# The Impact of Depression Level Among Elderly Residents in **Nursing Home and Community: A Comparative Study**

Walaa Yehya Abed Zead\*, Ali Kareem Khadir

Psychiatric Nursing Department, College of Nursing, University of Karbala, Karbala, Iraq. \*Correspondence to: Walaa Yehya Abed Zead (E-mail: walaa.y@uokerbala.edu.iq) (Submitted: 20 August 2023 – Revised version received: 30 August 2023 – Accepted: 14 September 2023 – Published Online: 29 October 2023)

The percentage of the elderly is expected to nearly double, from 12% to 22%, between 2015 and 2050 due to the rapid aging of the global population. All told, this means that increase the elderly people over the age of 60 to 2 billion from 900 million. Therefore, it is anticipated that older individuals may experience particular physical and mental health issues this study was done to examine the impact of elderly people's levels of depression and to Compare the level of depression among elderly people living with their families and elderly resident in nursing homes. A comparative study non-probability sampling strategy was used choose a judgmental sample of 125 elderly who residents in nursing home and community by using of questionnaire composed of three part: part I demographic characteristic part II, UCLA loneliness scale part III geriatric depression scale, data is analyzed using descriptive statistical data analysis. The results of the study indicated that elderly in nursing home and community show moderate level of depression study reveals that elderly people at nursing home have higher level of depression than those in community as indicated by with a P-value of .001. The study conculcated by Providing social and health programs to support the elderly, as well as conducting awareness sessions for caregivers and families on how to take care of the elderly residing in the nursing home or residing with their families.

**Keywords:** Depression, elderly, nursing home

#### Introduction

Every living thing goes through a natural process of growth that includes aging. The percentage of the elderly is expected to nearly double, from 12% to 22%, between 2015 and 2050 due to the rapid aging of the global population. All told, this means that an increase from 900 million to 2 billion people will be over the age of 60. The World Health Organization<sup>1</sup> predicts that seniors may experience specific physical and mental health issues as a result of the high percentage of elderly people in the population, which has long-term consequences for countries.2 With every society on earth has a sizable proportion of elderly people. The world's population is increasing by 1.7% yearly. For seniors 65 and older, the increase is 2.5%. By 2020, there will be ten million senior citizens living in the country, according to projections.3 According to the WHO (2016),<sup>4</sup> the percentage of people over 60 will rise from 12% in 2015 to 22% in 2050. The overall population of senior citizens in Arab regions was also growing as a result of improved medical facilities and the eradication of the majority of infectious diseases that caused early mortality.<sup>5</sup> In the Arab World the elderly makes up 6.7% of the population estimates showing an increase of 9.5% by 2030. The fastest population growth is anticipated among the elderly, whose average age is 80.6 According to the Iraqi Health Department's international survey, the percentage of Iraqis 60 and older increased from 3.4% to 5% between 2010 and 2015, and by 2050, it is anticipated to reach 7.2%.7 Some symptoms of depression include a depressed mood, loss of interest or enjoyment decreased energy guilt or a sense of low self-worth, disturbed sleep or appetite, and trouble concentrating.

Depression has typical mental illness symptoms. According to WHO predictions for 2020 and 2030 depression will rank as the second most common cause of disability worldwide.

#### **Methods**

#### **Study Design**

A quantitative descriptive comparative study was conducted to find out the Impact of Feeling Loneliness Upon Depression Among Elderly in Nursing Home and Community during the period of the study from 26/9/2022 to 19/9/2023.

#### Study Instruments

The questionnaire consisted of 2 parts which are used to achieve the objectives of the study as in the following:

Part I: Was built in accordance with the requirements of the study, it consists of demographic characteristics for patients. It contains 11 variables (age, gender, marital status, educational level, monthly income, occupation (previous) current housing length of stay in a nursing home having a family having a children, and are you satisfy with your current situation.

Part II: Short form of the Geriatric Depression Scale

The GDS was created in 1986 by Sheikh and Yesavage and has 15 questions. The 15 items were translated into Arabic; 10 of them indicate depression when answered positively, while the remaining items (questions 1, 5, 7, 11, and 13) indicate depression when answered negatively. Scores of 0-4 are regarded as normal; 5-8, 9-11, and 12-15, respectively, indicate mild, moderate, and severe depression.

