

# KNOWLEDGE, ATTITUDE AND PERCEPTION OF EARLY ONSET DEMENTIA AMONG GENERAL POPULATION - A QUESTIONNAIRE SURVEY

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## ABSTRACT

Dementia is a collective term used to describe various symptoms of cognitive decline, such as forgetfulness. It is a symptom of several underlying common phenomena with an aging population. The aim of the study is to assess the knowledge on the management of quality of life of people with early onset dementia. A questionnaire was created with a set of 12 questions related to Dementia and management of dementia. 100 random participants of adults and aged males and females by random sampling method. The participants were asked to fill the questionnaire in an online forum. The results were collected and formatted in Pie charts, Chi-square test was used and statistically analysed using SPSS. 100 participants participated in the survey, out of which 97% of them are aware of dementia, 63% of the population responded females are more prone to dementia, and 67% of them responded that Alzheimer is the most common symptom. From the current study it shows that the majority of the population are aware of dementia but its effects in the later years of life are not much known. Also the quality of life in such cases diminishes as age progresses. Awareness studies on the survival of early onset dementia are more informative as many younger patients tend to suffer without diagnosing the condition and live without proper treatment or cure. Thus we conclude that further management should be taken in control of early onset dementia by conducting several awareness studies at larger populations.

**KEY WORDS:** Alzheimer's disease; Dementia; Management; Memory loss; Pharmacological.

## INTRODUCTION

Dementia is a collective term used to describe various symptoms of cognitive decline, such as forgetfulness. It is a symptom of cognitive decline, such as forgetfulness. It is a symptom of several underlying diseases and brain disorders. The incidence of early onset dementia rises with age making it an increasingly common phenomenon with our aging population (Prince *et al.*, 2013). The nature of symptoms mean people with dementia are more dependent and vulnerable, presenting evolving challenges to society and to our healthcare

systems ( Baumgart *et al.*, 2015). Despite the seemingly simple premise, the clinical diagnosis of dementia can be difficult with *de novo* functional impairment often observed by physical frailty, comorbid psychiatric symptoms such as depression and a subtle but steady assuming of household responsibilities by spoused and family. Clinical and pathological criteria for the main dementia - causing disease overlap significantly (Nandigam *et al.*, 2008). The emergence of symptoms decades into the pathophysiological process hamper targeted disease therapy. A great number of research initiatives are underway to identify potential biomarkers of disease process earlier ( Folstein, Folstein and McHugh, 1975) .

The association of both overt cognitive decline and underlying pathophysiology process with normal aging complicates the process and hampers targeted disease therapy process early within the spectrum of normal aging ( Hebert *et al.*, 2013) . Dementia is a collection of symptoms including memory loss, personality change and impaired intellectual functions that results from disease or trauma to the brain ( Picard *et al.*, 2011). These changes notice a decline in communication, learning, remembering and problem solving. While Alzheimer's disease is the most common type of dementia, there are also many other forms, including vascular and mixed dementia. With dementia, there will likely be many other forms, these changes may occur quickly or very slowly over time. The progression and outcome vary, but are largely determined by the type of dementia and which area of the brain is affected. Once the diagnosis is established, prognostic measures are required and are still lacking, as disease trajectories between individuals can vary challenges.

Investment and research infrastructure are beginning to reflect the scale of the need ( Dubois, 2012). Drugs conferring symptomatic benefits are available and memory service structures exist to diagnose dementia and guide management. Dementia stages, sometimes dementia is roughly split into 4 stages: Mild cognitive impairment: characterized by general forgetfulness. This affects many people as they age but it only progresses to dementia for some. Mild dementia: people with mild dementia will experience cognitive impairments that occasionally impact their daily life (Fick *et al.*, 2005) . Symptoms include memory loss, confusion, personality changes, getting lost and difficulty in planning and carrying out tasks. Moderate dementia: daily life becomes more challenging and the individuals may need more help.

