

Chronic Disease, Disability and Depression in Rural Older Peoples a Problem of Co-morbidity

Gulay Yilmazel^{1*} and Elcin Balci²

¹Research Assistant PhD, Hitit University Health School/Corum, Turkey

²Associate Professor Dr, Erciyes University Faculty of Medicine Public Health Department / Kayseri, Turkey

*Corresponding author: Yilmazel G, Research Assistant PhD, Hitit University Health School Public Health Department/ CORUM, Turkey; Tel: 0364 223 07 30 (3509);

Fax: 0364 223 0731; E-mail: gulay-y19@hotmail.com

Received date: January 15, 2014, Accepted date: July 28, 2014, published date: August 5, 2014

Copyright: © 2014 Yilmazel G, et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Background: The aim of this study was to determine the prevalence of chronic disease, physical disability and depression in rural older people.

Subjects and Methods: This descriptive study was made in Corum-Turkey 2013 with 108 individuals aged 65 and over residing in a village. The data were obtained from a questionnaire form with 25 items and Geriatric Depression Scale.

Results: Elderly individuals of the 83.3% had at least one chronic disease and 18.5% of had physical disability and 60.2% of were determined "exact" depression. With the presence of chronic illness and perceived health status between depression scores there was determined statistically a significant difference ($p < 0.05$).

Conclusions: In our study, we determined chronic disease in four of every five older individuals and physical disability in one of every five. The mean score of depression in elderly was 15.66 ± 5.33 . It was seen that depression prevalence was very high (78.2%) in elderly. Chronic diseases and physical disabilities were co-morbid for depression. It was suggested that utilization of health care services should be improved in rural. Also healthy aging programs in rural should be implemented to identify, treat and assess depressed people with co-morbid issues.

Keywords: Chronic disease; Physical disability; Depression; Co-morbid; Older people

Introduction

Population is rapidly aging worldwide. The World Health Organization (WHO) reported in 2010, number of aged 65 years and over were 524 million. By 2050, this figure is estimated 1.5 billion [1,2].

Population aging is a major challenge. This problem results in changes with the epidemiological profile of heart disease, cancer, and chronic diseases such as depression as well as the increase in the prevalence and incidence [3].

Physiological changes that occur during the aging process aren't independent from psychological, biological and environmental events. In this process; physical, psychological and psychosocial changes related to each other. Depression is one of the most common problems of old ages in psychological context [4].

According to estimates of the World Health Organization in 2020, major depressive disorder will be the second leading cause of disability in the world [3].

Depression is very common among older individuals so that in general medical practices, hospitals, and nursing homes at least one of every six patients affected. Poor health status and presence of chronic

disease are seen as a common risk factor for depression among elderly individuals [5].

Depression impairs the overall health in elderly, creates a risk of reduced quality of life for these patients and relatives. Depression often shows itself in the elderly with somatic symptoms and leads to psychosomatic retardation. Studies show that depression increases mortality rates leaving a negative impact on the daily functions of elderly people and well-being of elderly people so have higher rates of suicide compared with any age groups [6,7].

Elderly population rate was 7.3% in our country and three of every ten people live in rural [8]. Not only physical disability, chronic illness, loneliness but also limited transportation and lack of financial support may cause utilizing insufficiency from health care services in rural older people. Also this may increase the incidence of depression. Taking into consideration rising in elderly population in terms of health care burden, it is important to detect early risk indicators and prevention strategies of depression.

The aim of this study was to determine the prevalence of chronic disease, physical disability and depression in rural older people.

Subjects and Methods

This descriptive study was made in Corum-Turkey 2013. The population of study consisted of 150 elderly individuals aged 65 and over residing in a village without sample selection. The study of 108 elderly who agreed to participate was included. For the research ethics

committee approval form was taken from the Erciyes University Faculty of Medicine and oral consents were obtained from the elderly people. The data were obtained from a questionnaire form with 25 item and Geriatric Depression Scale. In 1983 the validity and reliability studies of this scale was developed by Yesevageand et al. [9]. We interviewed with participants by face to face. To determine chronic disease we checked up their reports of disease. The validity and reliability of the scale in our country was built in 1997 by Ertan et al. Geriatric Depression Scale is a 30-item self-report scale. For each in favor of the depression "1" point, the other to "0" and total score of depression score (min:1, max: 30) was obtained. Scores made as 0-10 points "no depression", 11-13 points "possible" depression, scores of 14 and above "absolute" depression [10]. In this study, elderly individuals received at least 7 and the highest 29 points. Reliability coefficient was relatively high value (cronbach's alpha: 0.79). We sought physician's diagnosis for chronic diseases. We didn't use any classification for the physical disabilities. Data were evaluated with SPSS 17.0 program by using the arithmetic mean, the independent samples t test and Pearson Correlation Analysis.

