3

4. Արդյո՞ք <u>վերջին **4 շաբաթվա**</u> ընթացքում ունեցել եք Ձեր աշխատանքի կամ ամենօրյա այլ գործերի հետ կապված հետևյալ դժվարություններից որևէ մեկը կամ մի քանիսը՝ <u>Ձեր առողջական վիճակի հետևանքով</u>:

(շրջանակի մեջ վերցրեք մեկ թիվ՝ յուրաքանչյուր տողում)

	ԱՅՈ	ՈՉ
ա. Կրճատել եք աշխատանքի կամ այլ գործերի վրա **ծախսած ժամանակը**	1	2
բ. **Կատարել եք ավելի քիչ**, քան կցանկանայիք	1	2
գ. Ի վիճակի չեք եղել կատարել **որոշակի տիպի** աշխատանք կամ այլ գործեր	1	2
դ. **Դժվարությամբ** եք կատարել աշխատանքը կամ այլ գործեր (օրինակ՝ պահանջվել են լրացուցիչ ջանքեր)	1	2

5. Արդյո՞ք <u>վերջին 4 շաբաթվա</u> ընթացքում ունեցել եք Ձեր աշխատանքի կամ ամենօրյա այլ գործերի հետ կապված հետևյալ դժվարություններից որևէ մեկը կամ մի քանիսը՝ <u>որևէ հուզական վիճակի</u> (օրինակ՝ ընկճվածության կամ մտահոգվածության) հետևանքով:

(շրջանակի մեջ վերցրեք մեկ թիվ՝ յուրաքանչյուր տողում)

	ԱՅՈ	ՈՉ
ա. Կրճատե՞լ եք աշխատանքի կամ այլ գործերի վրա **ծախսած ժամանակը**	1	2
բ. **Կատարե՞լ եք ավելի քիչ,** քան կցանկանայիք	1	2
գ. Սովորականից պակաս **ուշադրությա՞մբ** եք կատարել աշխատանքը կամ այլ գործեր	1	2

6. <u>Վերջին 4 շաբաթվա</u> ընթացքում Ձեր առողջական կամ հուզական վիճակը որքանո՞վ է խանգարել Ձեր առօրյա շփումներին ընտանիքի, ընկերների, հարևանների կամ այլոց հետ:

(շրջանակի մեջ վերցրեք

Ամենևին 1

Թեթևակի 2

Չափավոր 3

Բավականին 4

Չափազանց 5

7. <u>Վերջին 4 շաբաթվա</u> ընթացքում որքա՞ն **ֆիզիկական** ցավ եք զգացել:

Ոչ մի 1

Շատ թույլ 2

Թույլ 3

Չափավոր 4

Ուժեղ 5

Շատ ուժեղ 6

8. <u>Վերջին 4 շաբաթվա</u> ընթացքում որքանո՞վ է <u>գավր</u> խանգարել Ձեր նորմալ աշխատանքին (ինչպես տանը, այնպես էլ` տնից դուրս):

Ամենևին...1

Թեթևակի...2

Չափավոր...3

Բավականին...4

Չափազանց...5

9. Հետևյալ հարցերը վերաբերում են Ձեր ինքնազգացողությանը <u>վերջին 4 շաբաթվա ընթացքում</u>: Խնդրում ենք յուրաքանչյուր հարցի համար ընտրել այն միակ պատասխանը, որն ամենից մոտ է Ձեր զգացածին:
<u>Վերջին 4 շաբաթվա</u> ընթացքում որքա՞ն ժամանակ եք Դուք...

