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An exploratory study on the prevalence of early dementia among geriatric population in a rural area of district Jammu

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ABSTRACT

Background: Dementia is one of the major causes of disability and dependency among older people worldwide. Dementia can no longer be neglected but should be considered as a public health priority especially by those who are involved in framing and implementing various health policies and programmes. Community based screening to detect dementia in undiagnosed individuals is emerging as a promising health promotion strategy.

Methods: The present study was an exploratory cross sectional community based study, conducted in rural area of Jammu region in the month of July and August 2016 among all individual aged 60 years or more who were willing to participate in the study. A brief informant-based screening questionnaire, namely the Symptoms of Early Dementia-11 Questionnaire (SED-11Q) for screening of early dementia was used.

Results: A total of 129 individuals participated in the study and out of them 18 persons were categorised to be suffering from early dementia using SED-11Q with overall prevalence rate of 13.95%. Dementia was more common among females as compared to males and prevalence of dementia was highest among people belonging to lowermiddle and middle socioeconomic classes.

Conclusions: The SED-11Q categorised nearly 13.95% asymptomatic individuals to be suffering from dementia which is an alarming figure considering it as a disease which affects quality of life and contributes to morbidity of affected individuals.

Keywords: Cross sectional studies, Dementia, Female, Prevalence, Questionnaire, Rural population

INTRODUCTION

Dementia is not a normal part of ageing. Continuous improvements in health care have contributed to longer and healthier life expectancies which also has resulted in an increase in non-communicable diseases especially dementia. Current estimates indicate 35.6 million people worldwide are living with dementia. Nearly 60 percent of the burden of dementia is concentrated in low- and middle-income countries. Dementia not only affect individuals, it also affects and changes the lives of family members and caregivers. There is a lack of awareness and understanding of dementia resulting in isolation and stigmatization. Poor knowledge creates barriers to timely

diagnosis and accessing ongoing medical and social care, leading to a large gap in treatment and management. Dementia has impact on social, economic, and health domains of individuals. There is very limited research on dementia especially in developing countries and the modifiable risk factors of dementia are even less explored. Though there is no current standard treatment to cure or even alter the course of dementia. The focus should be on early diagnosis, optimising physical health, and cognition, detecting and treating behavioural and psychological symptoms and providing information and long-term support to caregivers. The detection of dementia should be conducted without unduly alarming the patient. In this respect, informant-based assessments

are preferable. Thus, for early detection of dementia, a rapid screening test in community settings would be useful, as it could help detect dementia in apparently healthy individuals. In general, the SED-11Q questionnaire used in the present study has been revealed to be practical as a rapid screening tool in general practice to decide whether or not to seek further diagnostic confirmation.² The present study has been conceptualized in an attempt to screen individuals on a pilot basis so to estimate the burden of early dementia in a community based setting.

METHODS

The present community based exploratory study was descriptive and cross sectional in nature. It was conducted in the months of July and August 2016 among individuals aged 60 years or more in a rural area of Jammu district in RS Pura block which is a field practice area of the Department of Community Medicine, Government Medical College Jammu. After obtaining approval from Institutional Ethics Committee, a brief informant-based screening questionnaire, namely the Symptoms of Early Dementia-11 Questionnaire (SED-11Q) for screening of early dementia was used for the purpose of the study. The SED-11Q assesses four main domains, namely, memory, daily functioning, social communication, and personality changes. Informed consent was taken from both, the patient and informants following which the informants were requested to fill out the questionnaire. Informants were limited to family members, and nonfamily caregivers were excluded. Each question had three mutually exclusive answers: Yes, No and Don't Know. The total SED-11Q score was calculated as the sum of the items marked 'Yes'. Positive response to 7 or more than 7 questions out of 11 questions in the administered questionnaire was taken as a functional cut off value to classify patients as being demented. We also recorded and analysed separately, the responses to two more questions at the end of the questionnaire which pertained to 'delusions', which are observed in frontotemporal lobar degeneration and are early signs of disease and 'illusions' which could be regarded as determining factors in the diagnosis of dementia or other psychiatric diseases. We recommended medical consultation whenever delusions or illusions were detected. Additionally, some background demographic data including gender and socioeconomic status of the patients (using modified Uday-Pareek scale) were also collected so as to study any relationship between dementia and gender or socio economic status of the patients. Data was analysed using Microsoft excel and results were presented as percentages and proportions. Chi square test with two tailed p value was used to assess statistical significance of results.

RESULTS

A total of 129 subjects including 66 males and 63 females participated and were screened for early dementia in the

study. Positive responses to all the 11 questions included in the questionnaire were summed up to calculate the individual score for each patient. 18 out of total of 129 patients screened were diagnosed as suffering from early dementia using a cut off score of seven or more for positive responses to SED11 Q giving an overall prevalence rate of 13.95% (95% CI, 8.7-21.42) (Figure 1).

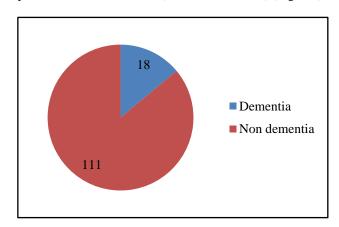


Figure 1: Prevalence of early dementia in the screened population.

The sample mean score was 3.34 (95% CI, 2.88 to 3.79) with a standard deviation of ± 2.64 .