Results

The mean ages of the elderly were 69.83±7.43 and 76.9% of between 65-75 age range. The 53.7% of respondents were male and 45.4% of were illiterate. Socio-demographic characteristics of the participants were shown in Table 1.

Chronic illness (n=108)	Number	%
yes	90	83.3
HT	36	55.6
DM	23	33.3
Asthma	18	55.6
Osteoporosis	10	27.8
Rheumatic disease Gynecological diseases (uterine prolapse and cancer)	60	21.3
No		
Physical disability (n=108)	30	16.7
Yes	23	83.3
Fractures (arm, leg, hip)	30	9.3
Hearing loss	18	5.6
Vision loss	6	16.7
Stroke	10	
No	18	
Total	108	100.0

Table 1: Socio-demographic characteristics of the participants (n=108)

Hypertension (55.6%), diabetes (33.3%) and heart disease (27.8%) were the most common illnesses and 83.3% of elderly individuals had at least one chronic disease. Also 18.5% of had physical disabilities. Status of chronic disease, and disability in elderly individuals were given in Table 2.

Socio-demographic characteristics	Number	%
Age groups (Age means: 69.83 ± 7.43)		
65-75 years	83	76.9
76 years and over	25	23.1
Gender		
Women	50	46.3
Men	58	53.7
Marital status		
Married	72	67.7
Divorced/widow	36	32.3
Education levels		
Illiterate	49	45.4
Primary and over	59	54.6
Children		
Had	97	90.7
Had not	11	9.3
Monthly income		
Had	75	69.4
Had not	33	30.6
Smoking		
Current smoker	14	13.0
No smokers / Quit smoking	94	87.0
Total	108	100.0

Table 2: Status of chronic disease, and disability in elderly individuals.

The mean score of depression in elderly individuals were given in Table 3.

Scores depression	of	Number	%	Scale ranges	Actual ranges	X±SD
No depression	23	21.3	0-10	7-10		
Possible depression	20	18.5	11-13	11-13		
Absolute depression	65	60.2	14-30	14-29		
Total	108	100.0	0-30	7-29	15.66 ±5.33	

Table 3: The mean scores of depression in elderly individuals.

The mean score of depression in elderly individuals was 15.66 ± 5.33 and in 60.2% of were determined "exact" depression.

The difference between the mean scores of depression and various features in elderly individuals was shown in Table 4.

Socio-demographic characteristics	Number	X ± SD	t	p
Age groups				
65-75 years	83	15.76 ± 5.19		0.744
76 years and over	25	15.36 ± 5.87	0.327	
Gender				
Women	50	16.91 ± 5.10	2.477	0.015
Men	58	14.43 ± 5.31		
Marital status				
Married	72	15.07 ± 5.21		
Divorced/widow	36	16.86 ± 5.43	1.661	0.100
Education level				
Illiterate	49	17.00 ± 5.69		0.017
Primary and over	59	14.56 ± 4.79	2.385	
Living alone				
Yes	97	15.80 ± 5.52	1.226	0.020
No	11	14.45 ± 3.14		
Monthly income				
Had				
Had not	33	16.06 ± 5.98		
Perceived health status				
Good	43	14.14 ± 4.81	2.480	0.015
Bad	65	16.68 ± 5.45		
Chronic diseases				
Yes	60	16.95 ± 5.21		
No	48	14.06 ± 4.65	2.893	0.005
Physical disability				
Yes	20	15.75 ± 6.04	0.077	0.939
No	88	15.65 ± 5.19		

Table 4: The difference between the various characteristics and depression in elderly people

In women the mean scores of depression was 16.91 ± 5.10 and in men it was 14.43 ± 5.31 . Also it was found a statistically significant difference between the gender and depression scores ($p < 0.05$). Divorced or widowed elderly individuals had higher depression scores than married individuals. Depression scores decreased by higher levels of education of older, also was found a statistically significant difference between the education levels and depression ($p < 0.05$). Depression scores were higher in older people living alone ($p < 0.05$). Older people with any physical disability had higher depression scores ($p > 0.05$). With the presence of chronic illness and perceived health status between depression scores there was determined a statistically

significant difference ($p < 0.05$). Correlations between chronic diseases, perceived health status and depression were shown in Table 5. There was a negative and significant correlation between chronic disease, perceived health status and depression.

