

**eSupplementary Table 5. Case-control studies excluding those using polysomnography**

<b>Disorder</b>	<b>Author</b>	<b>Year</b>	<b>Cohort</b>	<b>Assessment</b>	<b>Outcome</b>
Parkinsonism	Factor et al. <sup>1</sup>	1990	PD (78) HC (43): elderly	Questionnaire regarding sleep initiation, sleep maintenance parasomnias and daytime somnolence, and the effect of sleep on motor symptoms	67% of PD patients experienced difficult with sleep initiation compared to 54% of elderly controls. Those with PD had increased awakenings than controls
Parkinsonism	Smith et al. <sup>2</sup>	1997	PD-spouse pairs (153) HC (103)	Self-ratings of sleep disturbance	Mean ratings of 'poor sleep' were higher in PD-spouse than controls
Parkinsonism	Tandberg et al. <sup>3</sup>	1999	PD (245) Patients with diabetes mellitus (100) HC (100): elderly	Interviewed, questionnaire to assess daytime somnolence, use of sleep medication and nocturnal sleep problems	16% of PD patients had EDS which was significantly higher than patients with diabetes and HC
Parkinsonism	Pal et al. <sup>4</sup>	2004	PD (40) Care givers (30)	PSQI, GQS (self-designed), ZDRS, ZARS	Only 9% of care givers complained of sleep disturbances. PSQI showed 84% of PD patients were poor sleepers, predominant complaints were sleep disturbances and sleep quality and efficiency. 100% of patients complained of sleep disturbances
Parkinsonism	Calzetti et al. <sup>5</sup>	2009	PD (118) HC (110); age- and gender-matched	IRLSSG criteria	13% of PD patients compared to 6% of controls reported previously suffering RLS, however, this reach statistical significance
Parkinsonism	Krishnan et al. <sup>6</sup>	2003	PD (126) HC (128); age- and gender-matched controls	Predesigned questionnaire, interviewed for RLS using IRLSSG criteria, ESS, JHRLS	RLS present in 8% of PD cases vs 0.8% of controls. Those with RLS had higher prevalence of depression. Only 2/10 patients had abnormal ESS. 90% of patients with RLS showed delayed sleep onset
Parkinsonism	Hagell et al. <sup>7</sup>	2016	PD (149) HC (53); age-matched	SCOPA-SLEEP	Daytime sleepiness is less severe and common in HC compared to PD

Parkinsonism	Högl et al. <sup>8</sup>	2003	PD (99) HC (44); age-matched	ESS	ESS revealed significantly increased daytime sleepiness compared to controls. 33% of PD patients had scores $\geq 10$ and 11% of controls.
Parkinsonism	Brodsky et al. <sup>9</sup>	2003	PD (101) HC (100); age-matched	ESS	EDS was reported in 76% of patients compared to 47% of controls, 41% had scores $\geq 10$ compared to 19% of controls
Parkinsonism	Rana et al. <sup>10</sup>	2018	PD (100) HC (100); age- and gender-matched	PSQI, IRLSSG criteria	PD patients had higher global scores compared to HC on PSQI and significantly more patients with RLS (27%) in PD than controls (6%). Poor sleep was related to greater pain severity and interfering pain
Parkinsonism	van Hilten et al. <sup>11</sup>	1993	PD (90) HC (71); age-matched	ESS	ESS was similar in both groups. 81% of PD patients and 92% of controls reported sleep disturbances
Parkinsonism	Suzuki et al. <sup>12</sup>	2012	PD (93) HC (93); age- and gender-matched	PDSS-2, BDI-2, PSQI, ESS, PFS, PDQ-39	PD patients had impaired PDSS-2, ESS, BDI-2 and PFS scores compared to HC. RLS presence was not different between groups
Parkinsonism	Abe et al. <sup>13</sup>	2005	PD (64) HC (60); age- and sex-matched	PDSS	PDSS scores in PD groups were significantly different from controls, suggesting more sleep disturbances in PD
Parkinsonism	Kumar et al. <sup>14</sup>	2002	PD (149) HC (115); age-matched	Questionnaire on experiences of night-time sleep and items taken from: ESS, the Case Western Reserve Health Sleep Study Questionnaire	42% of PD patients compared to 12% of controls reported sleep problems. Insomnia (32%), nightmares (32%) and EDS (15%) were seen more in PD compared to 5%, 5% and 6% respectively in controls. EDS correlated with disease stage
Parkinsonism	Kay et al. <sup>15</sup>	2018	PD (50) HC (48); age-, race-, gender- and education-matched	PSQI, ISI, BDI-2	PD patients had poorer sleep quality on the PSQI, higher rates of sleep disturbances and were more likely to report sleeping more than usual on the BDI-2, they also had higher ISI total scores. ISI scores and sleeping less than usual were associated with depression
Parkinsonism	Telarovic et al. <sup>16</sup>	2015	PD (110) HC (110)	PSQI, ESS, PDSS, PDQ-8/39	Median PSQI scores was three times higher than control group. The most common sleep disturbance was fragmented sleep (38%) and nocturia (38%). Sleep significantly affected QoL