(շրջանակի մեջ վերցրեք մեկ թիվ` յուրաքանչյուր տողում)

	Ամբողջ ժամա-նակ	Ժամա-նակի մեծ մասը	Ժամա-նակի զգալի մասը	Ժամա-նակի որոշ մասը	Ժամա-նակի փոքր մասը	Ոչ մի ժամա-նակ
ա. զգացել Ձեզ եռանդով լի	1	2	3	4	5	6
բ. եղել շատ նյարդայնացած	1	2	3	4	5	6
գ. զգացել այնքան ընկճված, որ ոչինչ չէր կարող Ձեզ ուրախացնել	1	2	3	4	5	6
դ. զգացել հանգիստ ու խաղաղ	1	2	3	4	5	6
ե. եղել շատ առույգ	1	2	3	4	5	6
զ. եղել սրտնեղած ու տխուր	1	2	3	4	5	6
է. զգացել լրիվ ուժասպառ	1	2	3	4	5	6
ը. եղել երջանիկ	1	2	3	4	5	6
թ. զգացել հոգնած	1	2	3	4	5	6

10. Վերջին 4 շաբաթվա ընթացքում <u>Ձեր առողջական կամ հոգական խնդիրները</u> որքա՞ն ժամանակ են խանգարել Ձեր շփումներին շրջապատի հետ (օրինակ` չեք կարողացել այցելել ընկերներին, բարեկամներին և այլն):

միայն մեկ թիվ)

Ամբողջ ժամանակ..1

Ժամանակի մեծ մասը 2

Ժամանակի որոշ մասը 3

Ժամանակի փոքր մասը..4

Ոչ մի ժամանակ...5

11. Ըստ Ձեզ, որքանո՞վ է ՃԻՇՏ կամ ՍԽԱԼ հետևյալ պնդումներից <u>յուրաքանչյուրը</u>:

(շրջանակի մեջ վերցրեք մեկ թիվ` յուրաքանչյուր տողում)

	Լիովին ճիշտ է	Հիմնա-կանում ճիշտ է	Չգիտեմ	Հիմնա-կանում սխալ է	Լիովին սխալ է
ա. Կարծես թե ես ավելի հեշտ եմ հիվանդանում, քան ուրիշները	1	2	3	4	5
բ. Ես նույնքան առողջ եմ, որքան իմ ճանաչած մարդիկ	1	2	3	4	5
գ. Ես կարծում եմ, որ իմ առողջությունը կվատանա	1	2	3	4	5
դ. Իմ առողջությունը գերազանց է	1	2	3	4	5

Appendix 2: Geriatric Depression Scale

30 Item Geriatric Depression Scale

Choose the best answer for how you felt over the last week
ID_____   Date_____

1	Are you basically satisfied with your life?	YES	NO
2	Have you dropped many of your activities and interests?	YES	NO
3	Do you feel that your life is empty?	YES	NO
4	Do you often get bored?	YES	NO
5	Are you hopeful about the future?	YES	NO
6	Are you bothered by thoughts you can't get out of your head?	YES	NO
7	Are you in good spirits most of the time?	YES	NO
8	Are you afraid that something bad is going to happen to you?	YES	NO
9	Do you feel happy most of the time?	YES	NO
10	Do you often feel helpless?	YES	NO
11	Do you often get restless and fidgety?	YES	NO
12	Do you prefer to stay at home, rather than going out and doing new things?	YES	NO
13	Do you frequently worry about the future?	YES	NO
14	Do you feel you have more problems with memory than most ?	YES	NO
15	Do you think it is wonderful to be alive now?	YES	NO
16	Do you often feel downhearted and blue?	YES	NO
17	Do you feel pretty worthless the way you are now?	YES	NO
18	Do you worry a lot about the past?	YES	NO
19	Do you find life exciting?	YES	NO
20	Is it hard for you to get started in new projects?	YES	NO
21	Do you feel full of energy?	YES	NO
22	Do you feel that your situation is hopeless?	YES	NO
23	Do you think that most people are better off than you are?	YES	NO
24	Do you frequently get upset over little things?	YES	NO
25	Do you frequently feel like crying?	YES	NO
26	Do you have trouble concentrating?	YES	NO
27	Do you enjoy getting up in the morning?	YES	NO
28	Do you prefer to avoid social gatherings?	YES	NO
29	Is it easy for you to make decisions?	YES	NO
30	Is your mind as clear as it used to be?	YES	NO

Հերոնտոլոգիական դեպրեսիայի սանդղակ

_____

Ընտրեք ձեր ինքնազգացողության վերաբերյալ լավագույն պատասխանը անցած շաբաթվա ընթացքում:

Տարբերակիչ համարը._____   Ամսաթիվ _____

	Մասնակիցներին ուղղվող հարցերը	Այո	Ոչ
1.	Հիմնականում բավարարվա՞ծ եք արդյոք ձեր կյանքից:		
2.	Թողե՞լ եք արդյոք ձեր սիրելի զբաղմունքը և հետաքրքրությունների մեծ մասը:		
3.	Ձեր կյանքում որևէ դատարկություն զգու՞մ եք:		
4.	Դուք հաճա՞խ եք ձանձրանում:		
5.	Դուք լավատեսորե՞ն եք տրամադրված ապագայի նկատմամբ:		
6.	Արդյոք ձեզ անհանգստացնու՞մ են մտքեր, որոնք չեք կարող մոռանալ:		
7.	Հիմնականում ձեր տրամադրությունը բա՞րձր է լինում:		
8.	Արդյոք մտավախություն ունե՞ք, որ ձեզ հետ վատ բան կկատարվի:		
9.	Հիմնականում դուք ձեզ երջանի՞կ եք զգում:		
10.	Հաճա՞խ եք արդյոք ձեզ անօգնական զգում:		
11.	Հաճա՞խ եք լինում անհանգիստ և տագնապալից վիճակում:		
12.	Ո՞րն է ձեզ համար նախընտրելի. մնալ տա՞նը, թե՞ տնից դուրս գալ և զբաղվել նոր գործերով:		
13.	Հաճա՞խ եք անհանգստանում ապագայի համար:		
14.	Չի՞ թվում ձեզ արդյոք, որ դուք հիշողության հետ կապված ավելի շատ պրոբլեմներ ունեք, քան ուրիշները:		
15.	Ձեզ հրճվանք պատճառու՞մ է այն միտքը, որ ապրում եք:		
16.	Հաճա՞խ եք արդյոք ձեզ մելամաղձոտ և ճնշված զգում:		
17.	Արդյո՞ք անօգուտ եք համարում այն ապրելաձևը, որը վարում եք այժմ:		
18.	Անցյալի համար շա՞տ եք ցավում:		
19.	Արդյո՞ք կյանքը գրավիչ եք գտնում:		
20.	Դժվա՞ր է արդյոք ձեզ համար նոր նախաձեռնություններ սկսել:		
21.	Դուք լի՞ եք ներգիայով:		
22.	Ձեր դրությունը անհու՞յս եք համարում:		
23.	Գտնու՞մ եք արդյոք, որ մարդկանց մեծամասնությունը ավելի լավն է, քան դուք:		
24.	Անհեթեթություններից հաճա՞խ եք վրդովվում:		
25.	Հաճա՞խ եք արդյոք լաց լինելու ցանկություն ունենում:		
26.	Դժվա՞ր եք արդյոք կենտրոնանում:		
27.	Առավոտյան հաճույքո՞վ եք արթնանում:		
28.	Հասարակական հավաքույթներից խուսափու՞մ եք:		
29.	Հե՞շտ եք արդյոք որոշումներ կայացնում:		
30.	Արդյո՞ք ձեր միտքը այնքան պարզ է, ինչպիսին որ եղել է միշտ:		

American University of Armenia
Department of Public Health
Institutional Review Board/Committee on Human Research

CONSENT FORM TEMPLATE

Title of Research Project: Quality of life and depression among elderly retirement homes residents of Yerevan: A Comparative Survey of retirement homes residents and household respondents aged 65 years old and over.

CHR#

The survey is conducted by a student of the American University of Armenia, as a part of the research for master's thesis. The purpose for the study is to assess the quality of life of elderly people in Yerevan, and to identify the relationship between depression and quality of life of elderly people. Women and men aged 65 and older may participate in the research. An MPH student will conduct this interview. It will take place only once and will last 20-25 minutes.
I appreciate your participation in this study and your responses are highly valuable to me.

