ORIGINAL ARTICLE

# Prevalence of obsessive and compulsive symptoms in institutionalized older adults with dementia – a cross-sectional study

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**ABSTRACT**

**Objective**: to investigate the prevalence of obsessive and compulsive symptoms in institutionalized older people with dementia**. Methods:** cross-sectional research was carried out with 52 older people with a medical diagnosis of dementia, institutionalized in the city of Maringá, Paraná, Brazil. A questionnaire was used with questions regarding age, gender, age group, race, education level, time since diagnosis of dementia, type of dementia, use of medication, and the presence or absence of the main obsessive and compulsive symptoms associated with the dementia condition. The data were analyzed using descriptive and inferential statistics ($p<0.05$). **Results:** there was a majority of older women (55.8%), aged 80 or over (57.7%), with low education (57.7%), with Alzheimer's disease (82.7%) and with more than four years of institutionalization (59.6%). The majority had difficulty controlling their thoughts (86.5%), talking alone (76.9%), finding things around them dangerous (61.5%), getting upset if objects are not organized symmetrically (65.4%), and organizing things in a particular order (69.2%). No significant association ($p > 0.05$) was found between the number of obsessive and compulsive symptoms and the sociodemographic profile and the dementia and institutionalization profile of institutionalized older people with dementia. **Conclusion:** the majority of institutionalized older people with dementia presented with obsessive and compulsive symptoms.

**Keywords:** Cognitive aging, Institutionalization, Alzheimer's disease, Obsessive-compulsive disorder.

## INTRODUCTION

Dementia syndromes are part of neurodegenerative diseases that involve the progressive loss of memory, intellect, behavior, and the ability to perform daily activities. Neuron degradation and loss in neurodegenerative diseases involve oxidative stress, protein aggregation, degradation, mitochondrial dysfunction, and neuroinflammation1,2. These mechanisms have a toxic potential for neuronal cells, leading to programmed and progressive cell death and, consequently, the loss of various functions[3].

Dementias can be of different types: the most prevalent is Alzheimer's disease (AD), which accounts for 50 to 60% of cases; the second most pervasive is vascular dementia (VD), at 25%, followed by Lewy body dementia (LBD), which affects 20% of patients; there is also frontotemporal dementia (FTD), representing 10 to 15% of cases[4]. These are among the leading causes of disability and dependence in old age, as they can lead to immobility, frailty, swallowing difficulties, and malnutrition, among other consequences, resulting in the need for constant care and increasing the likelihood of institutionalization[5].

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Furthermore, it is apparent in the literature that older individuals with dementia may present behavioral and psychological symptoms (BPSD), which involve alterations in perception, thought, mood, and behavior[6,7]. The same authors note that BPSD includes delusions, hallucinations, and misidentifications, whether of people, events, or objects. However, symptoms such as apathy, anxiety, agitation, aggression, wandering, and various repetitive motor manifestations are also present in neurodegenerative disorders[7], affecting between 60 and 90% of people with dementia[5]. It is important to remember that the prevalence of BPSD increases with the severity of the disease[8].

Behavioral and thought alterations in BPSD can manifest as obsessions and compulsions. Jazi and Asghar-Ali[9] define obsessions as intrusive and unpleasant recurrent thoughts, impulses, or images that cause anxiety. At the same time, compulsions are repetitive behaviors or mental acts that a person engages in to reduce the anxiety provoked by obsessive thoughts. Obsessive and compulsive symptoms are part of BPSD and may be present in individuals with dementia[10].

Thus, the effects of BPSD on older individuals with dementia lead to a loss of functionality, increased caregiver burden, and family stress, raising the risk of admission to long-term care facilities for the older and increasing mortality rates[5,11].

It is important to note that older individuals who are institutionalized generally have lower social interaction, reduced cognitive stimulation, more significant symptoms of depression, and consequently, a decline in both functional and cognitive capacity[12]. Additionally, in long-term care facilities, care is often generalized for all patients, which can exacerbate preexisting conditions[13].

Consequently, the progression of disorders related to dementia syndromes and symptomatic changes throughout the clinical evolution of the disease is evident, highlighting the severity these changes bring to the patient and their loved ones, impacting the lifestyle of both[14]. Indeed, in addition to these dementia syndromes being a public health issue, they also represent considerable healthcare costs due to the need for long-term care services. Thus, understanding the prevalence and providing information about obsessive and compulsive symptoms present in institutionalized older individuals with dementia would facilitate the planning of healthcare services and institutions regarding care, as well as the economic and social issues related to the topic[15].

Therefore, this study aimed to investigate the prevalence of obsessive and compulsive symptoms in institutionalized older individuals with dementia, given that the coexistence of these factors increases morbidity and mortality among patients, seeking to inform future actions aimed at improving the quality of life for institutionalized older individuals.