#### **Study Sitting**

In order to obtain valid and comprehensive data, the study covers the elderly residents at nursing home in middle Euphrates (Karbala, Najaf, Hilla, Diwaniya) and from community. The settings are traditional nursing homes that are run by administrators who keep schedules and adhere to a regular management style.

#### **Validity**

Although the scales are valid, the questionnaire was forwarded to 9 experts in the problem related specializations from several colleges in Iraq to make it more valid by using content validity approach.

#### **Pilot Study**

To define the dependability of the study tool, a pilot study has been conducted on the judgmental sample of 8 elderly residents at nursing homes in middle Euphrates and 8 elderly lives in community. It is excluded from the original sample of the study. The pilot study has been conducted in 3-12-2022 by the researcher.

### Reliability of the Questionnaire

The term "reliability" refers to the stability or internal consistency of an instrument, which means that if the instrument is reliable for measuring the reliability and internal consistency, Alpha Cronbach test is used to measure the Reliability for the study instrument. The reliability result of (geriatric depression scale) was (0,711).

#### Sample of the Study

A non-probability sample was selected by using the judgmental method; it consists of 125 elderly 52 elderly residents in nursing home and 73 elderly living in community. The sample is collected for the period from 15 January 2022 to 18 February 2023.

The selection of the sample from the total number of elderly residents at nursing homes in middle Euphrates according to Table 1.

The researchers have documented these numbers by reviewing the medical records and assisting the homes managers in knowing the total sample size. The study sample consists of 52 elderly residents in nursing home and 73 elderly lives in community ranging in age from 65 to 87 years. The judgmental Sample is used in order to obtain the representative sample according to the following criteria:

## **Criteria for Sample Selection**

#### **Inclusion Criteria**

- 1. Elderly have 65 years of age and over.
- 2. Those who were present when the data were collected.

Table 1. Sample study selection					
Governorate	The total number of elderly	The selected sample			
Karbala	35 persons	12 persons			
Najaf	29 persons	11 persons			
Hilla	31 persons	17 persons			
Diwaniya	30 persons	12 persons			

#### **Exclusion Criteria**

1-Old age people with hearing disability who are not able to follow the instructions and suffering with severe mental & physical illness. Eg., psychosis, dementia, hearing impairment dumbness.

#### **Data Collection Methods**

It was decided to take 125 samples (52 from elderly residents in nursing homes and 73 from elderly lives with families in the community). Official written permission was obtained from the manager of the geriatric home of elderly and family to carry out the study. The data was collected from 15 December 2022 to 18 January 2023. All members who were available and willing to participate in the data collection process were used. The researcher helped the participants find comfortable seats before introducing herself, outlining the study's objectives, to each individual. To get open and honest responses, confidentiality was guaranteed. The respondents received appreciation for their willing cooperation. Last but not least, appreciation was extended to management for its support and for granting permission.

## **Statistical Data Analysis**

#### **Data Analysis**

The data were analyzed and interpreted through use of the application of Statistical Package for Social Sciences (SPSS), version 26.0.

#### Results

Table 2 shows that the highest percentage refers to age group of 65–69 years as reported among 36% of elderly people.

Concerning gender, 55.2% of elderly people are males and remaining are females (44.8%).

The marital status refers that 45.6% of elderly people are married and 22.4% of them are widowed/er.

Regarding level of education, the highest percentage refers to "doesn't read and write" among 40.8% of them.

The occupational status shows that 36.8% of them are housewives and 28.8% are retired, while 21.6% are working

Regarding monthly income, 65.6% of elderly people perceive insufficient monthly income.

The current housing refers that 58.4% of elderly are from community while 41.6% of them are from nursing home.

The duration of staying in nursing home refers to "4-6" years" among 32.7% of elderly people.

More than half of elderly people are reported they haven't family (52.8) while remaining reported they have (47.2%). 72.8% of them reported they have children.

More than half of elderly people are responding they are not satisfied with their current situation (53.6%).

Table 3 indicates that elderly people associated with moderate level of depression as reported among 84.6% among elderly at nursing homes (M  $\pm$  SD = 8.35  $\pm$  1.702) and among 69.9% of elderly in community (M  $\pm$  SD = 5.88  $\pm$  1.554).

