

# Physical and Psycho-Social Health Problems among Elderly People in Rural Area and Its Effects on Their Quality of Life

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**Abstract:** The process of aging is related to biological, mental, and social changes which cause susceptible conditions to get physical, psychological, and social health problems. The aim of the study: - to assess physical and psycho-social health problems among elderly people in rural area and its effects on their quality of life. Subjects and Method: -Study design: - In this study, a descriptive cross-sectional study design was used. Study settings: - The study was carried out in Ceberbay village as a rural area in Tanta City. Study subjects: - A convenient sample was utilized in the current study. The study sample consisted of (278) of the elderly people in the study setting equal and above 60 years. Tools of data collection: - Two tools were used by the researchers to collect the necessary data Tool I: A structured interview schedule: - it consisted of the following parts: - Part 1- Socio-demographic characteristics, Part 2:- Physical health problems, and Part 3:- Psycho- social health problems. Tool II: World Health Organization Quality of Life-BREF (WHOQOL- BREF). Results: - The result of this study showed that there was a highly significant positive correlation between quality of life and activities of daily living, cognitive impairment and level of education but there was highly significant negative correlation with depression, abuse vulnerability and family income ( $p = 0.000^{**}$ ). Conclusion and recommendations: - It can be concluded that more than two- thirds of elderly people in the rural area had low QOL and the rest of them had mild QOL. Therefore, a pressing need for health education intervention to the elderly regarding their social and physical recreational activities group that will assist in building elderly self-confidence as well as it improved their QOL.

**Keywords:** QOL, Elderly, Physical-health-problems, Mental-health-problems, Rural area.

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## 1. INTRODUCTION

The world's older population continues to grow to an unprecedented rate. Today, worldwide, it was estimated that people aged 65 and above constitute 617 million which represent 8.5% of people. According to "An Aging world new report, 2015", stated that this percentage is expected to increase to reach 1.6 billion about 17% of the world's population by the year 2050 <sup>(1)</sup>. This means that by the time around 20 million Egyptians will be categorized as elderly by the time. Additionally Egypt is expected to maintain the highest rank in absolute numbers in both old and oldest population in the region <sup>(3)</sup>.

Old age is the end stage of human life as well as it is not a disease. The main characteristics of old age that, it is a period of decline, poor adjustment, health problems, and changes in the body cells as a result of aging process and depression <sup>(4)</sup>. The process of aging is related to biological, mental, and social changes which cause susceptible conditions to get physical, social, and psychological health problems <sup>(5)</sup>. It was estimated that 80% of the elderly live with chronic diseases such as arthritis, hypertension, diabetes, heart disease, and vision and hearing disorders. Most of the elderly with chronic diseases are able to perform their activities of daily living and to meet their own needs; while only 25% need a special type of care <sup>(6)</sup>.

Furthermore, elderly people face a lot of problems such as psychological health problems as anxiety and depression, which are more popular among old age <sup>(5)</sup>. The most common mental health disorder is severe cognitive impairment or dementia among the elderly, which is caused by Alzheimer's disease. Furthermore depression and mood disorders are widespread among elderly. Also anxiety is one of the more prevalent mental health troubles among the older adults <sup>(7)</sup>. Elderly face with social problems such as loneliness/ alienation, less participation in the family or social activates isolation by family members, relatives, neighbors and physical or mentally abused of elderly by family or society <sup>(8)</sup>.

Moreover, elderly people have a high risk for functional impairments with an inability to carry out regular activities of daily living and activities associated with instrumental activities of daily living <sup>(3)</sup>. Therefore aged individuals are prone to a variety of chronic morbidities and disability associated with them. So perceived morbidity and disability could adversely influence on the quality of life (QOL) in their subsequent of the life lived <sup>(9)</sup>. Quality of life is a broad- ranging concept affect in a complicated way by the individual's physical health, psychological state, social relationships, level of independence, personal beliefs and their relationship to salient features of their environment <sup>(10)</sup>.

Quality of life among elderly is an important area of interest among the elderly which reflects the health status and well-being of this susceptible population <sup>(11)</sup>. WHO defines the quality of life as individuals perception of their function in life in the context of the lifestyle and value systems in which they live and in relation to their goals, expectation, standards, and concerns <sup>(12)</sup>. Therefore, there is a need to highlight the medical and the epidemiological transition of diseases with an increase in the burden of chronic morbidity conditions, which is driven by population aging, will affect the quality of life of the elderly population in general whether in rural and urban areas <sup>(13)</sup>.