Symptoms are similar to mixed dementia but increased ( Lehmann and Forester, 2017). Individuals may need help getting dressed and combing their hair. They may show significant changes in personality; for instance, becoming suspicious or agitated for no reason. There are also likely to be sleep disturbances ( Fernandes, no date) . Severe dementia: at this stage, symptoms have worsened considerably. There may be a loss of ability to communicate and the individual might need full time care. Simple tasks, such as sitting and holding one's head up become impossible. Bladder control may be lost ( Turner, Moran and Kopelman, 2002).

Alzheimer's disease is characterized by “ plaques” between the dying cells in the brain and “tangles” within the cells. The brain tissue in a person with alzheimer's has progressively lower nerve cells and connection, and the total brain size shrinks ( Association *et al.*, 2013). Mixed dementia refers to a diagnosis of two or three types occurring together. For instance, a person may show both Alzheimer's disease and vascular dementia at the same time ( Stella, 2014). Huntington's disease is characterized by specific types of uncontrolled movements but also includes dementia ( Kalra, 1996). Other disorders leading to dementia include: 1) Frontotemporal dementia also known as pick's disease( Ganapathy, T. and Rao, 2013). 2) Normal pressure hydrocephalus when excess cerebrospinal fluid accumulates in the brain. 3) Posterior cortical atrophy resembles changes seen in alzheimer's disease but in different part of the brain. 4) Downs syndrome increases the likelihood of young onset Alzheimer's ( Jorm and Jolley, 1998).

Previously we have done so many bioinformatics studies ( Johnson *et al.*, 2020) , morphological and Morphometric studies ( Sekar *et al.*, 2019; Seppa n *et al.*, 2018) ,online survey analysis (Krishna, Nivesh

Krishna and Yuvaraj Babu, 2016)( Nandhini *et al.*, 2018), Morphometric studies ( Subashri and Thenmozhi, 2016)( Thejeswar and Thenmozhi, 2015)( Sriram, Thenmozhi and Yuvaraj, 2015; Keerthana and Thenmozhi, 2016)( *Website*, no date; Menon and Thenmozhi, 2016)( Samuel and Thenmozhi, 2015; Menon and Thenmozhi, 2016; Pratha, Ashwatha Pratha and Thenmozhi, 2016), in vivo animal experimental studies ( Hafeez and Thenmozhi, 2016) and genetic studies ( Choudhari and Thenmozhi, 2016) in various fields of research which led us to conduct study on impact of dementia in the management of quality of life among male and female population

The aim of the study is to assess the knowledge on the management of quality of life of people with early onset dementia.

## **MATERIALS AND METHODS**

This study was carried out in an online setting with advantage of flexible data retrieved and disadvantage of statistical error while recording. The questionnaire consisted of 12 questions, and was distributed in the online forum "Google forms". The questionnaire was based on dementia in the management of quality of life. All the data was analysed by multiple logistic and tabulated in MS excel sheet and variables were added and imported to SPSS. Using SPSS Version 20.0, descriptive statistics were carried out and figures were plotted to arrive at final inference.

## **RESULTS AND DISCUSSION**

100 participants participated in the survey, there were age categories in which the 25-35 years age category was 95% and 36-45 year category was 5% (Figure 1). In which 53% were females and 47% were males (Figure 2), out of which 97% of them are aware of dementia (Figure 4), Most of the population believes dementia can be treated which is about 91% (Figure 5). Most of the population is aware that dementia leads to alzheimers which is about 72% (Figure 6), 63% of the population responded females are more prone to dementia and 37% responded males are prone (Figure 7) and 67% of them responded that Alzheimer is the most common symptom and also 18% of them responded huntington's disease and 15% for vascular dementia (Figure 8). To manage Dementia 10% responded to nursing intervention and 9% to pharmacological intervention and 81% to both is nursing and pharmacological intervention (Figure 9). Most of the population think that non-pharmacological intervention is better than pharmacological intervention which is about 89% (Figure 10). Most of the population responded that clinical trials are more effective in dementia which is about 80% (Figure 11). By comparing gender and awareness on dementia 44% of males responded that they are aware of dementia and 3% are not aware. 53% of females responded that they are aware of dementia. This indicates that females are more aware of dementia than males but was not statistically significant. Chi square test showing P value =0.62 which is found to be statistically not significant (Figure 12). By comparing gender and How to manage dementia . 40% of males responded both to nursing and pharmacological interventions and 4% responded only to nursing intervention and 3% responded only to pharmacological intervention. 41% of females responded both to nursing and pharmacological intervention, 8% responded to nursing intervention and 5% responded only pharmacological intervention. This indicates that females are more aware about how to manage dementia than males but was not statistically significant. Chi-square test showing P value =0.69 which is found to be statistically not significant (Figure 13). By comparing gender and whether non-pharmacological intervention is better than pharmacological intervention. 43% of males responded that non-pharmacological intervention is better than pharmacological intervention and 4% responded that non-pharmacological intervention is not better than pharmacological intervention.. 48% of females responded that non-pharmacological intervention is better

