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Association between depression and joint pains in elderly in a rural population of Wardha district

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Abstract
Introduction: Rapid population aging in developing countries and the accompanying increase in numbers of people with aging-related diseases pose a serious challenge to health services, including mental health services [1]. Depression is a common mental disorder that puts constraints on quality of life among older adult individuals [2].
Aim: To study the association between depression and Joint Pains in elderly in a rural population of Wardha district.
Study setting: A cross sectional study for one and half month and a health check up was done on elderly patients who complained of Joint ache, visiting the primary health centre in Deoli block, of Wardha district.
Result: Response to Geriatric depression scale short form (GDS-SF) showed that 13.95% male and 16.27% female belonged to group 'suggestive of depression'. It was observed in the study that 2.32% male and female were depressed. Total depression in female was more (18.60%) than males (16.27%).
Conclusion: Prevalence of depression was found to be 4.65% and 30.23% had features 'suggestive of depression'.

Keywords: Elderly, Depression, Geriatric depression Scale (Short Form), Addiction, Musculoskeletal disorder

1. Introduction

Rapid population aging in developing countries and the accompanying increase in numbers of people with aging-related diseases pose a serious challenge to health services, including mental health services [1]. Depression is a common mental disorder that puts constraints on quality of life among older adult individuals Characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-esteem, disturbed sleep or appetite, fatigue and poor concentration [2].

Various social, environmental and personal influences give rise to high psychiatric morbidity among older population but the exact burden of problem is not clear because few studies are available to highlight this issue. A long-standing community based study of a population aged over 50 in southern India found a remarkably high prevalence (35.0%) of psychiatric morbidity, with depression being the most common disorder (23.6%) [3]. A study in a rural geographical area in northern India indicated a prevalence of psychiatric morbidity of 43.3%, again with depression being the commonest diagnosis [4]. The GDS-15 is an adequate substitute for the GDS to screen for late life depression, and has good internal consistency reliability and an acceptable criterion-related validity [5]. It has been used to measure depression among community-dwelling older adults in Asian countries [6]. Therefore this study was conducted with the purpose to find out the prevalence of depression among the elderly population who complained of joint aches, visiting a primary health centre in Deoli Block of Wardha district.

2. Aim

To study the association between depression and Joint Pains in elderly in a rural population of Wardha district

3. Objectives
1) To find out the prevalence of depression in elderly visiting a Primary health centre complaining Joint ache in a rural area of Wardha using Geriatric Depression Scale – Short Form (GDS-SF).
2) To observe the associated factors of depression in the elderly population with Joint ache in a rural area of Wardha district.

3.1 Study design and settings: A cross- sectional study was carried out in a Primary Health Centre in Deoli Taluka of Wardha district. A pre-designed and structured questionnaire was prepared and Geriatric Depression Scale Short Form was used to assess the prevalence of depression among those elderly patients. All the elderly patients 60 years and above who were willing to participate in the study were included and those who were below 60 years, unable to respond and did not wish to participate in study were excluded.

4. Materials and methods
4.1 Study population: A health checkup was done on elderly patients who complained of Joint ache, visiting the primary health centre in Deoli block, of Wardha district.

4.2 Study duration: The study was conducted from 15 January to 25 February 2016.

4.3 Sample Size: Sample size was calculated after reviewing literature where it was found that in the elderly population depression was around 42%. Considering the -α level of 0.05 and β of 0.05 (power = 95%). Software Statcalc Menu of EPI Info was used for calculating sample size; it was calculated as 86. Considering the dropout rate and non-response rate of 10%, additional 10% was added to the calculated sample size became 95. During the course of our study we had 129 elderly patients participating in the study. Therefore the entire elderly patients who participated in the study were considered as the sample size for our study.

4.4 Consent: Consent of all the elderly participants in the study was obtained and the purpose of it was explained to them before the interview.

4.5 Statistical Analysis: Data was analyzed using SPSS Version 16.0 and Microsoft Excel. Data was presented in the form of tables. Chi –square test was used to compare with the associated factors with depression among elderly.

Table I: Age and Gender wise distribution of the study participants

Variable	Frequency (Percent)
Age	
61-70 years	114 (88.37%)
>71 years	15 (11.62%)
Gender	
Male	60 (46.51%)
Female	69 (53.48%)

Table II: Gender wise distribution of Addiction, Musculoskeletal complaints and GDS

Variable	Gender		Total (129)
	Male (60)	**Female (69)**	
Addiction (Multiple responses)			
Tobacco	30(23.25%)	13(10.07%)	43(33.33%)
Smoking	18(13.95%)	3(2.32%)	21(16.27%)
Alcohol	3(2.32%)	0(0.00%)	3(2.32%)
None	12(9.30%)	54(41.86%)	66(51.16%)
Musculoskeletal Complaints (Multiple responses)			
Knee ache	21(16.27%)	31(24.03%)	52(40.31%)
Back ache	27(20.93%)	25(19.37%)	52(40.31%)
Generalized Body ache	15(11.62%)	17(13.17%)	32(24.80%)
Geriatric depression scale (GDS) (Short Form)			
Non depressed (0 to 5)	39(30.23%)	45(34.88%)	84(65.11%)
Suggestive of depression (6 to 10)	18(13.95%)	21(16.27%)	39(30.23%)
Depressed (11 to 15)	3(2.32%)	3(2.32%)	6(4.65%)