In addition, various studies have shown that chronic morbid conditions are associated with low quality of life. Therefore, quality of life for elderly individual has become increasingly important as an outcome in community health research, as well as there is a need to pay proper attention to the quality of life of the older persons, as well as it is necessary to be assessed in order to address, plan and implement appropriate and cost- effective strategies at local community <sup>(9,14-16)</sup>. Older people needs for comprehensive healthcare, however community health nurse (CHN) is in eminent position to provoke a healthful environment that will achieve the needs of this group of people. Moreover, Community health nurse (CHN) has a significant and first line role in the care of older people, and she can directly impact on the quality of care of the older people <sup>(17,18)</sup>.

Community health nurse provides a condense health screening counseling, crisis intervention, and comprehensive care to the older adults; she serves as an important advocate in directing appropriate exploitation of resources and making referrals that promote continuity of care fit to the needs of this target group of people. In addition to nursing care, the community health nurse provides important educational services to older adults, their families, nurses and healthcare individuals included in their care <sup>(19)</sup>. This study was done to assess physical and psycho-social health problems among elderly people in the rural area and its effects on their quality of life.

#### **Aim of the study:**

The aim of this study was to assess physical and psycho- social health problems among elderly people in rural area and its effects on their quality of life.

#### **Research questions:**

1. What are the common physical and psycho-social health problems among elderly people in the rural area?
2. What are the effects of physical and psycho-social health problems on quality of life of the elderly people in rural area?

## **2. SUBJECTS AND METHOD**

### **Subjects**

#### **Study design:**

A descriptive cross- sectional study design was used in this study.

#### **Study setting:**

The study was carried out in rural area in Tanta City. The researches selected Ceberbay village which had been considered the biggest village in the rural area in the Tanta center, El -Gharbeya Governorate.

**Study subjects:**

A convenient sample was utilized in the current study. The study sample consisted of (278) of the elderly people in the previous setting equal and above 60 years.

**Inclusion criteria:** Elderly people who were willing to participate in the study with informed consent.

**Exclusion criteria:** Elderly who had communication problem were excluded.

**Tools for data collection:**

Two tools were used by the researchers to collect the necessary data after reviewing recent literature.

**Tool I: A structured interview schedule:**

A structured interview schedule was developed by the researchers according to the literature review<sup>(20-24)</sup>, it consisted of the following parts:-

**Part 1- Socio-demographic characteristics:** such as age, gender, marital status, educational level, previous occupation, type of family, the person live with the elderly, and family income.

**Part 2:- Physical health problems:** - Chronic illness and functional dependence were selected to represent physical health problems.

a) Chronic illness such as hypertension, diabetes mellitus, respiratory diseases etc.

b) Functional dependence was assessed using the **Katz Activities of Daily Living (Katz ADL)**<sup>(21)</sup>: Katz ADL index measures ability to perform self-care. It consisted of the six-item instrument which assesses the independence or dependence in the activities of bathing, dressing, toileting, transferring, continence and feeding. Elderly patients are scored yes/no for independence in each of the six functions.

Scores range from 0-6, a score of 6 indicates full function, 4 indicate moderate impairment and 2 or less indicates severe functional impairment

**Part 3:- Psycho- social health problems.** Depression, cognitive impairment, and elderly abuse were selected to represent psycho-social health problems.

- **The Geriatric Depression Scale (GDS) short form**<sup>(22)</sup>: -This scale developed by Yesavage et al., (1983) specifically for the elderly. It was adopted and modified to screen for depression. It consisted of fifteen item self-report instrument in a "yes" or "no" format. The total score ranged from 0-15. A score of 0- 4 referred to no depression, a score of 5-8 referred to mild depression, while a score of 9-11 referred to moderate depression and a score of 12-15 referred to severe depression.

- **The Elderly cognitive impairment (CI)**<sup>(23)</sup>: - **The short portable mental status questionnaire (SPMSQ)** developed by Feiffer (1975) was used to screen for cognitive impairment (CI) among the elderly people. Scores ranged from 0-10. For 0 – 2 errors = Intact Intellectual Functioning, for 3 – 4 errors = Mild Intellectual Impairment, for 5 – 7 errors = Moderate Intellectual Impairment and for 8 – 10 errors = Severe Intellectual Impairment.