## METHOD

This is a quantitative, analytical, observational, and cross-sectional study approved by the Research Ethics Committee of Cesumar University with opinion number 6.004.116/2023. It followed the Guidelines for Reporting Observational Studies (Strengthening the Reporting of Observational Studies in Epidemiology—STROBE).

### Participants

A total of 52 older individuals (aged 60 or older) with a medical diagnosis of dementia were evaluated, including Alzheimer's disease (AD, ICD-10-294.11, F02.81), vascular dementia (VD, ICD-10-290.40, F01.51), Lewy body dementia (LBD, ICD-10-294.11, F02.81), and frontotemporal dementia (FTD, ICD-10-294.11, F02.81). The participants were residents of long-term care facilities in Maringá, Paraná, with a definitive diagnosis of dementia and sufficient data collected during the anamnesis for behavioral analysis. It is noteworthy that the institution maintains the clinical data of residents in these facilities, allowing for confirmation of the dementia diagnosis through stored medical records.

Older individuals who were still under investigation for the disease without a previously confirmed diagnosis by a physician and those residing in the facility who were in the final stage (due to the lack of behavioral changes to analyze) were excluded from the study.

### Instruments

The authors developed a questionnaire that contained questions related to age, sex, age group, race, education level, duration of dementia diagnosis, type of dementia, medication use, and the presence or absence of key obsessive and compulsive symptoms associated with the dementia condition.

### Procedures

First, five long-term care facilities in the municipality were contacted to explain the study's objectives and procedures and obtain their authorization. All agreed to participate.

Data was collected by a researcher within the facilities directly with a nurse or nursing staff. Since the participants were older individuals with dementia, data collection was not conducted directly with them. The nurse or nursing technician was responsible for answering questions regarding the behavior of the older residents and verifying additional responses using the medical records.

### Data Analysis

The data were analyzed using SPSS software version 25.0. Descriptive and inferential statistics were employed. Frequency and percentage were used as descriptive measures for categorical variables. Fisher's Exact Test was used to assess the association between the number of obsessive-compulsive symptoms and sociodemographic, dementia-related, institutionalization, and health variables. A significance level of $p < 0.05$ was considered.

## RESULTS

The study included 52 institutionalized older individuals with dementia, aged between 62 and 99 years (80.54 ± 9.32). It can be observed (Table 1) that the majority were female (55.8%), aged 80 years or older (57.7%), had low education levels (57.7%), identified as white (73.1%), and regularly used more than two medications (88.5%).

**Table 1** – Sociodemographic profile of institutionalized older individuals with dementia in Maringá, Paraná, Brazil. 2023.

| VARIABLES | Ƒ | % |
|---|---|---|
| **Gender** | | |
| Male | 23 | 44.2 |
| Female | 29 | 55.8 |
| **Age group** | | |
| Under 80 years | 22 | 42.3 |
| 80 years or older | 30 | 577 |
| **Education level** | | |
| Illiterate/Incomplete Elementary | 8 | 15.4 |
| Complete Elementary | 22 | 42.3 |
| Complete High School | 3 | 5.8 |
| Complete Higher Education | 8 | 15.4 |
| No information | 11 | 21.2 |
| **Race** | | |
| White | 38 | 73.1 |
| Black | 14 | 26.9 |
| **Medication use** | | |
| Up to 2 | 6 | 11.5 |
| More than 2 | 46 | 88.5 |

When analyzing the dementia and institutionalization profile of the older individuals (Table 2), it was found that Alzheimer's disease was predominant (AD) (82.7%), with patients having more than one year since diagnosis (69.3%), more than four years of institutionalization (59.6%), who are not entirely bedridden (76.9%), and who are not wheelchair-bound (55.8%).

**Table 2**– Dementia and institutionalization profile of institutionalized older individuals with dementia in the city of Maringá, Paraná, Brazil. 2023.

| VARIÁVEIS | *ƒ* | % |
|---|---|---|
| **Dementia type** | | |
| Alzheimer's | 43 | 82.7 |
| Other types | 9 | 17.3 |
| **Time since diagnosis** | | |
| Less than one year | 6 | 11.5 |
| 1 to 4 years | 12 | 23.1 |

| | | |
|---|---|---|
| More than four years | 24 | 46.2 |
| No information | 10 | 19.2 |
| **Time in Institutionalization** | | |
| Up to 4 years | 21 | 40.4 |
| More than four years | 31 | 59.6 |
| **Completely Bedridden** | | |
| Yes | 12 | 23.1 |
| No | 40 | 76.9 |
| **Completely Wheelchair-Bound** | | |
| Yes | 23 | 44.2 |
| No | 29 | 55.8 |

When analyzing the prevalence of obsessive and compulsive symptoms among institutionalized older individuals with dementia in the city of Maringá-PR (Table 3), it was found that the majority exhibited the following symptoms: difficulty controlling thoughts (86.5%), talking to oneself (76.9%); perceiving things around them as dangerous (61.5%); becoming upset if objects are not organized symmetrically (65.4%); and organizing items in a specific order (69.2%).