than pharmacological intervention, 7% responded that non-pharmacological is not better than pharmacological intervention. This indicates that females are more aware about better interventions to manage dementia than males but was not statistically significant. Chi-square test Showing P value =0.45 which is found to be statistically not significant (Figure 14). According to the survey based analysis, it is evident that females are more prone to dementia and we found various relations of dementia and management of dementia.

According to Patrick et al ( Patrick, Donaldson and Short, 2020)., Alzheimer's disease was more significant to early onset of dementia which is about 50-7-%, also the study proves females are more prone to dementia. According to Uddin MS et al ( Uddin and Ashraf, 2019). , Dementia is mostly present in elders and also any traumatic brain injuries it occurs in young adults. The most symptom associated with dementia is Alzheimer's disease. According to Buffington et al (Buffington, Lipski and Westfall, 2013). Dementia is mostly associated in the female population, who are mostly aged. It is also proven that Alzheimers can be genetic and possible of family based intervention and the current study also has similar findings that females are more prone to dementia.

According to Jessica L et al ( Podcasy and Epperson, 2016). , Dementia is mostly commonly associated in the female population due to obesity, type 2 diabetes and cardiovascular disease and there is greater risk for Alzheimer's disease. According to Nhid A.Azad et al ( Azad, Al Bugami and Loy-English, 2007). Dementia is more prevalent in the older population and eventually leads to alzheimers and vascular dementia. Females in the age group above 75 years were more commonly associated with dementia. From the current study it is evident that the female population is more prone to dementia and the most associated syndrome is Alzheimer's disease.

## CONCLUSION

From the current study it is understood that the majority of the population are aware of dementia but the effects caused in the later years of life are not much aware by the population. Also the quality of life in such cases diminishes as age progresses. Awareness studies on the survival and managerial measures for early onset dementia are more informative as many younger patients tend to suffer without diagnosing the condition and live without proper treatment or cure. Thus we conclude that further steps should be taken in the control of early onset dementia by conducting several awareness studies at larger populations.

## AUTHOR CONTRIBUTION

**Swetaa. A.**, contributed in the conception, acquisition of data, analysis, interpretation of data and also in drafting the article and revising it critically for important intellectual content.

**Dr. Karthik Ganesh** contributed in study design, made formatting and other alignment corrections and supervision.

**Dr. Jessy** contributed to drafting, supervision and final approval of the submitted version of the manuscript.

## CONFLICT OF INTEREST

None declared

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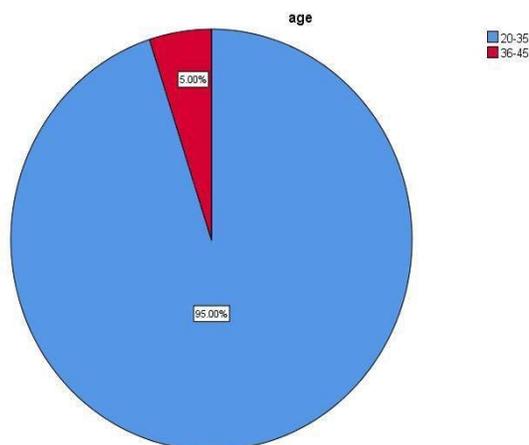


Fig 1- Pie chart depicting the frequency of the responses to the question, "Age". Majority of the participants (95%) responded were in the age category 20-35 years (blue) followed by (5%) were in the age category 36-45 years (red).