- **Vulnerability abuse screening scale**<sup>(24)</sup>: - Vulnerability abuse screening scale (VASS) developed by Mishra (2003) was adopted for measuring elder abuse. It was used to measure social health problems which affected elder people. The VASS consisted of twelve dichotomous items that establish the risk of domestic violence, through self-reports of the elderly.

Data collection used to base on the perception that the aged man or woman had regarding everyday conditions that can point out if they were a sufferer of violence. The point score of the scale was obtained via the sum of the values assigned to every affirmative answer, except for items 4, 5 and 6, which ranging in the event of a negative response.

The VASS was divided into four factors. Each factor has three questions: vulnerability(1,2,3), dependence(4,5,6), dejection(7,8,9), and coercion(10,11,12). A score of 4 or greater indicates that the elderly may be at a higher risk of being mistreated.

**Tool II: World Health Organization Quality of Life-BREF (WHOQOL- BREF)<sup>(25)</sup>:** WHOQOL-BREF was an abbreviated generic quality of life scale developed by the World Health Organization in the year 1997. The WHOQOL-BREF instrument comprised 26 items and each item presented one facet of quality of life (QoL). The facets were defined as aspects of life considered to have a contribution to a person's QoL. The 26 standard items contained two generic items of self-perception (Global Domain) with one referring to the quality of life and the other to satisfaction regarding one's health (overall QOL and general health).

The remaining 24 items can be further classified into 4 domains: physical health (referred to perception of the individual toward one's physical status ) included 7 items (3, 4,10,15,16,17,18); psychological (referred to perception of the individual regarding one's affective and cognitive status) included six items (5,6,7,11,19,26);social relationships relations (referred to perception of the individual regarding social relations and social roles adopted in life) included 3 items (20,21,22); and environment (referred to perception of the individual toward diverse aspects related to the environment in which one lives) included 8 items (8, 9, 12,13, 14, 23, 24, 25).

These facets were scored on a Likert scale of 1 to 5 with 1 = very poor, 2 = poor, 3 = neither poor or good, 4 = good and 5 = very good; and 1 = very satisfied, 2 = dissatisfied, 3 = neither dissatisfied or satisfied, 4 = satisfied and 5 = very satisfied; 1 = not at all, 2 = a little, 3 = a moderate amount, 4 = very much and 5 = extremely; or 1 = never, 2 = seldom, 3 = quite often, 4 = very often and 5 = always.

#### Scoring system:

The scores for the physical health assessment were divided into 3 levels: 7-16 points, low level; 17-26 points, middle level; and 27-35 points, high level QoL. The scores of the psychological health assessment were divided into 3 levels: 6-14 points, low level; 15-22 points, middle level; and 23-30 points, high level mental QoL. The scores for the social relationships assessment were divided into 3 levels: 3-7 points, low level; 8-11 points, middle level; and 12-15 points, high level of quality of social relationships. The scores of the environmental factors were divided into 3 levels: 8-18 points, low level; 19-29 points, middle level; and 30-40 points, high level environmental factors. The overall interpretation of the quality of life was divided into 3 levels: 26-60 points, low level; 61-95 points, middle level; and 96-130 points, high level.

#### Method:

1. An official permission to conduct the study will be obtained from the Dean of the Faculty of Nursing and directed to the manager of rural health unit in Cceberbay and from him to the manager of family medicine clinic.
2. Ethical and legal considerations:-

Elderly have been verbally knowledgeable about the method of data collection along with their voluntary participation, their function, right to withdrawal at any time of data collection. Confidentiality become maintained during the technique of data collection.

3. The tool I (Part 1 and 4) of the study was developed by the researchers based on literature review.
4. The study tools were tested for its face and content validity by a jury of five professor expertise in the field of Community Health Nursing and Gerontology before conducting the study.
5. The study tools were tested for reliability:- In the present study, the Cronbach's alpha was 0.891 for the geriatric depression scale (GDS) short form, 0.719 for the short portable mental status questionnaire (SPMSQ) scale, 0.941 for the physical domain, 0.862 for the psychological domain, 0.649 for social relationships, 0.864 on the environmental domain, and 0.957 for total scale of quality of life.
6. A pilot study was carried out by the researchers on 10% of the sample for testing the tool/s for its clarity, applicability and to identify obstacles that may be encountered with the researchers during data collection. Accordingly, the necessary modifications were done. This sample was excluded from the study.
7. Fieldwork: - After obtaining a written permission from the previous setting, the researchers were meeting the elderly people at the previous setting and through home visit if needed two days per week from April to end of July 2017. The elderly people were informed about the objectives of the study. Verbally informed consent was obtained from them before conducted the study.