Table 2. Distribution of participants according to their socio-demographic characteristics

Items Characteristics F %					
1		65–69	45	36	
ı	Age (years)	70–74			
		75–79	38 27	30.4 21.6	
		80≤	15	12	
2	Camban	Total	125	100	
2	Gender	Male	69	55.2	
		Female	56	44.8	
2		Total	125	100	
3	Marital status	Unmarried	20	16	
		Married	57	45.6	
		Divorced	20	16	
		Widowed/er	28	22.4	
		Total	125	100	
List	Characterist		F	%	
4	Level of education	Doesn't read & write	51	40.8	
	cuucution	Primary school	38	30.4	
		Secondary school	28	22.4	
		Higher studies	8	6.4	
		Total	125	100	
5	<b>Occupation</b>	Housewife	46	36.8	
		Farmer	7	5.6	
		Free work	27	21.6	
		Employee	1	.8	
		Retired	36	28.8	
		Unemployed	8	6.4	
		Total	125	100	
6	Monthly	Sufficient	35	28	
	income	Insufficient	82	65.6	
		Barely sufficient	8	6.4	
		Total	125	100	
7	Current	Community	73	58.4	
	housing	Nursing home	52	41.6	
		Total	125	100	
8	Duration	<1	4	7.7	
	of staying in nursing	1–3	15	28.8	
	home	4–6	17	32.7	
	(years)	7–9	9	17.3	
		10-12	4	7.7	
		13≤	3	5.8	
		Total	52	100	
List	Characterist	tics	F	%	
9	Having	Yes	59	47.2	
	family?	No	66	52.8	
		Total	125	100	

(Continued)

Table 2. Distribution of participants according to their socio-demographic characteristics—Continued

List	Characteris	tics	F	%
10	Having	Yes	91	72.8
	offspring?	No	34	27.2
		Total	125	100
11	satisfied with your current	Yes	58	46.4
		No	67	53.6
		Total	125	100
	situation?			

f: frequency, %: percentage.

Table 4 reveals that elderly people at nursing home have higher level of depression than those in community as indicated by with a *P*-value of .001, there is a significant difference between the depression levels of elderly nursing home residents.

#### Discussion

The distribution of participants according to their sociodemographic traits is shown in Table 2. According to the sample's age distribution in this study, Table 2 shows that 36% of the sample's participants are over 65 and fall into this age group. This result was consistent with those of studies by Clegg et al., (2013);8 Al-Amari., (2015);9 Sultan et al., (2017),10 and Abd-El Aziz et al., (2018)11 which found that the average age of their sample was 65-70 years older. According to the current findings, the gender distribution of the study's sample revealed that there were more than half (55.2%) of older men. El Kady and Ibrahim, (2013)12 reported that 64.7% of the elders represented in their study were male, which is consistent with the result. Other studies support the finding of study by Grover S et al., (2018);<sup>13</sup> Vasilopoulos A, et al., (2018);<sup>14</sup> Heidari Arefi and Amiri., (2019).<sup>15</sup>

This result may be explained by the fact that the social culture of Iraqi citizens rejects the status of women in such a setting and may be a sign of the longer life expectancy of males than females; as a result, there were more male residents of the nursing home than female residents within age group (65-75).

The present study revealed that 45.6% of the sample was married. This finding was consistent with Saeed's, (2017);<sup>16</sup> and Basha and co., (2021)<sup>17</sup> who found that married people had a high prevalence rate.

Several previous studies are disagree with the present finding such as Holwerda et al., (2014);<sup>18</sup> Abdul Ridha et al., (2016);19 (Hussain, 2016)5 and (Abd-ElAziz, et al., 2018)11 in their studies they found that the high percentage of elderly were widowed the highest percentage of education level relates to "doesn't read and write" among 40.8% of them. This finding was consistent with Atiyah A, et al., (2015);<sup>20</sup> Al-Amari, (2015)9 and Abdul-Mohsin, (2018)21 which found that half of the sample elderly are illiterate.

The result of present study show high percentage of sample (36.8%) is housewives, is related to the status of a housewife who might be remaining unemployed this finding was consistent with Trivedi et al., (2013)22 and Darwish, (2016).<sup>23</sup> The findings of the study are consistent with those of

Table 3. Assessment of depression among elderly people in nursing home and community								
Levels	Nursing home			Community				
	F	%	М	SD	f	%	М	SD
Mild	3	5.8	8.35		21	28.7		
Moderate	44	84.6		1 702	51	69.9	6.39	1.713
Severe	5	9.5		1.702	1	1.4	0.39	1./13
Total	52	100			73	100		

Table 4. The difference in level of depression with regard to elderly people in nursing home and community Depression Housing SD  $P \leq 0.05$ Nursing home 8.35 1.702 Level of depression 8.090 114 001 1.638 Community 5.83

SD: standard deviation; df: degree of freedom; P: probability; M: mean, t: t-test.