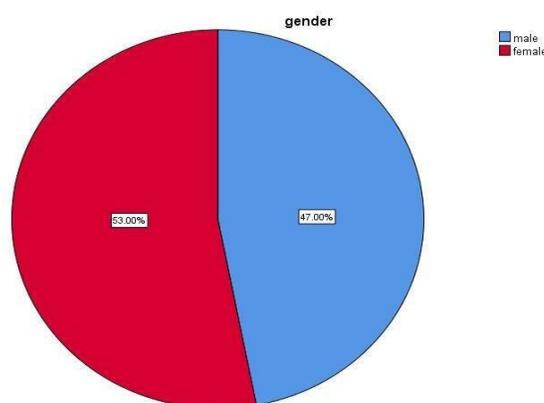


Fig 2- Pie chart depicting the frequency of the responses to the question, "Gender". Majority of the participants (53%) responded were females (red) followed by (47%) were males (blue).



Figure 3 - Pie chart depicting the frequency of the responses to the question, "Occupation". Majority of the participants (93%) responded were students (blue).

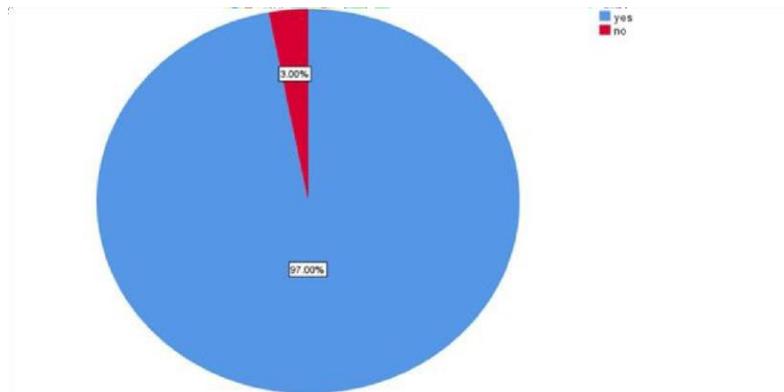


Figure 4 - Pie chart depicting the frequency of the responses to the question, "Are you aware of dementia?". 97% of the participants were aware of dementia (blue).

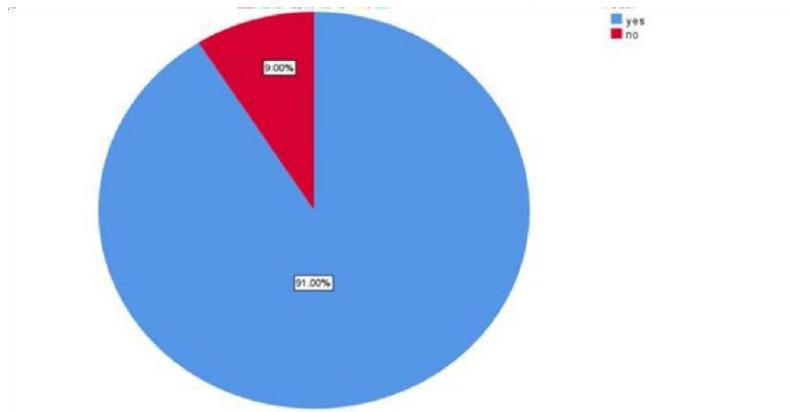


Figure 5 - Pie chart depicting the frequency of the responses to the question, "Do you think dementia can be treated?". 91 % of the participants know that dementia can be treated (Blue)

