

# Prevalence of Sleep Disorders in Neurocognitive Disorders

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Sleep disorders in NCDs present distinct phenotypic signatures—behavioral/circadian in FTD/AD and respiratory in MCI/Mixed Dementia—highlighting the need for phenotype-specific management and timely caregiver support

| INTRODUCTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | METHODS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | RESULTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CONCLUSIONS | REFERENCES                                                                                                                                                                                                                                                |       |       |       |       |       |       |                      |      |      |      |      |      |      |      |                  |     |      |      |      |    |      |    |                     |     |     |      |     |   |     |   |                            |     |      |    |      |    |      |      |                            |     |      |      |   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| <p>Sleep disorders are a <b>prevalent neuropsychiatric symptom</b> exhibited by patients diagnosed with neurocognitive disorders (NCDs).</p> <p>Nevertheless, clinical evaluation is impeded by <b>patient anosognosia</b>. The <b>caregiver-report</b> is a valuable source for conducting a comprehensive evaluation of the impact and frequency of symptoms.</p> <p>The objective of this study is to <b>estimate the prevalence</b> of sleep disorders in <b>Mexican patients with NCDs</b>, utilizing an extended assessment tool.</p> | <p>We analyzed data from <b>357 patients</b> from the <b>National Institute of Neurology and Neurosurgery (INNN)</b>, in Mexico City. These patients attended the outpatient clinic for cognitive aging and dementia from <b>March 2025 to December 2025</b>.</p> <p>The study population comprised adults with confirmed diagnoses of NCDs. A comparison was made between sociodemographic variables and <b>dependency levels (number of caregivers)</b>.</p> <p>Sleep disorders were assessed using the <b>Sleep Disorders Inventory (SDI)</b>, which was administered to the caregiver. This version of the SDI included <b>additional items to assess snoring, apnea, and restorative sleep</b>.</p> | <table><tr><th>Symptom</th><th>MCI</th><th>Alz</th><th>FTD</th><th>Vasc</th><th>Mixed</th><th>Other</th><th>Total</th></tr><tr><td>Sleep onset insomnia</td><td>26.4</td><td>33.3</td><td>37.5</td><td>23.7</td><td>38.5</td><td>39.4</td><td>34.1</td></tr><tr><td>Nocturnal rising</td><td>9.4</td><td>13.8</td><td>12.5</td><td>15.8</td><td>16</td><td>17.5</td><td>15</td></tr><tr><td>Nocturnal wandering</td><td>3.8</td><td>8.6</td><td>12.5</td><td>7.9</td><td>8</td><td>6.6</td><td>7</td></tr><tr><td>Sleep maintenance insomnia</td><td>7.6</td><td>13.6</td><td>50</td><td>15.8</td><td>12</td><td>10.1</td><td>12.2</td></tr><tr><td>Circadian rhythm inversion</td><td>3.8</td><td>18.5</td><td>28.6</td><td>7.9</td><td>16</td><td>8.8</td><td>11.1</td></tr><tr><td>Early morning awakening</td><td>15.1</td><td>21.5</td><td>14.3</td><td>23.7</td><td>7.7</td><td>31.4</td><td>23.6</td></tr><tr><td>Excessive daytime sleepiness</td><td>62</td><td>63.8</td><td>80</td><td>63.2</td><td>65.4</td><td>59.3</td><td>62.2</td></tr><tr><td>Snoring</td><td>73.1</td><td>69.7</td><td>66.7</td><td>68.4</td><td>81.8</td><td>60.8</td><td>67.3</td></tr><tr><td>Witnessed apneas</td><td>55.3</td><td>38.9</td><td>62.5</td><td>37.1</td><td>44.4</td><td>33.3</td><td>40.1</td></tr><tr><td>Sleep quality perception</td><td>84.9</td><td>83.3</td><td>70</td><td>83.3</td><td>84.6</td><td>83</td><td>83.1</td></tr></table> <p>The sample included patients with <b>mild cognitive impairment (MCI, n = 53), Alzheimer's disease (AD, n = 85), frontotemporal dementia (FTD, n = 10), vascular dementia (VD, n = 38), mixed dementia (n = 27), and others (n = 144)</b>.</p> <p>Mixed dementia patients were the oldest (80.2 ± 7.1 years), and FTD the youngest (63.3 ± 8.5) (p&lt;0.001). 60.4% of MCI patients lived independently, versus only 14.1% in AD. AD, FTD, and mixed dementia required more care based on the number of caregivers involved. Our findings indicated that FTD showed the most disruptive profile; mixed dementia showed more snoring; apnea was more frequent in MCI; AD exhibited circadian inversion and early morning awakening; and other diagnoses showed a heterogeneous profile</p> | Symptom     | MCI                                                                                                                                                                                                                                                       | Alz   | FTD   | Vasc  | Mixed | Other | Total | Sleep onset insomnia | 26.4 | 33.3 | 37.5 | 23.7 | 38.5 | 39.4 | 34.1 | Nocturnal rising | 9.4 | 