Impact of Gender on Dementia in Elderly Urban Population

By Dr. Mrs. Gayatri Godbole, Shrirang Godbole & Dr. Mrs. Savita Vaidya

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Material and Methods: 300 subjects aged 60 years and above were screened with MMSE. MMSE scores above 23 indicate normal cognitive function and score of < 23 indicates both the likelihood of cognitive impairment.

Results: Amongst the study population, 66 subjects had a MMSE score less than 23. Out of the total male subjects 11.47% had cognitive impairment. Out of the total female subjects 29.21% of females had cognitive impairment.

Conclusion: In a given sample, cognitive impairment is more prevalent in females than males.

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I. Introduction

The percentage of elderly populace across the globe is increasing day by day and dementia is emerging as an important health problem in them. Dementia is characterized by progressive deterioration in intellectual, cognitive and judgmental functions of the brain. Dementia is an irreversible clinical syndrome. It is associated with high levels of dependency and morbidity.

As the patient is increasingly dependent on other people, it becomes a great burden for him as well as his family. Additionally, associated co-morbid conditions may complicate their status. Dementia even reduces the lifespan of the affected person.

The disease is insidious in onset and progress gradually. The patient slowly moves from bad to worse. People don’t take the symptoms seriously and think of it as a natural, normal process associated with advanced age. This we owe to the fact that there is less awareness about this condition in the population at large. It remains a reality that most of these cases are undetected for long or remain undiagnosed. The patients present to the clinician at a very late stage, where treatment may not have the expected benefits. As the incidence of dementia grows, the pinch of this reality is being acutely felt.
included in the study. Known cases of dementia or depression and subjects with severe hearing impairment were excluded.

300 Residents (males and females) aged 60 years and above were identified randomly. Detailed interview of the subject and informant was taken and clinical examination of the subject was conducted. Demographic variable were noted down.

Subjects were administered Mini Mental State Examination (MMSE) which is known as the gold standard for cognitive screening. It assesses cognitive function in relation to orientation, memory, attention and calculation, language and visual construction. It has 11 questions and the maximum score is 30. MMSE scores above 23 indicate normal cognitive function and score of < 23 indicates both the likelihood of cognitive impairment and the need for further evaluation.

Subjects with MMSE score < 23 in both sexes were compared.

IV. RESULTS

A total of 300 subjects were interviewed. The study population consisted of 122 males and 178 females. Amongst them, 66 subjects had a MMSE score less than 23(Table no.1). Out of the total male subjects 11.47% had cognitive impairment. Out of the total female subjects 29.21% of females had cognitive impairment(Table no.2).

V. DISCUSSION

Dementia is a major contributor towards disability amongst the elderly population. In this study total 300 people were assessed using the MMSE. Amongst the study population, 66 subjects had a MMSE score less than 23(Table no.1). This group comprised of 52 females & 14 males. Out of 122 males in study population, 11.47% had cognitive impairment. In females, out of 178 total females 29.21% were cognitively impaired subjects(Table no.2). We can thus conclude that, it is more prevalent in females. Therefore gender is a non-modifiable risk factor for dementia.

The American Alzheimer Association also postulates that at an age above 60 years the risk of an average female getting dementia is 1 in 6 compared to an average male, who has a risk of 1 in 116.8 Other researches carried out in this field had similar results.

Luine et al. and Goodman et al. quote that estrogen plays a major role in this phenomenon. Estrogen has been reported to have beneficial effects on the brain, possibly acting as a protective factor in AD via its ability to promote the growth, survival and activity of cholinergic neurons.9, 10 The hypothesis that sex hormones affect the response of the patient to acetylcholinesterase inhibitors is the basis of this important (which are an important treatment modality) has also garnered substantial evidence.

Scerri et al. quote that an emerging risk factor in dementia is depression.11 The greater the frequency and severity of depressive symptoms, the greater are the risks. On an average, women have higher rates of depression than men and that is related to more prevalence of cognitive impairment in females.

The variable survival rates between men and women might affect the outcome here. Hence it is prudent to extend due caution before coming to any conclusion. On the contrary Prencipe and coworkers had concluded that prevalence rates did not differ in both sexes in Alzheimer and vascular dementia.

A multitude of factors interact to give rise to the difference in dementia prevalence among men and women. Influence of genetic factors which predispose some to dementia is important. The neuroprotective effect of estrogen cannot be understated. Lastly, cultural and psychosocial factors have a lasting impact as far as gender prevalence is concerned. It is interesting to note that Indian women are more actively engaged in artistic and group activities; they are adept at socializing.

On the other hand an overall lower level of education & poor nutritional status of women put them on back foot. The interplay of these factors is an important aspect of the etiology here. But in the case of women, their advantages are often undermined by their shortcomings. This goes hand in hand with the findings of this study. After taking cognizance of the results, we can reasonably conclude that in a given sample, cognitive impairment is more prevalent in females than males.

REFERENCES RÉFÉRENCES REFERENCIAS

10. Luine VN. Estradiol increases choline acetyltransferase activity in specific basal forebrain nuclei and projection areas of female rats. Experimental Neurology 1985: 89(2); 484–90.

<table>
<thead>
<tr>
<th>Parameter (Sex)</th>
<th>Frequency</th>
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<td>Males</td>
<td>122</td>
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<tr>
<td>Females</td>
<td>178</td>
<td>59.34%</td>
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<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
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Table no. 1 shows that out of total 300 subjects 40.66 % were males and 59.34% were females.

<table>
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<th>Sex</th>
<th>MMSE score</th>
<th>Frequency</th>
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<tr>
<td>Males</td>
<td>&gt; 23</td>
<td>108</td>
<td>88.52</td>
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<tr>
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<td>&lt; 23</td>
<td>14</td>
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<tr>
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<tr>
<td>Females</td>
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<td>70.78</td>
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<tr>
<td></td>
<td>&lt; 23</td>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td>178</td>
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Table no. 2 shows that in the total study population, subjects with scores below 23 were 22%. It constituted 11.47% of the total male subjects and females constituted 29.21% of total females in the study group.