Inter correlations	Chronic disease	Perceived health status
Depression scores	r:-0.145	r:-0.333
	p:0.134	p<0.001
Chronic disease	-	r:-0.190
		p:0.049

Table 5: Intercorrelations between chronic diseases, perceived health status and depression in elderly people.

Discussion

In this study it was found that 83.3% of elderly individuals had at least one chronic disease. By choosing more than one option hypertension, diabetes, and heart disease were the common diseases in elderly individuals. 18.5% of elderly individuals had a physical disability. Fracture-induced physical barriers were prevalent among older individuals (Table 2).

Studies in our country about the subject of were shown that one or more chronic diseases rate was between 67.0-89.0% and physical disability rate was between 8.0-19.0%. It was reported that hypertension, heart disease, diabetes and diseases in the joints were the most common chronic diseases. Fractures, decreasing in vision and hearing, stroke were common physical barriers in the aging process [11-16]. India, Cuba, Dominican Republic, Venezuela, Mexico, and Peru also in Netherlands, America, Tanzania and Japan were in the same line with the results of studies conducted in Turkey [17-23].

The mean score of depression in older individuals was 15.66 ± 5.33 and 60.2% of were in the exact diagnosis of depression range (Table 3). It was seemed that high rate of depression results in older people from our study was compatible with studies conducted in Turkey.

In Istanbul [24], the mean score of GDS was found as 12.1 ± 6.5 ; in Edirne [25] 5.34 ± 3.74 in elderly individuals living in a nursing home Istanbul. Also prevalence of depression was reported in Edirne [25] as 85.3%, in Erzurum [26] as 61.1% and in Aydın [14] as 72.5%.

The prevalence of depression and depression severity in older people was seen that differed by country. Depression prevalence in Mexican elderly [27] was 41.9% and in Dutch elderly [7] was 45.0%. Canadian elderly had [28] 6.29 ± 5.24 and Dutch elderly (7) had 10.3 ± 6.4 depression scores. Elderly population rates and availability from health care services in elderly could be affect depression rates seen among countries.

In our study women had significantly higher depression scores than men ($p < 0.05$). Psychiatric epidemiology studies suggested that prevalence of depression was higher in women than men [29,30]. This condition was presented as a proof of a certain risk that hormonal changes were associated with reproductive constituted in women [31]. Also social status of attributed to women in Turkish society, could be shown as an encouraging factor for scores of depression in our country. Divorced or widowed individuals had higher scores of depression than married individuals. Marriage is one of the most

important institutions that affect life and well-being of people, as a part of life contributes to self-esteem by moving away from the stress and reduces loneliness [32,33].

Depression scores were significantly lower in literate people ($p < 0.05$). Several studies reported that highly educated people had better physical and mental functions, observed increasing in quality of life with the increasing of education level, and this situation reduced the rates of depression in elderly [34-36]. Individuals living alone had higher depression scores and difference between groups was statistically significant ($p < 0.05$). Also studies show higher depression scores in individuals living alone [37]. One of the most important causes of loneliness in old age had no wife or husband for sharing life (due to death or divorce). Also it can be a factor that individuals child's residing in another city or country due to education, work or marriage or to another city that increases the feeling of loneliness.

Depression scores were higher in elderly who had chronic disease, physical disability, perceiving health as poor and had no income. But there wasn't found statistically difference between depression scores with physical disability and income ($p > 0.05$). This may be related with the acceptance of the status of older individuals in time. We found difference between perceived health status and chronic disease with depression scores ($p < 0.05$) (Table 4).

It was reported that chronic disease restricted daily life activities by leading to the perception of poor health and increased the depression incidence [38-40]. Chronic disease prevalence increases by aging. Chronic diseases can be controlled with medical treatment and dietary measures but new episodes affect the course of disease and can cause more harm. With co morbid depression it can be more difficult to keep chronic diseases in under control because of the forgetfulness in taking drug, difficulty to medical compliance, physical disabilities, low education level, lack of people who helps older for implementing right treatment.