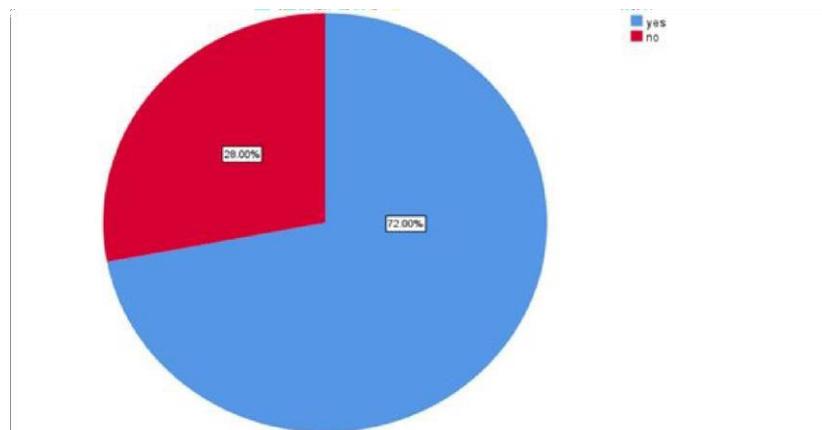


Figure 6 - Pie chart depicting the frequency of the responses to the question, "Are you aware that dementia is one of the causes which leads to Alzheimer's? ". 72% of the participants were aware that dementia was one of the causes which leads to Alzheimer's (Blue).

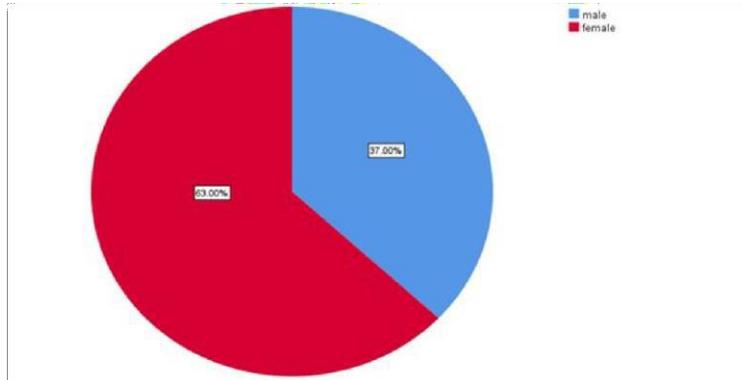


Figure 7 - Pie chart depicting the frequency of the responses to the question, "Which sex is more prone to dementia?". 63% of the respondents believe that male population (blue) is more prone to dementia.

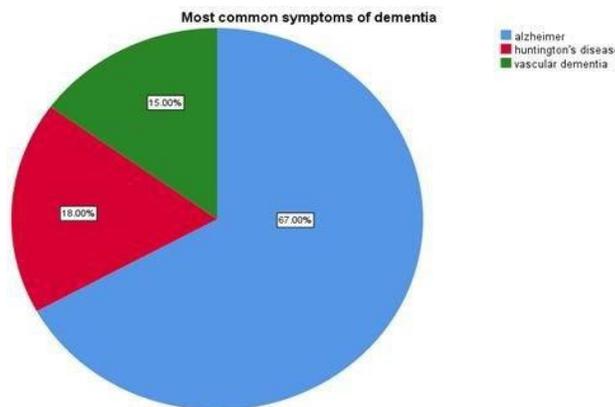


Figure 8 - Pie chart depicting the frequency of the responses to the question, "Most common symptoms of dementia?". Majority of the participants (67%) responded to Alzhimers to be a common symptom of dementia (Blue).