Approximately three quarters of demented patients were females and the association between gender and dementia was found to be statistically significant (X^2 value= 4.57, p value two tailed= 0.03) (Table 1).

Table 1: Distribution of demented and non-demented individuals on the basis of gender.

Gender	Demented (n,%)	Non demented (n,%)	Total
Females	13 (72.22%)	50 (45.05%)	63
Males	5 (27.78%)	61 (54.95%)	66
Total	18 (100%)	111 (100%)	129

Approximately two thirds (61%) of the demented patients belonged to lower middle and middle socio economic class while the prevalence of early dementia was rather low among the BPL and lower class (Table 2).

Table 2: Distribution of screened individuals on the basis of socio economic status and presence or absence of early dementia.

Socio economic class	Demented	Non demented	Total
BPL	2 (11.11%)	8 (7.2%)	10
Lower	1 (5.55%)	4 (3.6%)	5
Lower middle	5 (27.78%)	32 (28.83%)	37
Middle	6 (33.33%)	34 (30.64%)	40
Higher middle	4 (22.23%)	33 (29.73%)	37
Higher upper	18 (100%)	111 (100%)	129

On further analysis, it was observed that 21 patients suffered from delusions while 5 patients agreed to having experienced illusions. 18 patients claimed to have suffered from either of the two symptoms while 4 patients agreed to have suffered both delusions and illusions. All these patients were advised further medical consultation.

DISCUSSION

In the present study, the prevalence of early dementia was found to be around 14%. However, the prevalence rates from different regions of India differ widely.³ The discrepancy may possibly be related to adoption of different methodologies, screening instruments, case definitions. inclusion and exclusion criteria. multiethnicity, and multicultural and environmental factors. The prevalence of dementia in rural population of South India and North India showed a widely varying rate ranging from 3.39 to 0.84%, respectively.^{4,5} In two other studies conducted in Jammu district, the prevalence was found to be 1.83% in Chattha zone while it was 6.55% in Mishriwala area of Jammu. 6,7 A higher prevalence in our study could be attributed to different lifestyles of local population versus Kashmiri migrant population, lesser awareness and illiteracy among people residing in these zones. Adding further the observed prevalence of 6.55% in the cited study could be due to the fact that individuals were categorized as demented only after a thorough neurological evaluation by a trained physician which could have led to exclusion of many suspected dementia patients, thereby lowering the overall prevalence.⁷ However, our prevalence did corroborate with the observations made by Langa, et al who reported that prevalence of dementia decreased from 11.6 percent in 2000 to 8.8 percent in 2012 in the United States.8 However our results did not corroborate with various other studies like one conducted in Madras City which reported prevalence of 3.5% wherein the authors used cluster sampling technique and highlighted the difficulties in using the Geriatric Mental State schedule (GMS) in non-literate rural population. Similarly studies conducted in semiurban population of Srilanka and Mumbai among geriatric population in semiurban areas also observed lower prevalence of 3.98% and 2.44% respectively which could be attributed to better health care delivery mechanisms and literacy rates. 10,11

In the current study prevalence of dementia was more among females which is in tune with the findings of Vas et al, Raina SK, Razdan S and de silva HA. ^{6,7,10,11} These findings were contradictory to the findings of Chandra V et al who did not report any association between gender and prevalence. ⁵ Our findings could be due to the fact that women tend to live longer than men and there are more instances of social isolation among elderly women. Also, apolipoprotein Ee4 genotype status appears to have a greater deleterious effect on gross hippocampal pathology and memory performance in women compared

with men. Diabetes is increasing in frequency to a greater extent in women than in men, and is associated with a substantial risk for cognitive impairment. Dementia in women and in men (possibly) is also influenced by obesity in the middle of life. 12 Unsurprisingly, fear for the future, and in particular 'dependency anxiety' is common place among older population making them more vulnerable to mental illnesses.¹³ Our results suggested that dementia was more common among those belonging to lower middle and middle socio economic class which was consistent with the findings of Russ et al who conducted a meta-analysis of 11 prospective cohort studies and concluded that leaving full-time education at an earlier age was associated with an increased risk of dementia death in women (HR = 1.76, 95% CI 1.23-2.53) but not men.¹⁴ In another prospective cohort study no statistical association could be found between SES and incidence of dementia.15

Furthermore, there were certain limitations in the current study which included: SED11Q screening instrument used in the present study is a relatively lesser used tool in community settings which is yet to be validated in multisite studies in both practical and community settings, score of ≥ 7 used in the present study is a functional one, reliable informants may not always be readily available and neurological examination by any trained physician should be added to the methodology so as to get a definitive diagnosis of early dementia thereby avoiding false positives. As suggested by Patel V, Prince M late-life mental disorders are mostly attributed to abuse, neglect, or lack of love on the part of children towards a parent. There is evidence that the system of family care and support for older persons needs to be strengthened as it is less reliable than has been claimed.¹³

The study suggests a high prevalence of early dementia using a screening tool in community based settings which presses on an imperative need of locally appropriate support services especially involving health workers operating at primary and secondary care settings. It also emphasise that large prospective clinical trials be designed to assess the burden of dementia and include women and men in numbers adequate for assessment of gender effects. More research is also needed to highlight the social, cultural, ethnic, behavioral, and medical factors that directly influence the development of dementias.

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