Parkinsonism	Fabbrini et al. <sup>17</sup>	2002	De novo PD (25) Treated PD (50) HC (25); age- and gender-matched	ESS, PSQI	ESS and PSQI scores were not different between de novo PD and controls, but higher in treated PD. ESS scores may be explained by treatment effect
Parkinsonism	Videnovic et al. <sup>18</sup>	2014	PD (20) HC (15) age-matched	ESS, PSQI, BDI	PSQI was the same in both groups (n.s.). ESS scores were higher in PD group than controls
Parkinsonism	Gjerstad et al. <sup>19</sup>	2011	De novo PD (200) HC (173); age- and gender-matched	PDSS, IRLSSG criteria, semi-structure interview	13% of PD patients vs 7% of controls met the criteria for RLS
Parkinsonism	Sanjiv et al. <sup>20</sup>	2001	PD (160) HC (40)	ESS	ESS scores were significantly lower in the control group compared to four groups of PD based on medication
Parkinsonism	Verbaan et al. <sup>21</sup>	2008	PD (420) HC (150); age- and gender-matched	SCOPA-Sleep, BDI	PD patients had significantly more EDS 43 vs 10% and excessive night-time sleep problems 27 vs 9% or used sleep medication 17 vs 12%
Parkinsonism	Goulart et al. <sup>22</sup>	2009	PD (50) HC (50); geriatric	FSS, ESS	Fatigue was reported by 70% of patients compared to 22% of controls, with 20 of the 35 PD patients having fatigue and depression. ESS scores did not differ between groups
Parkinsonism	Suzuki et al. <sup>23</sup>	2007	PD (188) HC (144)	PDSS-2, ZDRS	PD patients had more severe sleep disorders than controls according to PDSS scores. Differences in PDSS scores were observed between disease stages
Parkinsonism	Ferreira et al. <sup>24</sup>	2006	PD (176) HC (174)	ESS, PSQI	27% of PD patients reported sleep attacks compared to 32% of controls. They occurred more frequently and required more attention in PD patients. More patients had abnormal ESS and poor sleep quality
Parkinsonism	Chotinaiwattarakul et al. <sup>25</sup>	2011	PD (134) HC (94)	BQ, ESS, PDSS	49% of PD patients were at high risk for a SRBD compared to 35% of controls
Parkinsonism	Nomura et al. <sup>26</sup>	2006	PD (165) HC (131); age- and gender-matched	PSQI and RLS diagnosis via clinical interview (IRLSSG criteria)	PSQI scores did not differ. 2.3% of controls met the diagnosis criteria for RLS compared to 12% of PD patients. Those with RLS showed significantly higher PSQI scores than PD patients without RLS
Parkinsonism	Kataoka et al. <sup>27</sup>	2020	PD (157) HC (1101)	Two+ consecutive nights of Actigraphy	Sleep efficiency, wake after sleep onset and sleep fragmentation was significantly lower in patients in late stage PD compared to controls. Total sleep time and sleep onset latency were significantly shorter in patients with late- and early-stage PD compared to controls.