8. Statistical analysis:- Statistical Package for Social Science (SPSS version 20) was used for data analysis. The obtained data were coded, analyzed and tabulated. Descriptive analysis was performed in this study including frequencies and percentage. Correlation between variables was also calculated for statistical significance.

### 3. RESULTS

Table (1): Distribution of the studied subjects according to their socio-demographic characteristics

Variables	The studied subjects (n=278)	
	N	%
<b>Age</b>	<b>(60-90)</b>	
<b>Range</b>	<b>68.28±7.304</b>	
<b>Mean±SD</b>		
<b>Sex</b>		
Male	132	47.5
Female	146	52.5
<b>Marital status</b>		
Single	10	3.6
Married	192	69.1
Widow	73	26.3
Divorced	3	1.1
<b>Level of education</b>		
Illiterate	152	54.6
Elementary education	80	28.8
Secondary education	23	8.3
University education	23	8.3
<b>Employment before retirement</b>		
Not work		9.7
Housewife	27	44.6
Work	124	45.7
	127	
<b>Family income</b>		
Enough and save	57	20.5
Enough	148	53.2
Not enough and borrow	73	26.3
<b>Type of family</b>		
Nuclear	80	28.8
Extended	163	58.6
▪ Single parent family	35	12.6
<b>Person living with elderly</b>		
With my family	240	86.3
▪ Alone	38	13.7

Table (1) represents the distribution of the studied subjects according to their socio-demographic characteristics. The table showed that the age of studied subjects ranged from (60-90) with mean age 68.28±7.304 year. Out of 278 participants, 132(47.5%) were males and 146 (52.5%) were females. More than two-thirds of them were married and more than half (54.6%) were illiterate. About 44.6% of studied subjects were house wives and 53.2% had enough family income. Regarding family type more than half of them from extended family and the majority of them were living with their families.

Table (2): Distribution of the studied subjects according to their self-reported physical health problems (chronic diseases)

Variables	The studied subjects (n=278)	
	N	%

<b>Suffering from chronic diseases</b>	241	86.7
<b>Hypertension</b>	157	56.5
<b>Diabetes Mellitus</b>	143	51.4
<b>Cardiac problems</b>	86	30.9
<b>Osteoporosis</b>	30.2	30.2
<b>Liver diseases</b>	51	18.3
<b>Respiratory diseases</b>	88	31.7
<b>Osteoarthritis</b>	111	39.9
<b>Gout</b>	42	15.1
<b>Vision impairment</b>	61	21.9
<b>Hearing impairment</b>	86	30.9
<b>Gastritis</b>	50	18.0
<b>Repeated urinary tract infection</b>	13	4.7
<b>Male genital problem (prostate)</b>	8	2.9
<b>Female genital problem (Prolapsed)</b>	4	1.4
<b>Kidney diseases</b>	18	6.5
<b>#Comorbidities( total number of them 241)</b>		
one or two	63	26.1
three or four	88	36.5
more than four	90	37.4

(# More than one choice allows).

Table (2) shows the distribution of the studied subjects according to their self-reported physical health problems (chronic diseases). The table revealed that the majority (86.7%) of the studied subjects had chronic diseases. More than half of them (56.5% and (51.4%) had hypertension and diabetes mellitus respectively. More than one third of them (39.9%) had osteoarthritis. Respiratory diseases, cardiac problems, hearing impairment, and osteoporosis were among nearly one- third (31.7%, 30.9%, and 30.2%) of the studied subjects. Regarding comorbidities, more than one third (37.4%) of them had more than four chronic diseases.

Table (3): Distribution of the elderly according to their functional activities of daily living

Function abilities	The studied subjects (n=278)	
	N	%
<b>Full function (Independent)</b>	<b>142</b>	<b>51.1</b>

Moderate functional impairment (Partially dependent)	27	9.7
Severe functional impairment (Fully dependent)	109	39.2
Range	(0-6)	
Mean±SD	4.22± 2.075	

Table (3) represents the distribution of the elderly according to their functional activities of daily living. The table signified that based on Katz activities of daily living (Katz ADL) scale which included (6 items), 51.1% were independent, more than one-third of studied subjects (39.2%) were had a severe functional impairment (fully dependent) and the rest 9.7% were had a moderate functional impairment (Partially dependent). Regarding the score of functional activities of daily living ranged from (0-6) with mean score of 4.22± 2.075.