We found that when depression scores increased, perceived health status was decreased. Also when having a chronic disease, perceived health status was decreased (Table 5). Just as in all population studies were shown that perceived health status was a strong predictor on chronic diseases and depression [41,42].

Conclusion

In our study, we determined chronic disease in four of every five older individuals and physical disability in one of every five. The mean score of depression in elderly was 15.66 ± 5.33 . It was seen that depression prevalence was very high (78.2%) in rural elderly. Chronic diseases and physical disabilities were co morbid for depression. It was suggested that utilization of health care services should be improved in rural. Also healthy aging programs in rural should be implement to identify, treat and assess depressed people with co morbid issues.

Limitations

- This study was descriptive. No intervention was provided in order to assess treatment outcomes.

- Participants were obtained from one village in Turkey, results are likely not generalizable.

Acknowledgments

This material is original and not previously published or currently submitted elsewhere.

References

1. World Health Organization (2011) Department of Ageing and Life Course. Global Health and Ageing: A brief report.
2. World Health Organization (2012) Knowledge Translation on Ageing and Health. A framework for policy development.
3. Reichert CL, Diogo CL, Vieira JL, Dalacorte RR (2011) Physical activity and depressive symptoms in community dwelling elders from southern Brazil. *Rev Bras Psiquiatr*; 33:165-170.
4. Er D (2009) Elderly from a psychosocial respect. *Journal of Firat Health Service* 4:131-144.
5. Chang-Quan H, Xue-Mei Z, Bi-Rong D, Zhen-Chan L, Ji-Rong Y, et al. (2010) Health status and risk for depression among the elderly: a meta-analysis of published literature. *Age Ageing* 39: 23-30.
6. Kutsal Y, Biberoglu K, Atli T, Aslan D (2010) Elderly Health Diagnosis and Treatment Guidelines for physicians working in a Primary Health Care. Turkish Republic of the Ministry of Health General Directorate of Primary Health Care. Ankara 415-418.
7. Jongenelis K, Pot AM, Eisses AM, Beekman AT, Kluiters H, et al. (2004) Prevalence and risk indicators of depression in elderly nursing home patients: the AGED study. *J Affect Disord* 83:135-142.
8. Basara BB, Guler C, Eryilmaz Z, Yentur G, Pulgat E (2012) Health Statistics Yearbook 2011. Turkish Republic of the Ministry of Health General Directorate of Health Research: Ankara 5-6.
9. Yesavage JA, Brink TL, Rose TL, Lum O, Huang V, et al. (1983) Development and validation of geriatric depression screening scale: A preliminary report. *J Psychiatric Res* 17:37-49.
10. Ertan T, Eker E, Sar V (1997) Geriatric depression scale validity and reliability of the Turkish population of elderly. *Archives of Neuropsychiatry* 34: 62-71.
11. Cinar I, Kartal A (2008) Yaşlılarda depresif belirtiler ve sosyo-demografik özellikler ile ilişkisi. *TAF Prev Med Bull* 7: 399-404.
12. Keskinoglu P, Picakciye M, Giray H, Bilgic N, Ucku R, et al. (2006) Depressive signs and risk factors in the elderly. *Journal of General Medicine* 16: 21-26.
13. Ciftçili S, Yazgan C, Unalan P (2006) Depression screening results in a nursing home. *Turkish Journal of Geriatrics* 9:122-125.
14. Discigil G, Gemalmaz A, Basak O, Gurel FS, Tekin N (2005) Depression in geriatric age group in a primary care setting. *Turkish Journal of Geriatrics* 8: 129-133.
15. Altuntas H, Attila S, Sevcen F (2006) The screening of depression symptoms of the elderly living in a residential home in Ankara. *TAF Prev Med Bull* 5:332-342.
16. Turhanoglu AD, Saka G, Karabulut Z, Kilinc S, Ertem MV (2000) Disability and chronic disease prevalence in the individuals aged 55 years or older in Diyarbakir. *Geriatrics* 3: 146-150.
17. Sousa RM, Ferri CP, Acosta D, Albanese E, Guerra M, et al. (2009) Contribution of chronic diseases to disability in elderly people in countries with low and middle incomes: a 10/66 Dementia Research Group population-based survey. *Lancet* 374:1821-1830.
18. Hung WM, Ross JS, Boockvar KS, Siu AL (2012) Association of chronic diseases and impairments with disability in older adults a decade of change? *Med Care* 50:501-507.
19. Galenkamp H, Braam AW, Huisman M, Deeg DJH (2013) Seventeen-year time trend in poor self-rated health in older adults: changing contributions of chronic diseases and disability. *Eur J Public Health* 23:511-517.
20. Klijs B, Nusselder WJ, Looman CW, Mackenbach JP (2011) Contribution of chronic disease to the burden of disability. *PLoS ONE* 6:1-8.