El Kady and Ibrahim, (2013)<sup>12</sup> and Ahmad et al., (2016)<sup>24</sup> who found that the average of elderly has an income that is 50% below the poverty line. The highest percentage of the study sample (65.5%) is within the insufficient monthly income level. This study reveals that the highest percentage of elderly who stayed 4-6 years in the nursing homes (32.7%), this result is supported by Sangar et al., (2015)<sup>25</sup> who mentioned that the longest duration of stay of elderly (68%) in nursing home was between one to six years length of stay in long-term care facilities (LTCFs), both longer and shorter, linked to systematic review of factors that determined shorter lengths of stay correlated with older age, a male gender, cancer diagnosis, receipt of oxygen therapy, shortness of breath and residence in an LTCF administering nursing care. In particular the review revealed stronger evidence for the association of shorter lengths of stay and poor physical functioning compared with cognitive functioning.20

According to the current study, more than half of elderly people claim to have no family (52.8%). Numerous studies showed that living alone increased the risk of depression compared to living with family, Rashid et al., (2010)27 and Majdi et al., (2011).28

Results from a cross-sectional study conducted in China supported the study's finding that losing a spouse may increase the risk of mental health issues like loneliness and depression.<sup>29</sup> Present study showed that 72.8% of participants reported they have children. The study of Abdul Manaf et al., (2016)<sup>30</sup> reveals that elderly people who live alone or with others tend to experience more stress, anxiety, and depression. The elderly being denied the freedom to spend time as they please, having to take care of the house and do housework, receiving insufficient financial and emotional support, not having their needs attended to, and even experiencing domestic violence can all contribute to an increase in depression, anxiety, and stress in elderly people who only live with their children or with others.

According to a study conducted in Turkey that was conducted to support the finding of current finding,<sup>31</sup> low life satisfaction was associated with a reduction in one's capacity to perform household duties. This is also connected to Orem's theory's deficit in self-care. In order to maintain one's own life,

well-being, and health self-care is the act of starting and finishing tasks on one's own behalf.32

## Part 2: Assessment of Depression Among **Elderly People in Nursing Home and Community in Table 3**

The result of present study indicate that elderly people associated with moderate level of depression as reported among 69.9% of elderly at) and among 69.9% of elderly in community  $(M \pm SD = 5.88 \pm 1.554)$ . This finding shows similar result to the studies by Sarokhani et al., (2018);33 which found that elderly had moderate level of depression.

The prevalence of mild to moderate depression, which showed a prevalence of 27%, and moderate to severe depression, which showed a prevalence of 12%.34 According to the two studies that carried out in Taiwan, the majority of study samples had moderate level of depression and other suffering from severe depression Lin et al., (2010);35 Chang et al.,  $(2011)^{36}$ 

## Part 3: The Difference in Level of **Depression with Regard to Elderly People** in Nursing Home and Community in Table 4

Various study conducted by (Nagaraj AKM et al., 2011),37 (Ghimire et al., 2012), 38 (Qadir F et al., 2014), 39 (Karini D et al., 2019)<sup>40</sup> revealed that prevalence of the levels of depression was higher among elderly residents in nursing home than elderly.

#### Recommendations

- 1. The medical staff in the Out Patients Clinics should be informed trained to discover & treat the depression in old age.
- 2. Encouragement of the integration of mental health services for elderly in primary health care system.
- 3. Governmental abilities must be forwarded towards the improvement of socioeconomic status of this age group of the Iraqi people specially in time of crises.