13.8 | 12.5 | 15.8 | 16 | 17.5 | 15 | Nocturnal wandering | 3.8 | 8.6 | 12.5 | 7.9 | 8 | 6.6 | 7 | Sleep maintenance insomnia | 7.6 | 13.6 | 50 | 15.8 | 12 | 10.1 | 12.2 | Circadian rhythm inversion | 3.8 | 18.5 | 28.6 | 7.9 | 16 | 8.8 | 11.1 | Early morning awakening | 15.1 | 21.5 | 14.3 | 23.7 | 7.7 | 31.4 | 23.6 | Excessive daytime sleepiness | 62 | 63.8 | 80 | 63.2 | 65.4 | 59.3 | 62.2 | Snoring | 73.1 | 69.7 | 66.7 | 68.4 | 81.8 | 60.8 | 67.3 | Witnessed apneas | 55.3 | 38.9 | 62.5 | 37.1 | 44.4 | 33.3 | 40.1 | Sleep quality perception | 84.9 | 83.3 | 70 | 83.3 | 84.6 | 83 | 83.1 | <p>The SDI revealed distinct symptomatic signatures: a <b>behavioral/circadian profile in FTD and AD</b>, contrasting with a <b>predominantly respiratory profile in MCI and Mixed Dementia</b>.</p> <p>From a clinical perspective, these findings support the implementation of a <b>phenotype-specific sleep management strategy</b>, as opposed to a generic approach. Moreover, the <b>marked dependency shift in AD</b> identifies this diagnosis as the critical window for implementing caregiver support interventions.</p> | <p>Glueck J, Pluim McDowell C, Quiroz YT, Cronin-Golomb A, Duffy JF. Self-Reported Insomnia and Poor Sleep Quality Are Associated with Self-Reported Cognitive Changes in Older Adults. Clocks Sleep. 2025;7:56. doi: 10.3390/clockssleep7040056</p> <p>Guarnieri B, Adorni F, Musicco M, Appollonio I, Bonanni E, Caffarra P, et al. Prevalence of Sleep Disturbances in Mild Cognitive Impairment and Dementing Disorders: A Multicenter Italian Clinical Cross-Sectional Study on 431 Patients. Dement Geriatr Cogn Disord. 2012;33:50-58. doi: 10.1159/000335363</p> |
| Symptom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | MCI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Alz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | FTD         | Vasc                                                                                                                                                                                                                                                      | Mixed | Other | Total |       |       |       |                      |      |      |      |      |      |      |      |                  |     |      |      |      |    |      |    |                     |     |     |      |     |   |     |   |                            |     |      |    |      |    |      |      |                            |     |      |      |   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| Sleep onset insomnia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 26.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 33.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Nocturnal rising                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 9.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Nocturnal wandering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Sleep maintenance insomnia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Circadian rhythm inversion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Early morning awakening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 21.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Excessive daytime sleepiness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 62                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 63.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Snoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 73.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 69.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Witnessed apneas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 55.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Sleep quality perception                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 84.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 83.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                                                                                                                                                                                                                                                                                                                                                                             |             | <h3>CONTACT</h3> <div></div> <p>*Contact: connie.28ap@gmail.com</p> <div></div> |       |       |       |       |       |       |                      |      |      |      |      |      |      |      |                  |     |      |      |      |    |      |    |                     |     |     |      |     |   |     |   |                            |     |      |    |      |    |      |      |                            |     |      |      |     |    |     |      |                         |      |      |      |      |     |      |      |                              |    |      |    |      |      |      |      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