Explanation of Research Project:

Risks/Discomforts: There is no known for the participants in this study. The research possesses risk, discomfort and inconveniences the same as encountered in your daily life.
Benefits: Participants need to devote 20-30 minutes of their time to answer the question during the interview and will not directly benefit from their participation in the research. Participation in this project will provide valuable information that will help to improve the quality of life of elderly people.
Confidentiality: Interviews will be conducted anonymously without use of identifiers, such as name, address and telephone number of respondents. We need only the information about the place of living(house or retirement home) and your status (lonely or not) The information obtained from the interview will be used only for this program and will not be shared with anybody outside of the research team. Your individual responses will be accessible only to the student-investigator, principal-investigator and co-investigator of this study. The summary report of this survey will be presented in AUA as a part of the requirements for the Master's in Public Health degree, both on paper and in presentation.
Voluntariness: Your participation in this study is completely voluntary, and your name will not be attached to any of the records that will be observed for this study. You have the right to skip any question you want. You can stop the interview at any time and withdraw from this study without any negative effect.
Whom to Contact: If you want to talk to anyone about this research study, you should call the person in charge of the study, **[Michael Thompson]** at **[Phone number: (3741) 512592 /
 e-mail: mthompso@aua.am]**. The person in charge of the study will answer your questions.

Հայաստանի Ամերիկյան Համալսարան

Ð³ë³ñ³Ï³Ï³Ý ³éáÕç³å³ÑáõÃû³Ý µ³ÅÇÝ

Ð³Ù³Ó³ÛÝáõÃûáÝ

Հետազոտության վերնագիրը.. Կյանքի որակը և դեպրեսիան Երևանի տարեց բնակչության շրջանում

Բարև, իմ անունն է Սրապյան Ջաևա, ես Հայաստանի ամերիկյան համալսարանի ուսանող եմ: Այս ուսումնասիրությունը հանդիսանում է իմ դիպլոմային աշխատանքի հիմքը: Իմ հետազոտության նպատակն է՝ բացահայտել, թե Երևանում բնակվող տարեց մարդկանց շրջանում ինչ տարածում ունի դեպրեսիան և գնահատել վերջինիս ազդեցությունը այդ մարդկանց կյանքի որակի վրա: Հետազոտության շրջանակներում կարող են ընդգրկվել 65-ամյա և ավելի բարձր տարիքի տղամարդիկ և կանայք: Հարցազրույցը կանցկացվի միայն մեկ անգամ և կտևի 25-30 րոպե: Ես երախտապարտ կլինեմ Ձեր մասնակցության, ինչպես նաև Ձեր կողմից տրամադրված տեղեկությունների համար, քանի որ դա կհանդիսանա իմ հետազոտական աշխատանքի կարևոր մասերից մեկը:

Հետազոտական աշխատանքի պարզաբանումը

Վտանգ/Անհարմարություն. Հարցազրույցը կանցկացվի միայն մեկ անգամ և կտևի 25-30 րոպե: Հետազոտության ընթացքում մասնակցի համար չկա որոշակի վտանգ: Հետազոտությունը կարող է պատճառել միայն առօրյա վտանգ և անհարմարություն:

Շահ. Հետազոտության ընթացքում Դուք ուղղակի շահ չեք ունենալու: Սակայն Ձեր տրամադրած տեղեկատվությունը կարող է նպաստել տարեց մարդկանց կյանքի որակի բարելավմանը:

Գաղտնիություն. Ձեր մասնակցությունը այս նախագծում լիովին կամավոր է և Ձեր անունը գրանցումներից ոչ մեկում չի նշվի: Ստացված տեղեկատվությունը օգտագործվելու է միայն այս նախագծի համար և կիրառվելու է բացառապես տվյալ խմբի անդամների կողմից: Մեզ անհրաժեշտ են միայն Ձեր բնակության վայրի (տուն կամ ծերանոց) և կարգավիճակի (միայնակ կամ ոչ) մասին տեղեկություններ: Այս ուսումնասիրության ամփոփ արդյունքները կներկայացվեն Հայաստանի ամերիկյան համալսարանում դիպլոմային աշխատանքի պաշտպանության ժամանակ` թե՛ որպես գրավոր փաստաթուղթ, թե՛ որպես ներկայացում:

Կամավորություն. Ձեր մասնակցությունը այս հետազոտությանը լիովին կամավոր է: Դուք կարող եք խուսափել ցանկացած հարցի պատասխանելուց: Դուք ցանկացած պահի կարող եք ընդհատել հարցազրույցին պատասխանելը և դուրս գալ այս նախագծից` առանց որևէ բացասական հետևանքի:

Ում դիմել. Եթե Դուք ինչ-որ հարցեր ունեք կամ ցանկանում եք հետազոտության վերաբերյալ խոսել որևէ մեկի հետ, կարող եք դիմել հետազոտության պատասխանատու անձ Մայքլ Թոմփսոնին` հետևյալ հեռախոսահամարով 512592:

Appendix 4: Description of Variables for Quality of Life of Elderly People Dataset

Variable Name	Variable Description	Codes
PCS	Physical summary scale	Continues
MCS	Mental summary scale	Continues
Gender	Sex of participants in two groups	1 Male 2 Female
Place	Place of living (Household or retirement home)	1-retirement home 2-household
GDS	Depression scores	Continues

Appendix 5: Internal Consistency Between the Two Subgroups in the Household Group

	Mean (household non-random)	Mean (household random)	Mean difference	t	Sig.	Standard error dif.	95%CI (Lower)	95% CI (Upper)
1.physical functioning	66.62	67.65	-1.03	-0.25	0.07	4.8	-10.58	8.51
2.role-physical	43.24	55.46	-12.22	-1.25	0.07	9.7	-31.49	7.04
3.bodily pain	45.91	53.46	-7.54	-1.31	0.82	5.7	-18.93	3.83
4.general health	36.81	39.59	-2.78	-0.81	0.32	3.4	-9.53	3.97
5.vitality	32.43	35.39	-2.95	-0.72	0.13	4.0	-11.01	5.10
6.social functioning	68.91	68.16	0.75	0.11	0.64	6.6	-12.40	13.91
7.role-emotional	37.83	50.00	12.16	-1.43	0.48	8.4	-28.99	4.66
8.mental health	36.64	35.31	1.33	0.40	0.26	3.3	-5.29	7.97
PCS	41.13	43.55	-2.42	-1.09	0.05	2.2	-6.81	1.96
MCS	33.77	34.27	-0.49	-0.24	0.78	2.0	-4.53	3.53
GDS (Depression	17.75	18.62	-0.86	-0.57	0.84	1.5	-3.85	2.12

Note: PCS-Physical Component Summary
MCS-Mental Component Summary

Collinearity diagnostic for the "best" model with PCS outcome

Variable	VIF	1/VIF
GDS (Depression)	1.05	0.95
Place	1.03	0.97
Gender	1.02	0.98
Mean VIF		1.04

Note: VIF- variance inflation factors for the independent variables specified in the fitted model

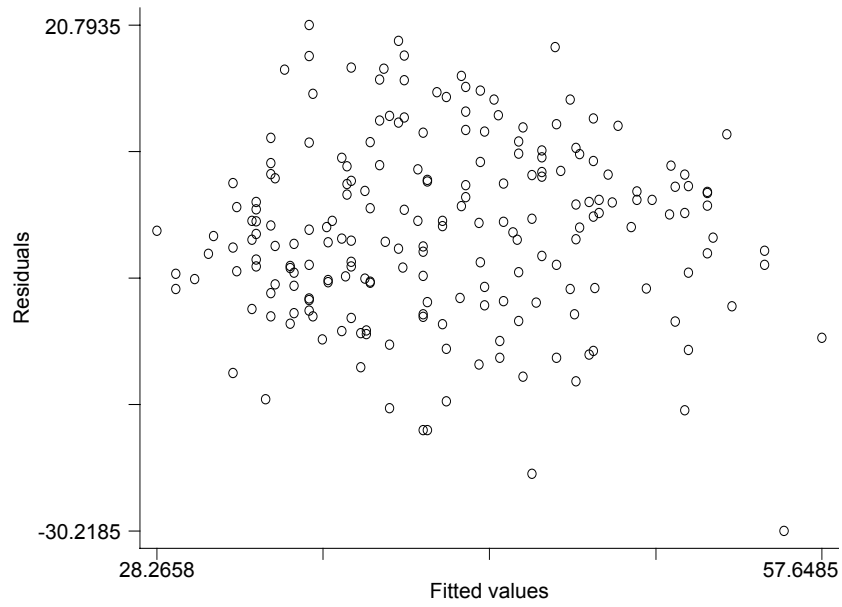**Collinearity diagnostic for the" best" model with MCS outcome**