Table (4): Distribution of the elderly according to their psychological health problem (depression)

Level of depression	The studied subjects (n=278)	
	N	%
No depression	59	21.2
Mild depression	57	20.5
Moderate depression	139	50.5
Severe depression	23	8.3
Range	(0-15)	
Mean±SD	8.29± 4.129	

Table (4) shows the distribution of the elderly according to their psychological health problem (depression). The table showed that on having symptoms of depression, 50.5% had symptoms of moderate depression compared with (20.5% and 8.3%) had symptoms of mild and severe depression respectively with mean 8.29± 4.129.

Table (5): Distribution of the elderly according to their psychological health problem (cognitive impairment)

Level of cognitive impairment	The studied subjects (n=278)	
	N	%
Intact intellectual functioning	28	10.1
Mild intellectual impairment	24	8.6
Moderate intellectual impairment	90	32.4
Severe intellectual impairment	136	48.9
Range	(0-10)	
Mean±SD	7.10± 2.983	

Table (5) reveals the distribution of the elderly according to their psychological health problem (cognitive impairment). Regarding having cognitive impairment, nearly one half (48.9%) of the studied subjects had symptoms of severe intellectual impairment compared to 32.4% of them had symptoms of moderate intellectual impairment and only 8.6% had symptoms of mild intellectual impairment with the mean score of 7.10± 2.983.

Table (6): Distribution of the elderly according to their social problem (abuse vulnerability)

Abuse vulnerability	The studied subjects (n=278)	
	N	%
Elderly may be at a higher risk of being mistreated	127	45.7
Elderly may be at a lesser risk of being mistreated	151	54.3
Range	(0-12)	
Mean±SD	4.56± 2.662	

Table (6) represents the distribution of the elderly according to their social problem (abuse vulnerability). The table revealed that more than one third (45.7%) of studied subjects may be at a higher risk of being mistreated. While more than one half of them (54.3%) may be at risk of being mistreated, with mean score 4.56± 2.662.

Table (7): Distribution of the elderly according to their domains of quality of life (QOL)

Domains of quality of life	The studied subjects (n=278)	
	N	%
<b><u>Physical domain</u></b>		
▪ Low level	151	54.3
▪ Mild level	118	42.4
▪ High level	9	3.2
Range	(7-35)	
Mean±SD	18.73± 6.792	
<b><u>Psychological domain</u></b>		
▪ Low level	175	62.9
▪ Mild level	82	29.5
▪ High level	21	7.6
Range	(1-3)	
Mean±SD	2.34±0.503	
<b><u>Social relationship domain</u></b>		
▪ Low level	76	27.3
▪ Mild level	163	58.6
▪ High level	39	14.0
Range	(3-15)	
Mean±SD	8.99± 2.753	
<b><u>Environmental domain</u></b>		
▪ Low level	96	34.5
▪ Mild level	104	37.4
▪ High level	78	28.1
Range	(8-36)	
Mean±SD	22.91± 7.552	



<b>Total quality of life</b>		
▪ Low level	188	67.6
▪ Mild level	90	32.4
<b>Range</b>	(19-87)	
<b>Mean±SD</b>	52.96± 15.130	

**Table (7) shows the distribution of the elderly according to their domains of quality of life (QOL).** Regarding total score of quality of life, the table revealed that more than two-thirds (67.6%) of the studied subjects had a low level of QOL compared to less than one third (32.4%) of them had a mild level. The total score ranged from (19-87) with mean score 52.96± 15.130. The table also showed that 62.9% and 54.3% of the studied subjects had a low level of psychological and physical domains of QOL compared to 34.5% and 27.3% of environmental and social relationship domains respectively. Only 3.2%, 7.6%, 14.0%, and 28.1% of them had a high level of QOL of physical, psychological, social relationship, and environmental domains respectively.