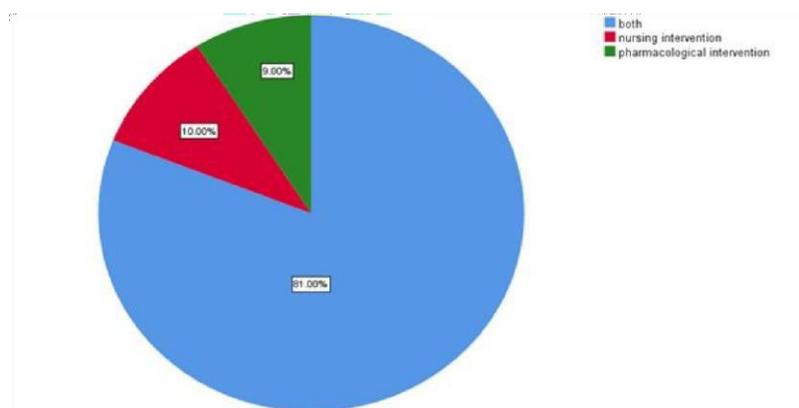


Figure 9- Pie chart depicting the frequency of the responses to the question, "How to manage patients with dementia?". Majority of the participants (81%) responded that both nursing intervention and pharmacological intervention was required to manage dementia (Blue).

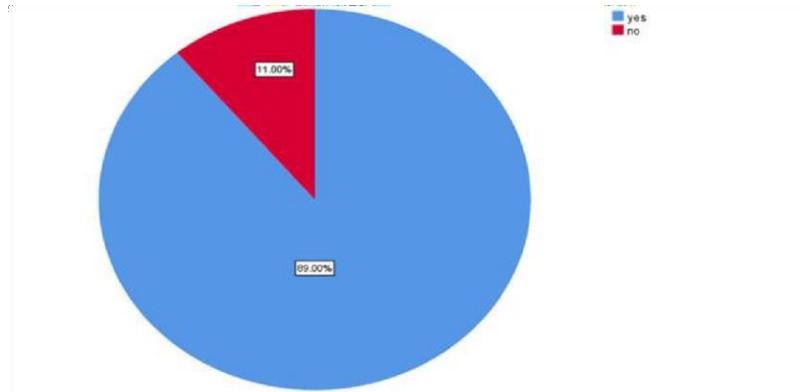


Figure 10 - Pie chart depicting the frequency of the responses to the question, "Do you think non-pharmacological intervention is better than pharmacological intervention?". Majority of the participants (89%) responded that non pharmacological intervention was better (Blue).

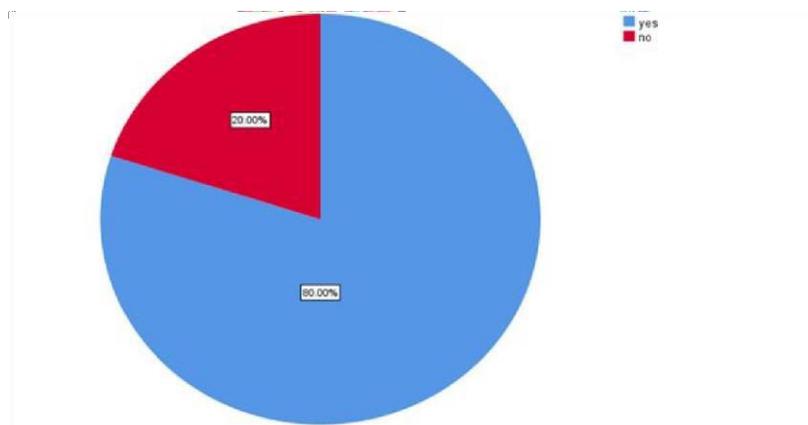


Figure 11 - Pie chart depicting the frequency of the responses to the question, "Do you think clinical trials are more effective in patients with dementia?". Majority of the participants (80%) responded that the clinical trials are more effective (Blue).