Variable	VIF	1/VIF
GDS (Depression)	1.05	0.95
Place	1.03	0.97
Gender	1.02	0.98
Mean VIF		1.04

Note: VIF- variance inflation factors for the independent variables specified in the fitted model
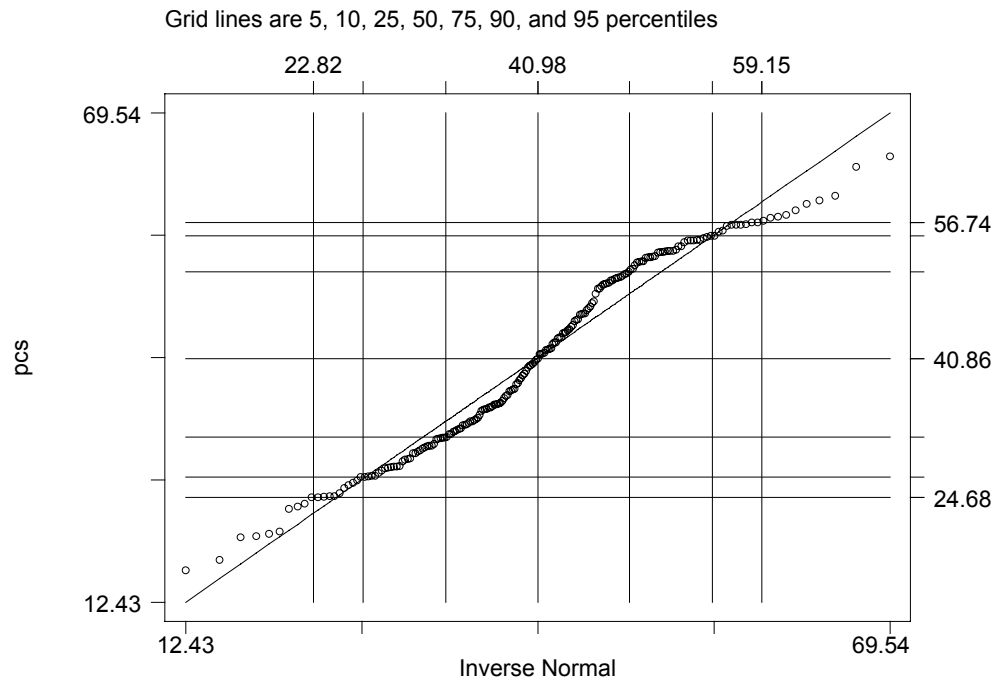
Residual plot for the "best" model against fitted values of PCS

