



Table S1. Questions and response options for intake forms provided to patients/caregivers. All content on the intake forms was approved by the Provincial Health Services Authority.

1 - Consent	<p>*Consent form outlining type of information collected and how collected information will be used - all questions were approved by the Provincial Health Services Authority*</p> <p>“I have read and understand this form. I voluntarily consent to PHSA collecting, using and disclosing the information I provide.”</p> <p>+</p> <p>“Would you like to be contacted about future opportunities to participate in research studies at the BCCH Sleep Clinic? (your response will not affect your current care)”</p>	<p>“I consent (proceed to intake form in survey format)” OR “I do not consent (please exit from survey)”</p> <p>+</p> <p>“Yes” OR “No”</p>
2 - Introduction	<p>Ethnic Background</p>	<p>Black, East/Southeast Asian, Vietnamese, Indigenous, Middle Eastern, South Asian, White, Do not know, Another race category, Prefer not to answer</p>
3 – Description of Sleep and Wake Behaviors	<p>Child’s current/working diagnoses</p>	<p>Open-ended</p>
	<p>How long has your child’s sleep been a concern?</p>	<p><3 months, >3 months, >1 year, Since birth, N/A</p>
	<p>Select the main areas of concern related to your child’s sleep</p>	<p>Bedtime, Excessive daytime behaviors, Awakenings, Routines, Sleep disordered breathing, N/A</p>
	<p>How would you rate your child’s sleep quality?</p>	<p>Excellent, Good, Average, Poor, Very poor, N/A</p>
	<p>What is the current well-being/quality of life of your child?</p>	<p>Slider scale (excited, happy, neutral, sad, devastated)</p>
	<p>How would the child’s well-being improve if your child’s sleep problems improved/resolved?</p>	<p>Slider scale (excited, happy, neutral, sad, devastated)</p>
	<p>What is your level of distress as the caregiver?</p>	<p>Slider scale (not distressed – very distressed)</p>
	<p>If your child’s sleep problems improved/resolved, what would your level of distress be as a caregiver?</p>	<p>Slider scale (not distressed – very distressed)</p>
	<p>Do you as a caregiver have sleep problems?</p>	<p>Yes, No, N/A</p>

	What are the three main goals that yourself (caregiver) and/or the patient would like to achieve?	Open-ended w/ slider scale (0-10 level of importance)
	What are the three main concerns that yourself (caregiver) and/or the patient has?	Open-ended w/ slider scale (0-10 level of importance)
	Do you have any additional goals or concerns for yourself or the patient?	Open-ended
	Does your child currently take any medications?	Yes (please list), No, N/A
	Is there any additional information that you want to disclose? You can write as much or as little as you want! If you have nothing to add, you can write N/A	Open-ended
4 – Nighttime and Sleep Behaviors (Questionnaire)	SDSC Questionnaire + Your child's mood at bedtime + Your child's mood after a night time awakening + Your child's mood when they wake up for the day + If you selected "I don't know" for any of the questions, please specify + Was there anything related to your responses that you want to mention? You can write as much or as little as you want! If you have nothing to add, you can write "N/A"	Domains covered: DIMS, SDB, Arousal disorders, SWTD, Disorders of excessive somnolence, Sleep hyperhidrosis
5 – Daytime Behaviors (Questionnaire)	ADHD Rating Scale IV + If you selected "Not Applicable" for any of the questions, please specify + Is there any additional information that you would like to disclose? You can write as much or as little as you want! If you have nothing to add, you can write "N/A"	Subscales of Inattention and Hyperactivity-impulsivity

Table S2. Results from a multivariate logistic regression analysis analyzing the relationship between RLS with ID (with/without a family history of ID), ADHD, ASD, bedtime resistance, restlessness before falling asleep, restlessness during sleep, age, and sex.