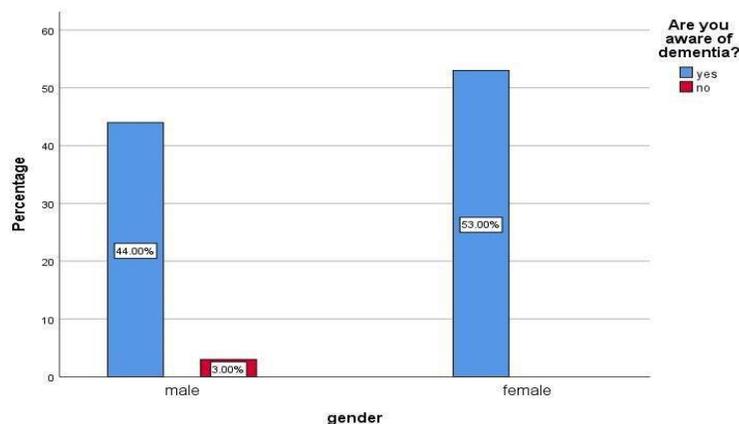


Figure 12 - Bar chart showing association between gender and awareness on dementia. X-axis represents gender and Y-axis represents percentage of responses of participants. 44 males and 53 females responded that they are aware of dementia (blue). Both male and female participants were equally aware about dementia. Chi square test showing  $p=0.62$  ( $p>0.05$  indicating statistically not significant).

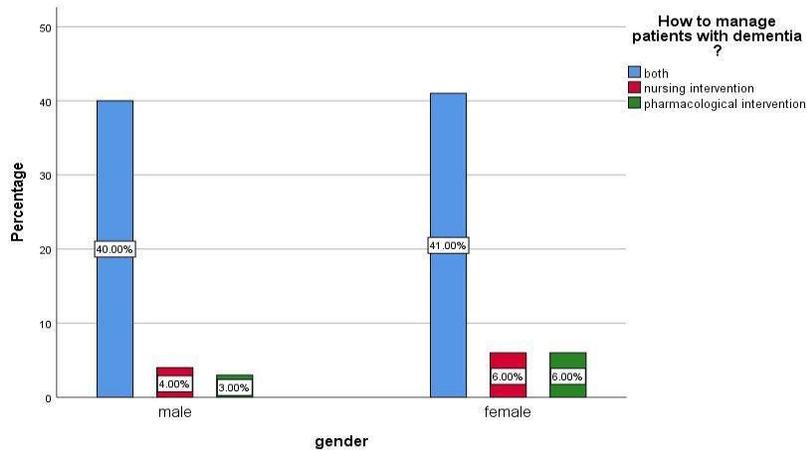


Figure 13- Bar chart showing association between gender and How to manage dementia. X-axis represents gender and Y-axis represents percentage of responses of participants. Majority of the male and female population preferred to use nursing and pharmacological intervention to manage dementia (blue). Gender did not influence this factor, Chisquare test showing  $p=0.59$  ( $p>0.05$  indicating statistically not significant)

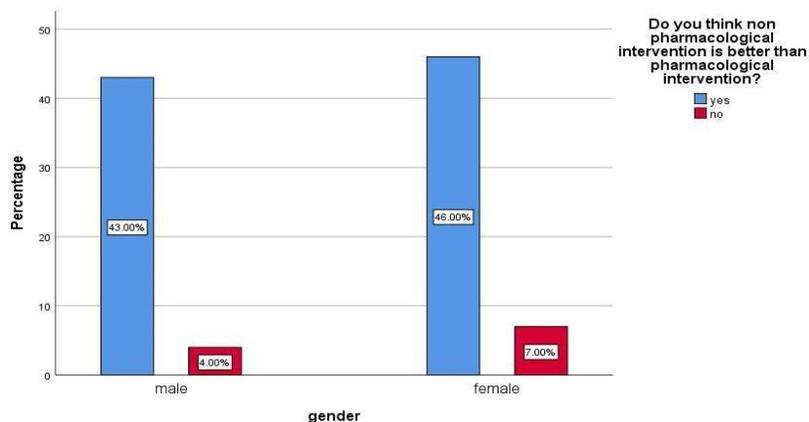


Figure 14- Bar chart showing association between gender and whether non-pharmacological intervention is better than pharmacological intervention. X-axis represents gender and Y-axis represents percentage of responses of participants. Given the choice, 43 male and 48 female preferred non pharmacological intervention (blue) over pharmacological intervention for the management of dementia. . Gender did not influence the choice of intervention. Chi square test showing  $p=0.45$  ( $p>0.05$  indicating statistically not significant)