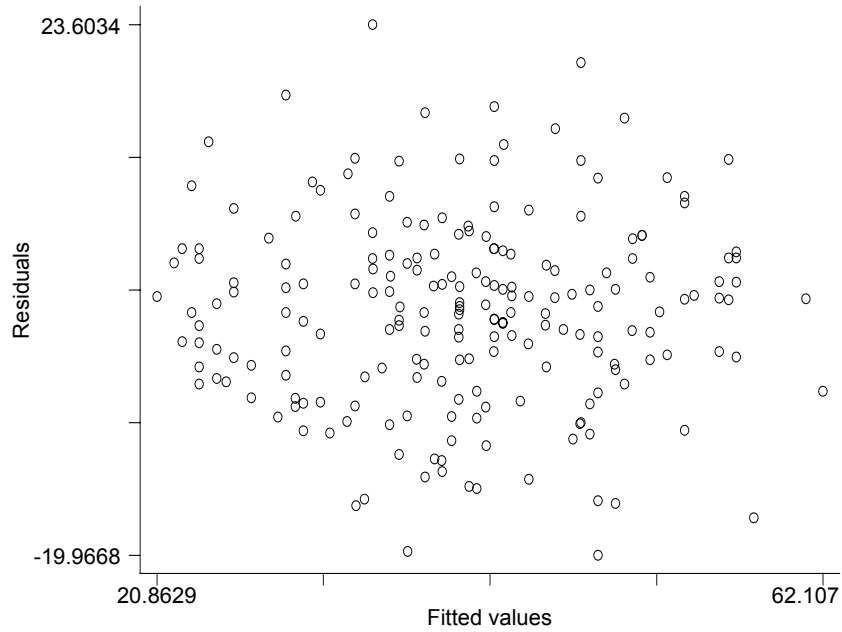**Residual plot for the "best" model against depression scores (GDS)**
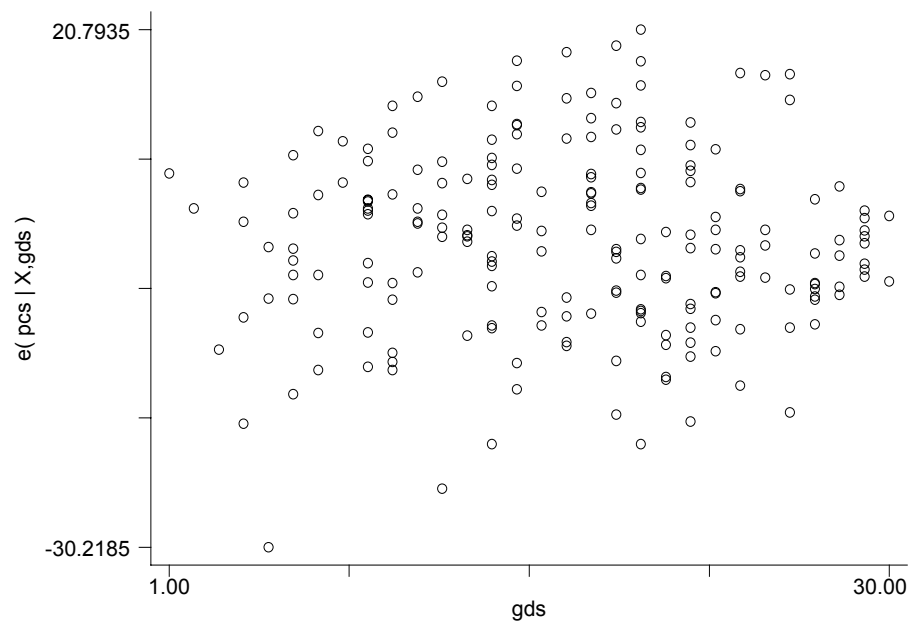
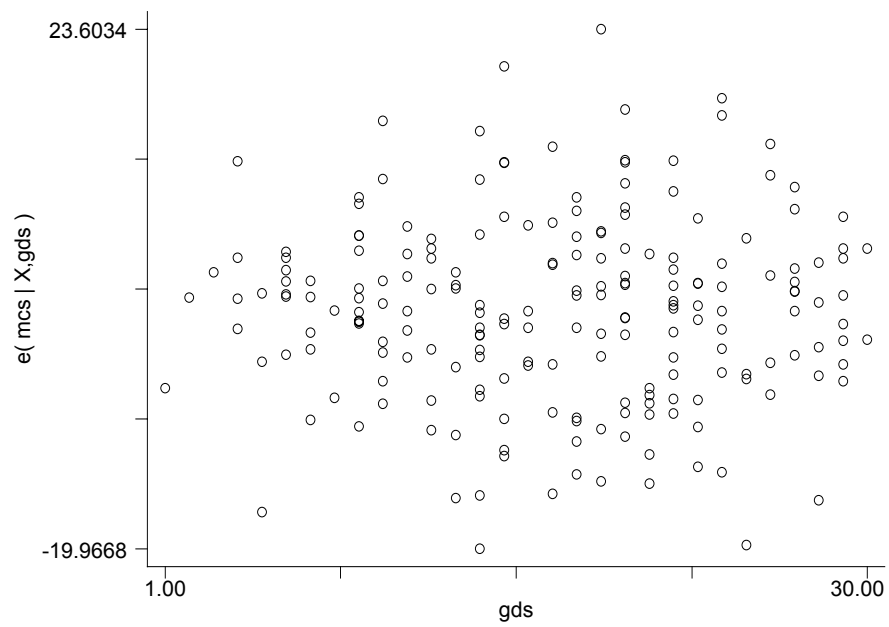**Normal probability plot of residuals for the "best" PCS model**