Conversely, the majority of older individuals did not exhibit the following symptoms: checking rituals (61.5%); the urge to go back and forth to places multiple times (61.5%); a cleaning obsession (75.0%); believing in lucky and unlucky numbers (53.8%); hiding food and other items (78.8%); physically looking at specific locations (55.8%); nail-biting (84.6%); and scratching their heads or moving their tongues against their teeth (73.1%). Regarding the total number of symptoms, 78.8% of older people presented more than four symptoms, while 21.2% showed fewer than four.

**Table 3** – Prevalence of obsessive and compulsive symptoms in institutionalized older individuals with dementia in the city of Maringá, Paraná, Brazil. 2023.

| **VARIÁVEIS** | Ƒ | **%** |
|---|---|---|
| **Difficulty controlling thoughts** | | |
| Yes | 45 | 86.5 |
| No | 7 | 13.5 |
| **Talks to oneself** | | |
| Yes | 40 | 76.9 |
| No | 12 | 23.1 |
| **Perceive things in their surroundings as dangerous.** | | |
| Yes | 32 | 61.5 |
| No | 20 | 38.5 |

| | | |
|---|---|---|
| **Checking rituals** | | |
| Yes | 20 | 38.5 |
| No | 32 | 61.5 |
| **Wants to go back and forth to places multiple times** | | |
| Yes | 22 | 38.5 |
| No | 30 | 61.5 |
| **Cleaning obsession** | | |
| Yes | 13 | 25.0 |
| No | 39 | 75.0 |
| **Becomes upset if objects are not arranged** | | |
| Yes | 34 | 65.4 |
| No | 18 | 34.6 |
| **Organizes things in a specific order** | | |
| Yes | 36 | 69.2 |
| No | 16 | 30.8 |
| **Believes in lucky and unlucky numbers** | | |
| Yes | 24 | 46.2 |
| No | 28 | 53.8 |
| **Hides food and other utensils** | | |
| Yes | 11 | 21.2 |
| No | 41 | 78.8 |
| **Physically looks at certain places.** | | |
| Yes | 23 | 44.2 |
| No | 29 | 55.8 |
| **Nail biting** | | |
| Yes | 8 | 15.4 |
| No | 44 | 84.6 |
| **Scratching the head or moving the teeth with the tongue** | | |
| Yes | 14 | 26.9 |
| No | 38 | 73.1 |
| **Total number of symptoms** | | |
| Up to 4 symptoms | 11 | 21.2 |
| More than four symptoms | 41 | 78.8 |

No significant association ($p > 0.05$) was found between the number of obsessive and compulsive symptoms and the sociodemographic profile, as well as the dementia and institutionalization profile of the institutionalized older individuals with dementia.

## DISCUSSION

Most older individuals struggle to control their thoughts, talk to themselves, perceive their surroundings as dangerous, get upset if objects are not organized symmetrically, and arrange things in a specific order. Most also exhibited more than four obsessive and compulsive symptoms. It is essential to highlight that these are symptoms and not obsessive-compulsive disorder (OCD); after all, the diagnosis of OCD is based on 1) the presence of obsessions, compulsions, or both; 2) the obsessions or compulsions must take up significant time, cause marked distress, or interfere with the person's functional ability[16]. According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[17], to receive a formal diagnosis of OCD, a person must meet the diagnostic criteria described; for example, the obsessions and compulsions must be time-consuming and not attributable to the physiological effects of a substance and not better explained by the symptoms of another mental disorder. Since these individuals are older and in different stages of dementia, a concrete diagnosis of OCD was not possible.

The difficulty in controlling thoughts can be explained by the fact that most of the older individuals surveyed are likely in the moderate to late stages of the disease, with behavioral and psychological symptoms related to dementia, as well as pathological neuro-cognitive manifestations[5]. It is emphasized that repetitive or obsessive-compulsive behaviors are relatively common in patients with dementia, especially FTD[18]. This uncontrolled repetition or continuation of a response (motor act, word, thought, activity, strategy, or emotion) that persists beyond the psychological context or logic in which it arose—specifically in dementia—can be called perseverative behavior. It occurs without the individual's full awareness or perception of its presence, and the behavior may not be distressing[19].

There is a relationship between dementia and the presence of obsessions through thoughts experienced routinely[20]. Initially, there is an attempt to ignore such thoughts; however, the obsession to perform the response is more robust, impacting the person's daily routine. Moreover, the symptoms of obsession may be related to anxiety disorders, which supports the findings regarding talking to oneself and perceiving the environment as dangerous.