21. Dewhurst F, Dewhurst MJ, Gray WK, Orega G, Howlett W, et al. (2012) the prevalence of disability in older people in Hai, Tanzania. *Age and Ageing*41:517-523.
22. Yoshida D, Ninomiya T, Doi Y (2012) Prevalence and causes of functional disability in an elderly general population of Japanese: The Hisayama Study. *J Epidemiol*22: 222-229.
23. Liu J, Chi I, Chen G, Song X, Zheng X (2009) Prevalence and correlates of functional disability in Chinese older adults. *GeriatrGerontolInt*9: 253-261.
24. Unal G, Bilge A (2005) İleriyaş grubundayalnızlık, depresyonve kognitif fonksiyonların incelenmesi. *Turkish Journal of Geriatrics* 8: 89-93.
25. Sahin EM, Yalcin BM (2003) Huzurevinde ve yakentievlerinde yaşayanyaşlılarda depresyon sıklıklarının karşılaştırılması. *Geriatry*6: 10-13.
26. Hacıhasanoğlu R, Türkles S (2008) Depression and affecting factors in the old at the age of 65 and over. *Journal of Atatürk University Nursing School*11:55-60.
27. García-Peña C, Wagner FA, Sánchez-García S (2008) Depressive symptoms among older adults in Mexico City. *J Gen Intern Med*23:1973-1980.
28. Landreville P, Landry J, Baillargeon L, Guérette A, Matteau E (2001) Older Adults' Acceptance of psychological and pharmacological treatments for depression. *J Gerontol B PsycholSciSoc*56: 285-291.
29. Eriksson E, Andersch B, Ho HP (2002) Diagnosis and treatment of premenstrual dysphoria. *J Clin Psychiatry* 63: 16 - 23.
30. Noble RE (2005) Depression in women. *Metabolism*54:49-52.
31. Burt VK, Stein K (2002) Epidemiology of depression throughout the female life cycle. *J Clin Psychiatry*63:9-15.
32. Stutzer A, Frey BS (2006) Does marriage make people happy, or do happy people get married? *J Socio Econ*35:326-347.
33. Chen R, Wei L, Hu Z, Qin X, Copeland J, et al. (2005) Depression in older People in Rural China. *Arch Intern Med*165:2019-2025.
34. Ross CE, Mirowsky J (2006) Sex differences in the effect of education on depression: Resource multiplication or resource substitution? *SocSci Med*63: 1400-1413.
35. Kaya M, Aslan D, Vaizoglu S (2008) Properties and factors affecting the quality of life living in a neighborhood district of Ankara province 65 years of age and older people. *Turkish Journal of Geriatrics*11:12-17.
36. Zincir H, Tascı S, Erten Z, Baser M (2008) Factors affecting the quality of life and depression levels living in nursing homes in elderly people. *Journal of Health Sciences*17: 168-174.
37. Arslantas E, Ergin F (2011) Loneliness, depression, social support and factors affecting individuals between the ages of 50-65. *Turkish Journal of Geriatrics*14:135-144.
38. Luchsinger JA, Honig LS, Tang MX, Devanand DP (2008) Depressive symptoms, vascular risk factors, and Alzheimer's disease. *Int J Geriatr Psychiatry*23: 922-928.
39. Lobo-Escolar JF, Roy P, Saz C, De-la-Cámara G, Marcos A (2008) Association of hypertension with depression in community-dwelling elderly persons: results from the Zarademp Project. *Psychother. Psychosom*77:323-325.
40. Scuteri A, Spazzafumo L, Cipriani L, Gianni W, Corsonello A, et al. (2011) Depression, hypertension, and comorbidity: Disentangling their specific effect on disability and cognitive impairment in older subjects. *Arch GerontolGeriatr*52:253-257.
41. Latham K, Peek CW (2012) Self-rated health and morbidity onset among late midlife U.S. adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*1-10.
42. Lee KJ, Park HS (2006) A study on the perceived health status, depression, and activities of daily living for the elderly in urban areas. *Korean J Women Health Nurs*12:221-230.