**Table (8): Correlation between domains of quality of life**

Variables	Physical domain	Psychological domain	Social relationship domain	Environmental domain
	r p	r p	r p	r p
Physical domain	-			
Psychological domain	-.043- 0.480	-		
Social relationship domain	.616 0.000**	-.003- .966	-	
Environmental domain	.623 0.022*	.181 0.002**	.720 0.000**	-
Total quality of life	.870 0.000**	.104 .084	.818 0.000**	.916 0.000**

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table (8) represents the correlation between domains of quality of life.** The table showed that there was statistically highly significant positive correlation between total score of QOL and physical, social relationship, and environmental domains except for psychological domain (p < 0.01). Also, there was statistically significant positive correlation and the highly statistically significant positive correlation between environmental domain and physical, psychological, and social relationship domains (p < 0.05 & p < 0.01) respectively.

**Table (9): Correlation between functional dependence, depression, cognitive impairment, abuse vulnerability, quality of life, age, and level of education**

Variables	Functional dependence	Depression	Cognitive impairment	Abuse vulnerability	Quality of life	Age
	r p	r P	r p	r p	r p	r p
Functional dependence	-					

Depression	-.420- 0.000**	-				
Cognitive impairment	.366 0.000**	-.385- 0.000**	-			
Abuse vulnerability	.137 0.022*	.444 0.000**	-.261- 0.000**	-		
Quality of life	.210 0.000**	-.733- 0.000**	.409 0.000**	-.397- 0.000**	-	
Age	-.431- 0.000**	.247 0.000**	-.273 0.000**	-.104- .083	-.208- 0.000**	-
Level of education	.050 .406	-.241- 0.000**	.448 0.001**	-.170 0.005**	.245 0.000**	-.175- 0.003**

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table (9) represents the correlation between functional dependence, depression, cognitive impairment, abuse vulnerability, quality of Life, age, and level of education. The table showed that there was statistically highly significant positive correlation between QOL and functional dependence, cognitive impairment, and level of education but there was statistically highly significant negative correlation between QOL and depression, abuse vulnerability, and age ( $p < 0.01$ ).

#### 4. DISCUSSION

In the developing world, the number of elderly is increasing as a result of the demographic transition, also fast eroding traditional family system accompanied with rapid modernization and urbanization are the leading causes of deteriorating their condition<sup>(26)</sup>. Quality of life (QOL) among elderly reflects the health status and well-being of this group of populations. Furthermore it considered as an important area of concern all over the world. There is a need to identify the physical and psychosocial problems that are being faced by the elderly people in rural area as well as the strategies for improved the elderly quality of life<sup>(11, 26)</sup>. Therefore, the aim of the present study was to assess physical and psychosocial health problems among elderly people in the rural area and its effects on their quality of life.

Regarding socio demographic characteristics of the study subjects, the findings of the present study showed that more than half of the studied subjects were female, more than two-thirds of them were married and more than half of them were illiterate and living with their families. These findings were due to that older adults in developing countries such as Egypt and others are more likely to be dwelling in multi-generation households than aged in developed countries. This similar to a study done by Shahar (2001), who justified that lack of educational opportunities, particularly in rural areas result in low percentage of educated elderly and also found that the majority of the elderly in rural communities lived with their families<sup>(27)</sup>. Other studies revealed that the majority of the respondents lived with their families in home settings<sup>(5, 28)</sup>. Sidik et al., (2004), reported that nearly half of the elderly did not receive any education<sup>(20)</sup>.

In rural areas, health and illness have effect on the ability to work, both in the home and in agricultural production<sup>(29)</sup>. As regard to the chronic diseases, in the present study, the prevalence of chronic diseases among the study subjects was high such as hypertension, diabetes mellitus, osteoarthritis, respiratory diseases) and hearing impairment. Regarding comorbidities in the present study, it was revealed that less than one fifth of them had no comorbidities; while more than one-quarter of them had one or two, and more than one-third of them had three or more than four illnesses. This finding coincided with other studies conducted in Nepal, Kathmandu & India which found that hypertension and diabetes were more prevalent health problems followed by respiratory problem, arthritis and heart diseases as well as these chronic diseases lower the elderly quality of life and increased their level of dependence during their performance of daily living activities<sup>(5, 30-32)</sup>.