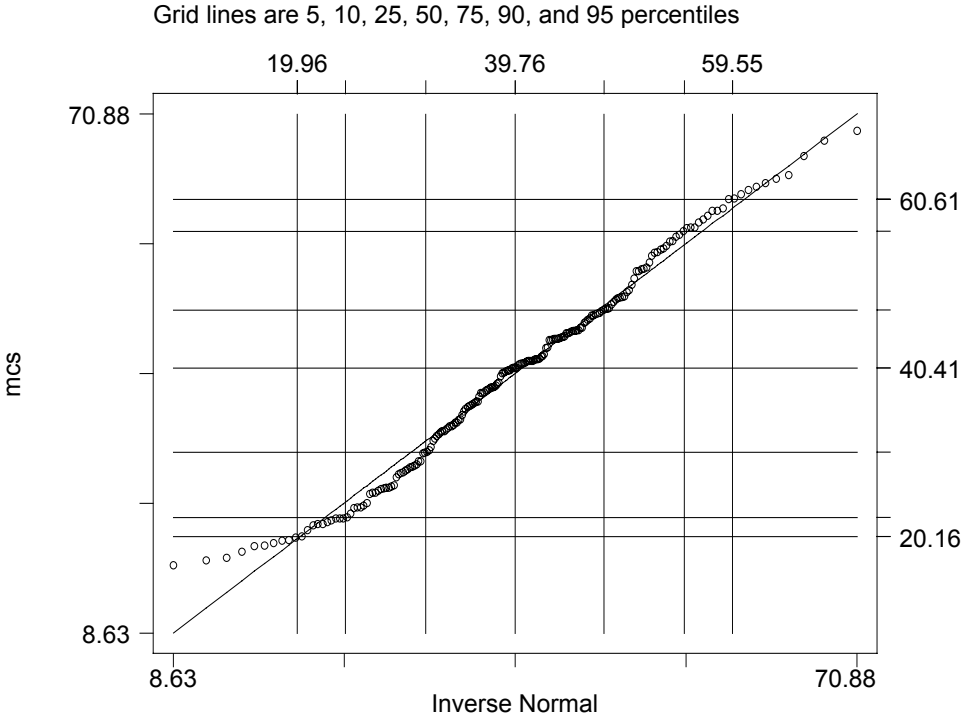Grid lines are 5, 10, 25, 50, 75, 90, and 95 percentiles

Residual plot for the "best" model against fitted values of MCS

Residual plot for the "best" model against depression scores (GDS)

Normal probability plot of residuals for the "best" MCS model

Grid lines are 5, 10, 25, 50, 75, 90, and 95 percentiles

Appendix 9: Comparative Analysis with US Elderly Population

Table 1: The mean difference of transformed scores for the PCS and MCS between elderly residents of retirement homes in Yerevan and norms of US elderly population aged 65 to 74.

SCALE	RH	US general population	Mean dif.	SD	95%CI	Sig.
PCS	39.3	37.89	1.45	11.2	-0.7; 3.6	0.186
MCS	45.2	50.44	-5.1	11.5	-7.4; -2.9	0.000

Note: RH-Retirement homes group, SD-Standard deviation, PCS-Physical Component Summary, MCS-Mental Component Summary

Table 2: The mean difference of transformed scores for the PCS and MCS between household group and norms of US elderly population aged 65 to 74.

SCALE	HH	US general population	Mean difference	SD	95%CI	Sig.
PCS	42.67	37.89	4.7	10.7	2.6; 6.8	0.000
MCS	34.09	50.44	-16.3	9.7	-18.3; -14.4	0.000

Note: HH-household group, SD-Standard deviation, PCS-Physical Component Summary
MCS-Mental Component Summary