Parkinsonism	Stavitsky et al. <sup>28</sup>	2010	PD (30) HC (14)	Actigraphy, ESS, PDSS, sleep diary	Actigraphy data showed sleep efficiency and total sleep time was reduced, and increased sleep fragmentation in PD compared to HC. PD group had higher ESS scores than HC. Some subjective measures correlated to actigraphy data
Parkinsonism	Giganti et al. <sup>29</sup>	2013	De novo PD (18) HC (18); age-matched	Actigraphy for three consecutive days, MEQ	PD patients had higher sleepiness than controls at awakening and in the early afternoon
Parkinsonism	Prudon et al. <sup>30</sup>	2014	PD (106); early stages of disease HC (99); age-matched	ESS, PSQI, MSQ, NMSQuest, home monitoring sleep respiration (Embletta), three nights of Actigraphy, sleep diaries	Sleep questionnaire scores were the same between participants. Based on diaries PD patients had more daytime naps. PLMS were increased in PD. Otherwise; subjective and objective sleep disturbances were minimal between groups
Parkinsonism	Cagnin et al. <sup>31</sup>	2017	DLB (30) AD (32); age-, gender- and disease severity-matched HC (33); age- and gender-matched	PSQI, RBD1Q, ESS, 12 days sleep diary	DLB patients showed more daytime somnolence, and a higher proportion of RBD-like symptoms compared to AD patients and controls, regardless of drug treatment. DLB patients had a greater number of daytime naps and longer night sleep associated with clonazepam use
Parkinsonism	De Bruin et al. <sup>32</sup>	1996	PSP (11) HC (8); age- and gender-matched	Structured sleep questionnaire and interview, spirometry and inspiratory and expiratory pressures were assessed, BDI	PSP reported fatigue, frequent nocturnal awakenings, immobility in bed more frequently than controls. All patients had regular breathing patterns
Parkinsonism	Moreno-López et al. <sup>33</sup>	2011	MSA (86) PD (86); matched for age, gender and disease stage HC (86); age- and gender-matched	Modified ESS, PSQI, TSS, Sudden Onset of Sleep Scale, presence of RLS, presence of stridor	MSA and PD scores were comparable but higher than HC. 28% of MSA and 29% of PD had EDS compared to 2% of HC. Significant differences in RLS: 27% of MSA, 14% of PD patients and 7% of HC had RLS

Parkinsonism	Gama et al. <sup>34</sup>	2010	PD (16) MSA (13) PSP (13) HC (12)	ESS, PSQI, IRLSSG, BQ	Poor sleep quality, risk of OSA and RLS were detected in all groups. MSA showed highest risk of OSA. PSP showed frequent risk (57%) of RLS and related reduced sleep duration and efficiency
Parkinsonism	Bhalsing et al. <sup>35</sup>	2013	PD (134) PSP (27) MSA (21) DLB (5) HC (172)	IRLSSG, PSQI, ESS, PDSS	RLS was higher in patients than controls, and highest in PD (12%). RLS was only present in one patient with PSP and MSA and none with DLB. PSQI and ESS scores were higher in patients than controls
Huntington's Disease	Goodman et al. <sup>36</sup>	2010	HD (66) Two age and gender-matched HC groups: Carers (38) Non-carers (60)	Questionnaire modelled on Parkinson's sleep questionnaires – 45 questions focusing on issues such as duration, quality of sleep abnormal nocturnal behaviour and QoL, BDI	HD patients reported greater difficulty in falling asleep, maintaining sleep, taking more than an hour to get to sleep, needing 'more sleep', being awake at night and asleep during the day, and waking up early and not being able to go back to sleep compared to non-carer controls. More patients reported abnormal nocturnal behaviour and nocturnal painful muscle cramps
Huntington's Disease	Hametner et al. <sup>37</sup>	2012	HD (26) HC (39); age- and gender-matched	PSQI	27% patients compared to 8% of HC complained of poor sleep quality
Huntington's Disease	Aziz et al. <sup>38</sup>	2010	HD (63) Premanifest mutation carriers (21) HC (84)	ESS, PSQI, SCOPA-Sleep, BDI	Sleep impairment was more prevalent in HD compared to controls; daytime sleepiness was normal in HD. SOL was delayed in HD compared to controls. Sleep disorders were associated with depression
Huntington's Disease	Bellosta Diago et al. <sup>39</sup>	2017	HD (38) HC (38)	PSQI, ESS	HD had more impaired sleep quality and more EDS than controls, these scores correlated to variability in circadian blood pressure
Huntington's Disease	Bellosta Diago et al. <sup>40</sup>	2018	HD (38): early stage and premanifest carriers HC (38); age- and gender-matched	PSQI, ESS, HAM-D	HD patients had worse sleep quality compared to controls – they had increased sleep onset latency and later wake-up time. This was associated with depressive and anxiety symptoms