#### References

- 1. World Health Organization, WHO, (2018). Ageing and health.
- 2. Walsh, K., Scharf, T., & Keating, N. (2017). Social exclusion of older persons: A scoping review and conceptual framework. European Journal of Ageing, 14, 81-98
- Karamivand, V. (2019). The Causes of Elderly Residence in Nursing Home 3. from the Viewpoint of Elders. Iris Journal of Nursing & Care, 2(2), 1-5.
- 4. World Health Organization (2016), Mental health, Depression in Europe.
- 5. Hussain H.Y., (2016). Elderly, health and socio-demographic profile in Iraq, the context of conflict, violence and social exclusion, systematic review. Middle East Journal of Age and Ageing, 13(2): 18–25.
- 6. He, W., Goodkind, D., & Kowal, P. R. (2016). An aging world: 2015.
- Ibrahim, A. A., Al-Lami, F., Al-Rudainy, R., & Khader, Y. S. (2019). Mental Disorders Among Elderly People in Baghdad, Iraq, 2017. INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 56: 1–8.
- 8. Clegg, A., Young, J., Iliffe, S., Rikkert, M. O., & Rockwood, K. (2013). Frailty in elderly people. The Lancet, 381 (9868), 752-762.
- 9. Al-Amarei H. M. Z. (2015). Assessment of depression Older Residents at Nursing Homes in Al-Najaf City. Diyala Journal of Medicine, 9(1): 39,40,41.
- 10. Sultan M. M., AL- Juboori A. K., (2017). Psychological Well-being for Elderly People at Geriatric Centers in Baghdad City. Iraqi National Journal of Nursing Specialties, 30(1): 89, 90, 92
- 11. Abd-El Aziz H. E., El-Sayed E. M., 2018. Impact of a Health Promotion Educational Program on Quality of life, Depressive Symptoms and Feeling of Loneliness among Institutionalized Egyptian Elderly. Saudi Journal of Nursing and Health Care, 1(1):1-14.
- 12. El Kady H and Ibrahim H. (2018). Depression among a group of elders in Alexandria, Egypt. Journal of Eastern Mediterranean Health, 2013; 19 (2):
- 13. Grover, S., Avasthi, A., Sahoo, S., Lakdawala, B., Dan, A., Nebhinani, N., et al (2018). Relationship of loneliness and social connectedness with depression in elderly: A multicentric study under the aegis of Indian Association for Geriatric Mental Health. J Geriatr Ment Health; 5: 99-106.
- 14. Vasilopoulos, A., Marinou, S., Rammou, M., Sotiropoulou, P., Roupa, Z., & Siamaga, E. (2018). A research on anxiety and depression of the elderly in the community. Hellenic Journal of Nursing Science 11(3): 59-66.
- 15. Heidari A, Arefi M, Amiri H. (2019). The Predictive Model of Elderly Psychological Well-Being Based on Personality with the Mediation of Self-Care, Spiritual Experiences and Death Anxiety. Avicenna J of Neuropsychophysiology. 6(2): 91-101.
- 16. Saeed, B. A. (2017). Suicidal ideation among a group of depressed outpatients. Zanco Journal of Medical Sciences (Zanco J Med Sci), 21(3), 1907-1914.
- 17. Basha, E. A., Mengistu, B. T., Engidaw, N. A., Wubetu, A. D., & Haile, A. B. (2021). Suicidal Ideation and Its Associated Factors Among Patients with Major Depressive Disorder at Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia. Neuropsychiatric Disease and Treatment, 17, 1571.
- 18. Holwerda, T. J., Deeg, D. J., Beekman, A. T., Van Tilburg, T. G., Stek, M. L., Jonker, C., & Schoevers, R. A. (2014). Feelings of loneliness, but not social isolation, predict dementia onset: results from the Amsterdam Study of the Elderly (AMSTEL). Journal of Neurology, Neurosurgery & Psychiatry, 85(2), 135 - 142.
- 19. Abdulridha, M. A., Naji, A. B. (2016). Evaluation of the Elderly's Environmental Practices Concerning Fall prevention at Governmental Elderly Homes in Baghdad City. Iraqi National Journal of Nursing Specialties,
- 20. Atiyah A. A., Khalifa M. F. (2015). Assessment of Elderly's Satisfaction toward Health Care at Geriatric Home in Baghdad City. Kufa Journal of Nursing Sciences, 5(3): 1-12.
- 21. Abdul-Mohsin M. A., 2018. Assessment of Psychological and Social Status for the Elderly at the Elderly Home in Baghdad city. First Scientific Conference of Health and Medical Specialties / Baghdad., 5: 354-365.