Also, the findings of the current study were consistent with other studies, which reported that more than half of the elderly had chronic diseases and the most prevalent chronic illness was hypertension followed by diabetes mellitus<sup>(20)</sup>. While in the study had been done by Shahar (2001), who showed that joint pains were the major chronic illness among the aged persons, followed by hypertension and respiratory problems<sup>(27)</sup>. In Thailand, regarding the number of comorbidities, similar findings have been noted, where 10% of the rural elderly had no comorbidities, and more than one-third had one or two, in addition to more than one-quarter reported three or four and nineteen percent had five or more. However, another study had been done in Taiwan, showed that almost all the elderly had one or two comorbidities and slightly less than one third had more than three<sup>(33,34)</sup>.

As a result of limited mobility, frailty or other physical conditions that require long-term care the very old age people lose their ability to live independently<sup>(5)</sup>. Concerning the functional activities of daily living, the results of this study found that more than one-third of the studied subjects had the severe functional impairment (fully dependent) and only a very few of them had the moderate functional impairment (partially dependent). These results were similarly with the study conducted among five hundred and ninety-eight elderly of developed countries which revealed that more than half of them were dependent for at least one activity of daily living<sup>(35)</sup>. Whereas Bista and Joshi (2015), found that more than half of elderly were partially dependent and need assistance in performing some of daily living activities<sup>(5)</sup>. But, Gambin et al.,(2015), reported that nearly the majority of the elderly were classified as independent for all activities of daily living and none of the participants was totally caregiver dependent. This result is probably as a result that, mostly the study group was younger old<sup>(29)</sup>.

Further, in the present study, the functional impairment was significantly related to increased age. Similarly, Bista and Joshi (2015), and Barua et al., (2011), showed that the prevalence of functional impairment was found to be significantly higher with increased age<sup>(5, 32)</sup>. Also, Mohanty et al., (2012), reported that there was a significant decline among elderly aged eighty years and above in the ability to performing instrumental activities<sup>(36)</sup>. This is due to the normal physiological changes that affect the musculo-skeletal system or from the effect of chronic diseases that the elderly suffer from them and lead to functional impairment.

The most common psychological disorders among older adults were depression. The average prevalence of depression among elderly individuals in the world has been estimated as 10.3%<sup>(37)</sup>. The results of the present study showed that more than half of the elderly had moderate depression and one fifth of them had mild depression and the rest of them had severe depression. The verses findings were observed by Gautam & Houde (2011), in the community of Nepal showed that more than half had mild depression and more than one-quarter of older adults had moderate depression<sup>(38)</sup>.

Moreover, the findings of the current study were inconsistent with Bista and Joshi (2015), who illustrated that less than one fifth of the respondents had a mild depression followed by very few of them had a moderate & severe depression<sup>(4)</sup>. While Lupe et al., (2012), in developed countries observed that the prevalence of mild depressive disorder was 17.1 % and for major depression 4.5 %<sup>(39)</sup>. This difference between the findings of these studies might be due to variations in studies settings and the degree of functional impairment and dependence of the elderly. Ghimre et al., (2012), in their study in the community health settings of Nepal found that prevalence of depression was more than one-quarter<sup>(40)</sup>. In the same line, Chalise & Rai among Nepalese Rai older adults found that the prevalence of depression was nearly about one-third<sup>(41)</sup>.

Regarding Cognitive impairment, the findings of the present study revealed that nearly one third of the elderly had moderate intellectual impairment and nearly half of them had a severe intellectual impairment. The first part of findings is accordance with Bista and Joshi (2015), who stated that about one-third had a moderate cognitive impairment<sup>(5)</sup>. In contrast with this result, a study conducted in Malaysia by using elderly Cognitive Assessment Questionnaire revealed that less than one-quarter of their studied subjects had cognitive impairment<sup>(20)</sup>. These variations in the results of these studies might be as a result of using different scales for measurement.

Concerning abuse vulnerability, the present study revealed that more than one-third of the elderly may be at a higher risk of being mistreated. This finding was similar to the study conducted by Acierro et al., (2010), who reported that more than one-third of abuse elderly occurs particularly within the home<sup>(42)</sup>. Other studies found that about one-quarter of older adults complained from abuse in their family<sup>(5, 43)</sup>.

Every stage of human life is directly affected by the quality of life. The quality of life is a multidimensional concept, but physical, social relationship, psychological and environment health are considered the four main domains of quality of life<sup>(4)</sup>. Regarding overall quality of life, in the present study more than two-thirds of the studied elderly had a low level of quality of life and nearly one third of them had a mild level. On further look at the score of each domain, the psychological domain had a high mean score followed by social relationship then environmental and physical domain among studied elderly had low and mild psychological health, more than one half and more than one-third respectively of them had low and mild physical health, more than one-third of them had low and mild environmental health and slightly more than one quarter and more than half of them had low and mild social relationship health.