Huntington's Disease	Morton et al. <sup>41</sup>	2005	HD (8) HC (8)	ESS, HDSS, sleep diaries, Actiwatch-Neurologica to measure locomotor activity	HD spent longer in bed than controls. Patients had an increase in nocturnal activity vs control
Huntington's Disease	Hurelbrink et al. <sup>42</sup>	2005	HD (8) HC (8); age- and gender-matched controls	ESS, HDSS, sleep diary, Actiwatch-Neurologica to measure locomotor activity	HD patients showed more activity and spent more time making acceleration movements than controls. No significant difference between ESS and HDSS scores
SCA	Abele et al. <sup>43</sup>	2001	SCA1 (13) SCA2 (22) SCA3 (23) HC (40); age- and gender-matched	IRLSSG	RLS present in 23% of SCA1, 27% of SCA2, 30% of SCA3 and 10% of controls. 105% vs 28% in all SCA patients
SCA	Friedman et al. <sup>44</sup>	2003	SCA3 (22) At risk (12) HC (17)	ESS and two questions concerning RBD	SCA3 had higher ESS scores than AR and HC. 56% of SCA3 endorsed both RBD questions and 16% of those at risk and 18% of HC
SCA	Yang et al. <sup>45</sup>	2020	SCA3 (91) HC (85); age- and gender-matched	FS-14, PSQI, ESS, BDI	SCA patients had significantly higher PSQI, BDI, ESS and FS-14 scores
SCA	Howell et al. <sup>46</sup>	2006	SCA6 (25) HC (25); age- and gender-matched	ESS, PSQI	ESS and PSQI was higher in SCA6 patients than controls
SCA	Martins et al. <sup>47</sup>	2015	SCA1 (12) HC (15); age- and gender-matched	ESS, MFIS, BDI	MFIS mean and sub scores were higher in SCA1 patients than controls. 100% vs 26.6% met the criteria for fatigue. Patients also had higher ESS scores, although only 3 patients presented with EDS
SCA	Moro et al. <sup>48</sup>	2017	SCA 10 (28) SCA 3 (28) HC (28)	MFIS, ESS, RBDSQ, IRLSSG, BDI, HAM-A	RLS and RBD were uncommon in SCA10. ESS in SCA10 and SCA3 were higher than controls. Fatigue scores were higher in SCA10 and SCA3 compared to HC
SCA	Pedroso et al. <sup>49</sup>	2011	SCA3 (40) HC (38); age- and gender-matched	RBDSQ, IRLSSG, ESS, HAM-A, BDI	RBD and RLS frequency was higher in SCA than controls. No difference in EDS. Depression and anxiety correlated with RDB