- 22. Trivedi, M. H., Morris, D. W., Wisniewski, S. R., Lesser, I., Nierenberg, A. A., Daly, E., ... & Rush, A. J. (2013). Increase in work productivity of depressed individuals with improvement in depressive symptom severity. American Journal of Psychiatry, 170(6), 633-641.
- 23. Darweesh L. (2017). Assessment of quality of life among family caregivers of patients with depressive disorder attending Ali-Kamal psychiatric References 107 consultation clinic in Sulaimani city, unpublished thesis, University of Sulaimani-Iraq.
- 24. Ahmad, A. et al., (2016). Loneliness, Self Esteem, and Depression among Elderly People of Kashmir, International Journal of Indian Psychology, 3(4), 59.
- 25. Sangar MA, Karem FA, Alireza NN., Muaf AK, (2015). Old age satisfaction regarding geriatric home services in Erbil city. Journal of Medicine and Life, 8(3): 195-198.
- 26. Collingridge Moore, D., Payne, S., Keegan, T., Van den Block, L., Deliens, L., Gambassi, G., Froggatt, K. (2020). Length of stay in long-term care facilities: a comparison of residents in six European countries. Results of the PACE cross-sectional study. BMJ Open, 10(3).
- 27. Rashid A, Manan A, Rohana S (2010). Depression among the elderly Malays living in rural Malaysia. The Internet Journal of Public Health 2010; 1(2): 1–10.
- 28. Majdi MR, Ghayour-Mobarhan M, Salek M, Shakeri MT, Mokhber N. (2011). Prevalence of depression in an elderly population: A populationbased study in Iran. Iranian Journal of Psychiatry and Behavioral Sciences 5(1): 17-21.
- 29. Chase LE, Sapkota RP, Crafa D, Kirmayer LJ (2018). Culture and mental health in Nepal: an interdisciplinary scoping review. Glob Ment Health 5:e36. 10.1017/gmh.2018.27.
- 30. Abdul Manaf, M. R., Mustafa, M., Abdul Rahman, M. R., Yusof, K. H., & Abd Aziz, N. A. (2016). Factors influencing the prevalence of mental health problems among Malay elderly residing in a rural community: A crosssectional study. PloS One, 11(6), e0156937.
- 31. Mollaoğlu M, Tuncay Fatma Özkan, Fertelli TK. (2010). Mobility disability and life satisfaction in elderly people. Arch Gerontol Geriatr; 51:e115-9.
- 32. Ali, B. H. I. (2018). Application of Orem self care deficit theory on psychiatric patient. Annals of Nursing and Practice, 5(1), 1–3.
- Sarokhani D, Parvareh M, Dehkordi A. H, Sayehmiri K, & Moghimbeigi A. Prevalence of depression among Iranian elderly: systematic review and meta-analysis. Iranian Journal of Psychiatry, 2018;13(1):55-64.
- 34. Abdoli, N., Salari, N., Darvishi, N., Jafarpour, S., Solaymani, M., Mohammadi, M., & Shohaimi, S. (2022). The global prevalence of major depressive disorder (MDD) among the elderly: A systematic review and meta-analysis. Neuroscience & Biobehavioral Reviews, 132, 1067–1073.
- 35. Lin HS, Probst JC, Hsu YC. (2010). Depression among female psychiatric nurses in southern Taiwan: main and moderating effects of job stress, coping behaviour and social support. J Clin Nurs 19: 2342-54.
- 36. Chang Y, Wang PC, Li HH, Liu YC. Relations among depression, self-efficacy and optimism in a sample of nurses in Taiwan. J Nurs Manag. 2011;19:
- 37. Nagaraj AKM, Mathew J, Nanjegowda RB, Majgi SM, SM P. Psychiatric Morbidity Among Elderly People Living in Old Age Homes and in the Community: A Comparative Study. Online J Heal Allied Sci. 2011;10(4):1-5.
- 38. Ghimire H, Pokharel PK, Shyangwa PM, Baral DD, Aryal A, Mishra AK.2012 Are Elderly People Living In Old-Age Home, Less Depressed Than Those Of Community? Findings From A Comparative Study. J Chitwan Med Coll. 1(2):5-8
- 39. Qadir F, Haqqani S, Khalid A, Huma Z, Medhin G. 2014. A pilot study of depression among older people in Rawalpindi, Pakistan. BMC Res Notes.
- 40. Karini D, Kumar Lotheti S, Bhimarasetty DM. 2019. A comparative study of depression among the elderly living in old age homes and community in Visakhapatnam, India. Int J Community Med Public Heal 6(4):1482.

This work is licensed under a Creative Commons Attribution-NonCommercial 3.0 Unported License which allows users to read, copy, distribute and make derivative works for non-commercial purposes from the material, as long as the author of the original work is cited properly.