Table III: Relation between various parameters and depressed & non-depressed participants

Parameters	Findings		Total (%)	Chi square test
	Non Depressed	**Depressed**		
Obesity				
Obese	15 (11.62%)	6 (4.65%)	21 (16.27%)	x^2=0.171 df=1 p=0.680 NS
Non-Obese	69 (53.48%)	39 (30.23%)	108 (83.72%)	
Occupation				
Sedentary	39 (30.23%)	24 (18.60%)	63 (48.83%)	x^2=0.317 df=1 p=0.573 NS
Laborious	45 (34.88%)	21 (16.27%)	66 (51.16%)	
Chronic Disease				
Yes	69 (53.48%)	24 (18.60%)	93 (72.09%)	x^2=10.699 df=1 p=0.001 S
No	15 (11.62)	21 (16.27%)	36 (27.90%)	
Sleep				
Disturbed	36 (27.90%)	30 (23.25%)	66 (51.16%)	x^2=5.729 df=1 p=0.015 S
Normal	48 (37.20%)	15 (11.62%)	63 (48.83%)	
Appetite				
Reduced	33 (25.58%)	15 (11.62%)	48 (37.20%)	x^2=5.729 df=1 p=0.634 NS
Normal	51 (39.53%)	30 (23.25%)	81 (62.79%)	

S=Significant, NS=Non-Significant

Table 1 shows that participants from 61-70 years age group were 114(88.37%) and more than 71years age were 15 (11.62%). There were more females 69 (53.48%) in the study than the males 60 (46.51%).

Table 2 shows that addiction to tobacco was observed in 23.25% males and 10.07% females. Addiction to smoking was responded by 13.95% males and 2.32% females. There were 2.32% males who used to drink alcohol but none of the females took it. In the present study it was found that 9.30% males and 41.86% females had no addictions at all. Response to Geriatric depression scale short form (GDS-SF) showed that 13.95% male and 16.27% female belonged to group 'suggestive of depression'. 2.32% male and female were observed depressed. Depression in female was slightly more (18.60%) than males (16.27%). Total 34.87% had depression. Knee ache was observed more in females (24.03%) than male (16.27%). 20.93% males and 19.37% females reported to have backache. 11.62% males and 13.17% females reportedly had problems of generalized body ache.

Table 3 shows that Total 4.65% obese participants were found depressed while 30.23% of them were non obese. 18.60% depressed elderly lead a sedentary lifestyle while only 16.27% of them performed laborious work. 11.62% had reduced appetite and 23.25% normal appetite all these findings were found non-significant. 18.60% Elderly patients found depressed also suffered from chronic disease and 23.25% of them had disturbed sleep and both these findings were found statistically significant.

5. Discussion
In the present study it was found that addiction to smoking was responded by 13.95% males and 2.32% females. There were 2.32% males who used to drink alcohol but none of the female took it. Addiction to tobacco was observed in 23.25% males and 10.07% females. In a study by Srinivasan K, it was found that 31.7% alcohol consumers were present in the elderly and 3.9% were smokers [7]. Total 56.57% females and 48.82% male participants reportedly had musculoskeletal disorders. In a study conducted by Balamurugan J showed that 59.5% males and 67.3% females suffered from different types of Joint aches.

In the present study it was observed that total 34.88% had depression. Total depression in female was more (18.60%) than males (16.27%). In all 30.23% elderly had features 'suggestive of depression' and 4.65% were found depressed on GDS (SF) scale. In a similar study by Sinha SP conducted in Tamil Nadu in the year 2013 it was found that features suggestive of depression was present in 35.92% adults and depression was found in 6.8% participants [9]. In a study by Sharma R in New Delhi revealed that Patients had features of depression and it was likely to be present in 35.7% of the studied individual's depression which was more common in the females but it was not statistically significant [10]. In the present study 23.25% reported depression association with disturbed sleep and 11.62% with loss of appetite. In a study by Sharma R in New Delhi revealed that depression was more common among individuals who had some addiction and had poor socialization but it was not significantly associated. Depression was found more among those with poor sleep at night ($p<0.001$) or having some tension in their life. Disturbed sleep and depression was found in 16.27% males and 6.97% females [10].

6. Conclusion
More males were addicted to tobacco chewing, smoking and alcohol than females. Most common complaint was found to be knee ache, followed by back ache. Prevalence of depression was found to be 4.65% and 30.23% had features 'suggestive of depression'. Chronic disease and sleep was found to have statistically significant association with depression.

7. Recommendation
Comprehensive elderly health care is the need of the hour. Their health problems must be addressed readily by promoting healthy life style. Mental health problems among elderly are on the rise which must be treated at the earliest with the community support. More health education and research on the social and psychological aspects in elderly will help in creating awareness about mental health among them.

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10. Conflict of interest: None declared

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