SCA	Pedroso et al. <sup>50</sup>	2017	SCA2 (33) from 9 families HC (26)	ESS, RBDSQ, BDI, HAM-A, structured interview	SCA2 had high frequency of RBD (48%) and EDS (42%) but ESS scores did not differ from HC. RLS was present in 18% but did not differ from HC (4%)
SCA	D'Abreu et al. <sup>51</sup>	2009	SCA (53) HC (106)	ESS, NCS/EMG, questionnaire including items regarding RLS, cramps, RBD, SRBD	ESS score was not different from controls. 45% of SCA3 patients had scores >10 compared to 29% in controls. Sleep complaints were higher in patients, particularly insomnia with suggestive evidence of higher OSA and RLS
SCA	Seshagiri et al. <sup>52</sup>	2018	SCA1 (6) SCA2 (5) SCA3 (7) HC (6)	Overnight PSG	Sleep spindle density significantly decreased in SCA
Wilson's Disease	Grandis et al. <sup>53</sup>	2017	WD (463) HC (14,742,438)	North American Medical Databases	Those with WD exhibited a higher risk for OSA by 29%
Wilson's Disease	Portala et al. <sup>54</sup>	2002	WD (24) HC (24); age- and gender-matched	USI, qualitative questions about sleep patterns and sleep medication	WD patients had a significant difference in the number of nocturnal awakenings, with 59% reportedly frequently being awake for more than 30 minutes during the night, Sleep paralysis and cataplexy occurred more in patients, and they complained significantly more of daytime fatigue and taking more naps
Wilson's Disease	Netto et al. <sup>55</sup>	2011	WD (25) HC (24)	PSQI, ESS	On the PSQI 15 patients had an abnormal PSQI score, significantly more than controls. ESS was abnormal in three patients, with two controls meeting EDS criteria. Sleep assessments detected abnormalities in 16 WD patients compared to 8 controls
Essential Tremor	Benito-León et al. <sup>56</sup>	2013	ET (76) HC (3227)	Self-reported sleep duration	Those with ET had significantly shorter sleep duration than those without ET
Essential Tremor	Chen et al. <sup>57</sup>	2018	ET (100) HC (201)	Interview and revised IRLSSG	Two ET patients fulfilled the diagnosis of RLS, increased risk associated with the MAP2K5/SKOR1 gene
Essential Tremor	Peng et al. <sup>58</sup>	2020	ET (199) HC (132)	NMSS	ET was sub-grouped with and without head tremor, both groups showed high scores and prevalence (>50%) in difficulty falling asleep. Daytime sleepiness was significantly higher in patient subgroups than in the controls
Essential Tremor	Acar et al. <sup>59</sup>	2019	ET (40) HC (38)	PSQI	PSQI scores were significantly higher in patients than the control group
Essential Tremor	Chandran et al. <sup>60</sup>	2012	ET (50) HC (50)	PSQI, ESS, PFS	ET patients had a higher prevalence and higher mean scores of sleep disturbances and fatigue
Essential Tremor	Sengul et al. <sup>61</sup>	2015	ET (45) HC (35); age-, gender-, education-matched	ESS, PSQI, FSS	Poor sleep quality and fatigue were common. EDS had a negative effect on physical and mental health
Essential Tremor	Wu et al. <sup>62</sup>	2016	ET (58)	RBDSQ, NMSQuest	ET patients had a significant increase in RLS. One of 60 ET patients screened positive for RBD, when compared to controls there was no significant difference

			HC (123); age- and gender-matched		
Essential Tremor	Shalash et al. <sup>63</sup>	2019	ET (30) HC (30)	NMSS, PSQI	ET patients showed worse sleep and NMSS domains compared to controls that negatively affected quality of life
Dystonia	Timmers et al. <sup>64</sup>	2017	DRD (28), from ten families HC (28): age- and gender-matched	PSQI, FSS, ESS, BDI, BAI	Patients scored higher on ESS than controls. Health related quality of life was associated with worse quality of sleep. Patients did not significantly report more sleeping problems than controls
Dystonia	Avanzino et al. <sup>65</sup>	2010	BSP (52) CD (46) HC (56): age- and gender-matched	PSQI, ESS, BDI	Reduced sleep quality (75% in BSP and 72% in CD); excessive daytime sleepiness. Dystonia severity and duration uncorrelated with PSQI in BSP. In CD, no correlation with PSQI when adjusted for BDI. BDI score accounted for poorer sleep quality in only CD
Dystonia	Yang et al. <sup>66</sup>	2017	BSP (60) CD (60) HC (60): age-, gender-, and education-matched	PSQI, ESS, HAM-D, HAM-A	Reduced sleep quality (CD 71%, BSP 55%) vs controls. ESS not significantly different between patient and controls (CD 20%, BSP 25%)
Dystonia	Smit et al. <sup>67</sup>	2017	CD (44) HC (43): age- and gender-matched	FSS, ESS, PSQI, BDI, BAI	Snoring was more prevalent in patients than controls. Patients scored worse on ESS, FSS and PSQI
Dystonia	Paus et al. <sup>68</sup>	2011	CD (111) BSP (110) HC (93): age-matched to CD patients	PSQI, ESS, examined for sleep bruxism, "Do you have problems with sleep?", RLS, BDI	PSQI showed disturbed sleep quality higher than controls (BSP 46% and 44% in CD) and mean score higher. ESS was normal (BSP 7%, CD 5%). Increased % of those with RLS (BSP 20%, CD 18%). BDI significantly lower in controls. Pain significantly more common in CD vs BL (87 vs 34%). 100% of CD patients attributed the pain to their dystonia vs 62% of BSP patients with pain
Dystonia	Trotti et al. <sup>69</sup>	2009	CD (43) HC (49): age- and gender-matched Other focal movement disorders (19)	ESS	EDS were excessive in patients compared to controls
Dystonia	Eichenseer et al. <sup>70</sup>	2014	CD (54)	PSQI, ESS, BDI, HAM-A	Impaired sleep quality was twice as common in CD patients compared to matched controls and sleep disturbances did not improve despite improvement in CD motor symptoms