These findings were inconsistent with a study conducted by Kuriakose and Vivek (2017), who found that most of the respondents had a moderate quality of life and the majority had a high quality of life. Also the majority of respondents were live with a moderate physical health, while the remaining of them had high quality of physical health. Furthermore, the majority of the respondents had moderate psychological health and only 4% of them had low psychological health, and almost all the respondents had low social support, additionally, almost more than half of them had high environmental health and more than one-third of them had a moderate environmental health<sup>(4)</sup>. The differences observed in QOL scores among our study and another study might result from the difference in pattern of associated factors as QOL would be affected by events of life as well as their residence area and cultural norms related to the elderly society or community. While Sowmiya and Nagarani (2012), found that the highest mean score QOL was seen in the social relationship domain which indicating that their social contacts and the support they derive from their personal relations and peer group has great influence on their quality of life<sup>(44)</sup>.

Our study has revealed a higher psychological and environmental domains score which shows that rural elderly are more satisfied with their environment and this was probably due to the pollution free, stress free and green environment, also in rural area social interaction which involve visiting neighbors and offspring who live nearby, and possible participation in religious or community activities and other cultural/community activities. The findings of this study was accordance with Yin et al., (2017), who found that higher environmental domain score among their target study group<sup>(9)</sup> and also accordance with Praveen and Rani (2016) reported that a higher environmental domain score which shows that rural elderly are more satisfied with their environment<sup>(13)</sup>. While, Cao et al., (2016), reported that the highest and the lowest mean scores of the four domains of WHOQOL-BREF in their study were about one-third for social relationships domain and more than half for the psychological health domain<sup>(45)</sup>.

In the current study, there was a significant positive correlation between quality of life and function dependence, cognitive impairment and level of education but significant negative correlation was found with depression, abuse vulnerability, and family income. Cao et al., (2016), found that all WHOQOL-BREF domains, with the exception of the social domain, were negatively correlated with depression<sup>(45)</sup>. These findings were consistent with Dorji and Seib (2017), who reported that better QOL was linked with higher education<sup>(46)</sup>. Eliasi et al., (2017), reported that in terms of age, between different age groups, there were not significant correlations found, but there is a direct relationship between education and QOL of the older adults<sup>(47)</sup>. Yin et al., (2017), found that the elderly with age group of 70 and above had lower QOL and QOL was found to be significantly associated with education<sup>(9)</sup>.

## 5. CONCLUSION

It can be concluded that the majority of the studied elderly suffering from at least one chronic disease and the most common health problems among elderly were hypertension, diabetes mellitus and osteoarthritis. Just more than one-third of the elderly had a severe functionally impaired. Concerning psychological problems more than one-third of them had a severe impairment of the cognitive ability followed by moderate cognitive impairment. Moderate depression was identified among more than half of the elderly followed by mild & severe depression. A social problem such as elderly may be at a higher risk of being mistreated was also noticed among more than one-third of the elderly. Regarding QOL more than two-third of the elderly had a low level of QOL.

## 7. RECOMMENDATIONS

Based on the results of the present study, it is recommended that:

1. A pressing need for health education intervention to the elderly with regard to their social and physical recreational activities group that will help in building their self-confidence and thereby improving their QOL.

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2. Health education to the family members particularly the young age to increase their awareness about their role in keeping the elders happy and active and to support them physically, socially and environmentally.
3. Reinforced the traditional role of respecting and caring elders at the school level.
4. Health promoters and practitioners must be center of attention on designing and implementing effective interventions to teach people and society about getting older and related issues such as aging disease, disabilities and its preventive techniques to limit the growing old consequences.
5. Increasing religious and spiritual connection and psychosocial interventions with focusing on increasing the social relationship and social guide can reduce social isolation in the aged and consequently improve QOL.
6. Effective implementation of promoting intergenerational programs, health promotional strategies, and creating supportive social offerings to enhance their health and decrease dependence.
7. Increasing awareness of the family members and society about the importance of maintaining QOL of older adults through mass media and social networks (facebook, twitter, and you tube).
8. Increase availability of health insurance services for the elderly.

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