In a study conducted by Mitchell et al.,[18] it was found that 29% of older individuals with frontotemporal dementia exhibited characteristics of obsession and compulsion. In contrast, individuals with AD displayed compulsive behaviors more frequently than obsessions. It is important to note that both this study and the study by Mitchell et al. [18] found that older individuals with dementia exhibit obsessive and compulsive symptoms.

We also observed the prevalence of institutionalized older individuals with dementia who are female, older (80 years or more), have low education levels, are white, and regularly use more than two medications. Generally, institutionalized older individuals, with or without dementia, pre-

dominantly fit the profile described above[21]. It is important to emphasize that women tend to live longer than men, which means there is a higher proportion of women in the older population, especially in the age group of 80. Since dementia is more prevalent at advanced ages, this may explain the higher prevalence of dementia in older women[22]. Low education levels may be related to lower awareness of preventive health practices and can increase the risk of dementia[23]. Education is also linked to jobs that can promote mental activity, which is protective against dementia[23].

Additionally, white older individuals may have better socioeconomic conditions, access to healthcare, and resources to cope with dementia, which can result in higher rates of institutionalization[24]. Regular use of multiple medications (polypharmacy) is shared among the older, especially in institutionalized older individuals. Some medicines may be associated with an increased risk of dementia, and the use of multiple medications can increase the likelihood of harmful drug interactions[25].

In a study conducted by Gontijo et al.[13,] it was noted that the factors influencing older individuals' time in an institution involve social and economic reasons and caregiving difficulties. The authors also identified that most institutionalized individuals were female and over 80. Additionally, a study conducted in southern Brazil[26] found that the factors predisposing older individuals to institutionalization included cognitive impairment, dependence on basic activities of daily living, and associated illnesses that lead to mental and functional deficits, such as dementia. Older individuals who are institutionalized and diagnosed with dementia are in nursing homes due to comorbidities, physical limitations, and cognitive dysfunctions; however, institutionalization exacerbates the mental changes in these older individuals[27,28].

Luchesi et al.[29] argue that low education levels, hearing impairment, hypertension, and obesity are relevant risk factors that influence older individuals in long-term care facilities. The authors[29] identified that the majority of institutionalized older individuals were female. As they got older, their education levels decreased, which was associated with other chronic non-communicable diseases, such as hypertension, diabetes mellitus, and obesity, leading to polypharmacy. This was also supported in another study published on the prevalence of dementia in long-term care facilities[21]. Gontijo et al.[13] argue that postmenopausal hormonal issues are linked to brain metabolism, relating to cases of dementia, without overlooking that women's average life expectancy is higher.

We observed a predominance of AD among patients who had been diagnosed with dementia for over a year, were institutionalized for more than four years, were not wholly bedridden, and were not wheelchair-bound. Most of these older individuals had hypertension and depression. Due to its insidious onset and the initial presentation of only memory loss and learning impairments along with motor difficulties in its early stages, dementia associated with AD is typically attributed to more advanced stages, as it presents chronic and incurable neurodegenerative disorders, which justifies the association of AD with older individuals who have had a dementia diagnosis for over a year[29].

### *Here's the translation:*

Despite the significant findings, this study has some limitations: the data were evaluated based on the perceptions of caregivers/health professionals in long-term care facilities; the sample of institutionalized older individuals may not be representative of all older individuals with dementia, as those in care institutions may differ in many aspects from those living at home. This can affect the generalization of the results; the data obtained may heavily depend on the ability of health professionals in long-term care facilities to report on the obsessive and compulsive symptoms of older people, and the sample size may affect the ability to detect statistically significant differences. A small sample size may limit the statistical validity of the results.

## CONCLUSION

It is concluded that most institutionalized older individuals with dementia had AD, had been diagnosed with dementia for over a year, were institutionalized for more than four years, and were not wholly bedridden or wheelchair-bound. Furthermore, the majority exhibited difficulties in controlling their thoughts, talked to themselves, perceived their surroundings as dangerous, became upset if objects were not organized symmetrically, and organized things in a specific order.

As practical implications, there is a need for greater attention to the symptoms of obsession and compulsion in older individuals with dementia to seek control over these symptoms as the disease progresses. The results also highlight the need for improvements in the care and services provided in long-term care facilities for institutionalized older individuals with dementia, particularly those with AD. Care providers may require specific training to address these patients' behavioral symptoms and needs.

This study may influence the planning and allocation of resources for long-term care facilities. The presence of behavioral symptoms, such as difficulty controlling thoughts and obsessive behaviors, could lead to specific behavioral interventions to improve the quality of life and reduce patient discomfort. The findings may underscore the importance of providing adequate support and resources to caregivers of older individuals with dementia in long-term care facilities. Caring for older individuals with dementia, especially those with challenging behavioral symptoms, can be exhausting, and caregivers may need additional support.

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