			HC (55): age- and gender-matched		
Dystonia	Ferrazzano et al. <sup>71</sup>	2019	BSP (60) HC (40) age-matched	PSQI, HAM-A, HAM-D	BSP had more sleep disorders, higher PSQI scores than controls
Dystonia	Novaretti et al. <sup>72</sup>	2019	CD (28) BSP (28) WC (24) HC (80) age-, gender-, education matched	PSQI, ESS, BDI, BAI	Patients reported worse quality of sleep. ESS was normal. All three patients had body movements during REM sleep, significantly more than controls
Tic Disorders	Lee et al. <sup>73</sup>	2017	TS (1124) HC (3372)	National database review	Incidence rate of sleep disorders was 7.2% in children with TS compared to 3.5% in controls. Anxiety disorder was associated with highest risk for sleep disorders
Tic Disorders	Ricketts et al. <sup>74</sup>	2018	TS (298) History of TS (122) HC (254)	Data taken from NSCH survey, parent interview	Controls shown to have 1.5 times more nights of sufficient sleep compared to both tic disorder groups. Older adolescent males with mild tic disorder had significantly fewer nights of sufficient sleep than children and early adolescents. Female early adolescents with moderate/severe tic disorder had fewer nights of sufficient sleep relative to males
Tic Disorders	Comings & Comings <sup>75</sup>	1987	TS (247) ADD (17) HC (47)	Questionnaire examining sleep history and sleep problems (parent/patient)	TS increased frequency of sleepwalking, night terrors, trouble getting to sleep, early awakening, and inability to take afternoon naps as a young child
Tic Disorders	Saccomani et al. <sup>76</sup>	2005	TS (48) CTD (48) HC (30); age-matched	Interview for sleep problems (parent and child)	Sleep problems present in 27.1% TS and 16.7% CTD
Tic Disorders	Modafferi et al. <sup>77</sup>	2016	TS (28) CTD (8) HC (266); age- and gender-matched	SDQ-45 (parent)	Sleep was significantly more disturbed in patients with tic disorders than in controls. Difficulties in initiating sleep and increased motor activity during sleep were the most frequent sleep disturbances. Higher anxiety symptoms associated with increased motor activity during sleep
Tic Disorders	Allen et al. <sup>78</sup>	1992	TS (57) TS+ADHD (89) HC (146); age-matched	Modified version of MSPSQ (parent)	Increased sleep difficulties related to additional presence of ADHD. The complaint of poor sleep occurred in 26% with TS-only, 48% with ADHD-only, and 41% with TS+ADHD; all were significantly different from 10% found in controls

Tic Disorders	Rickett et al. <sup>79</sup>	2018	TS (39) HC (18)	Actigraphy, children's sleep habit questionnaire (parent), sleep self-report (child)	TS had increased sleep onset-latency, reduced sleep efficiency, increased WASO, and increased number of awakenings compared to controls. There were no differences in questionnaire reports
Tic Disorders	Moeller and Krieg <sup>80</sup>	1992	TS (2); adults HC (14)	Sleep EEG	Decreased percentage of slow wave sleep
Mixed	Adler et al. <sup>81</sup>	2011	PD (49/60) RLS (30/39) ET (53/93) HC (175/296)	ESS, MSQ, IRLSSG, "Have you even been told that you act out your dreams?" as a marker for RBD	Probable RBD was more frequent in PD than in RLS, ET and controls. PD patients with ESS $\geq$ 10 was higher in (48%), than RLS (31%), ET (13%) and controls (11%)
Mixed	Boddy et al. <sup>82</sup>	2007	DLB (41) PD (39) PDD (42) AD (42) HC (41)	PSQI, ESS	Prevalence of EDS remained higher in PDD and DLB than AD. PDD, PD and DLB patients had worse sleep quality when compared with AD and controls
Mixed	Lee et al. <sup>83</sup>	2015	ET (60) PD (30) HC (22)	PSQI, ESS	ET patients had significant excessive daytime somnolence compared to controls
Mixed	Gerbin et al. <sup>84</sup>	2012	ET (120) PD (40) HC (120)	PSQI, ESS	ESS scores were significantly higher in ET patients compared to controls. The global PSQI was not significantly different
Mixed	Aldaz et al. <sup>85</sup>	2019	HD (53) PD (45) HC (25); age- matched to HD patients	NMSQuest	HD patients scored higher than PD on delusions, nightmare, and higher than controls on acting out dreams, insomnia, intense vivid dreams

**Key:** AD: Alzheimer's Disease, ADHD: Attention Deficit Hyperactive Disorder, BAI: Beck's Anxiety Inventory, BDI/-2: Beck's Depression Inventory, BQ: Berlin Questionnaire, BSP: Blepharospasm, CD: Cervical Dystonia, CTD: Chronic Tic Disorder, DLB: Dementia with Lewy Bodies, DRD: Dopamine-responsive dystonia, EDS: Excessive Daytime Sleepiness, EMG: Electromyography, ESS: Epworth Sleepiness Scale, ET: Essential Tremor, FS-14: Fatigue Scale, FSS: Fatigue Severity Scale, HAM-A: Hamilton Anxiety Rating Scale, HAM-D: Hamilton Depression Rating Scale, HC: Healthy control, HD: Huntington's Disease, HDSS: Huntington's Disease Sleepiness Scale, IRLSSG: International Restless Leg Syndrome Study Group, ISI: Insomnia Severity Index, JHRLS: John Hopkins Restless Leg Syndrome Severity Scale, MEQ: Morningness–Eveningness Questionnaire, MFIS: Modified Fatigue Impact Scale, MSA: Multiple System Atrophy, MSPSQ: Modified Simonds and Parraga Sleep Questionnaire, MSQ: Mayo Sleep Questionnaire, NCS: Nerve Conduction Study, NMSQuest: Non-Motor Symptoms Questionnaire, NMSS: Non-Motor Symptoms Scale, OSA: Obstructive Sleep Apnea, PD: Parkinson's Disease, PDD: Parkinson's Disease with Dementia, PDSS/-2: Parkinson's Disease Sleep Scale, PDQ-8/39: Parkinson's Disease Quality of Life, PLMS: Periodic Limb Movement during Sleep, PSP: Progressive Supranuclear Palsy, PSQI: Pittsburgh Sleep Quality Index, RBD: Rapid Eye Movement sleep Behaviour Disorder, RBDSQ: Rapid Eye Movement Sleep Behaviour Disorder Screening Questionnaire, RBD1Q: Rapid Eye Movement Sleep Behaviour Disorder Single-Question screen, REM: Rapid Eye

Movement sleep, RLS: Restless Leg Syndrome, SCA: Spinocerebellar Ataxia, SCOPA-Sleep: Scales for Outcomes in Parkinson's Disease in Sleep, SDQ-45: Sleep Disorder Questionnaire, SRBD: Sleep-related Breathing Disorder, TS: Tourette's Syndrome, TSS: Tandberg Sleepiness Scale, USI: Uppsala Sleep Inventory, WASO: Wake After Sleep Onset, WC: Writer's Cramp, WD: Wilson's Disease, ZARS: Zung's Self-Rating Anxiety Scale, ZDRS: Zung's Self-Rating Depression Scale.

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