Outcome: RLS				
Effect	Odds Ratio	95% Confidence Interval		P-Value
Iron Deficiency Family history ID vs no ID	6.25	1.46	26.74	0.013
Iron Deficiency No family history of ID vs no ID	2.67	0.68	10.39	0.158
ASD Yes vs no	0.88	0.41	1.86	0.728
ADHD Yes vs no	2.12	1.01	4.42	0.046
Bedtime Resistance Per point on scale	1.17	0.91	1.51	0.224
Restlessness Before Falling Asleep Per point on scale	1.09	0.84	1.42	0.508
Restlessness During Sleep Per point on scale	1.08	0.86	1.36	0.502
Age Per year older	0.98	0.91	1.05	0.556
Sex Male vs Female	0.75	0.36	1.55	0.436

Table S3. Multivariate logistic regression analysis examining the relationship between familial RLS with ID (with/without a family history of ID), ADHD, ASD, bedtime resistance, restlessness before falling asleep, restlessness during sleep, age, and sex.

Outcome: Familial RLS				
Effect	Odds Ratio	95% Confidence Interval		P-Value
Iron Deficiency Family history of ID vs no ID	4.38	1.01	18.94	0.048
Iron Deficiency No family history of ID vs no ID	1.51	0.36	6.38	0.573
ASD Yes vs no	1.71	0.90	3.24	0.103
ADHD Yes vs no	1.14	0.62	2.12	0.675
Bedtime Resistance Per point on scale	1.13	0.91	1.41	0.257
Restlessness Before Falling Asleep Per point on scale	1.02	0.82	1.27	0.882
Restlessness During Sleep Per point on scale	1.06	0.87	1.29	0.591
Age Per year older	0.97	0.91	1.03	0.314
Sex Male vs Female	0.65	0.35	1.22	0.181

Table S4. Multivariate logistic regression analysis examining the relationship between painful RLS with ID (with/without a family history of ID), ADHD, ASD, bedtime resistance, restlessness before falling asleep, restlessness during sleep, age, and sex.

Outcome: Painful RLS				
Effect	Odds Ratio	95% Confidence Interval		P-Value
Iron Deficiency Family history of ID vs no family history of ID	2.20	0.83	5.82	0.113
ASD Yes vs no	1.38	0.53	3.61	0.515
ADHD Yes vs No	1.70	0.65	4.42	0.279
Bedtime Resistance Per point on scale	0.80	0.57	1.14	0.222
Restlessness Before Falling Asleep Per point on scale	0.91	0.66	1.25	0.549
Restlessness During Sleep Per point on scale	0.98	0.73	1.31	0.890
Age Per year older	0.96	0.86	1.07	0.480
Sex Male vs Female	0.89	0.35	2.27	0.804

Table S5. Odds ratios of having a family history of ID & (ADHD or ASD) with various sleep/wake-disorders.

	ADHD	ASD
Insomnia/DIMS	3.4444 (1.3728 to 8.6425) p = 0.0084	4.7727 (1.8245 to 12.4847) p = 0.0014
EDS/DOES	1.8000 (0.7344 to 4.4120) p = 0.1988	1.9847 (0.7537 to 5.2264) p = 0.1653
CRSD	0.6000 (0.1874 to 1.9206) p = 0.3895	0.6187 (0.2153 to 1.7781) p = 0.3727
Parasomnias	0.8710 (0.3295 to 2.3022) p = 0.7806	0.9236 (0.3037 to 2.8085) p = 0.8886
SDB	1.2222 (0.5347 to 2.7939) p = 0.6343	0.5492 (0.2364 to 1.2758) p = 0.1635
Non-Restorative Sleep	1.0800 (0.4734 to 2.4637) p = 0.8549	0.7257 (0.3149 to 1.6723) p = 0.4516
SWTD	4.4118 (0.8400 to 23.1699) p = 0.0794	5.9211 (0.6626 to 52.9093) p = 0.1115
PLMS/Restlessness	1.8095 (0.7500 to 4.3657) p = 0.1869	1.6790 (0.6806 to 4.1423) p = 0.2607
RLS	7.0000 (1.4882 to 32.9259) p = 0.0138	4.0533 (1.3325 to 12.3296) p = 0.0137
Probable Painful RLS	3.4839 (0.9868 to 12.2997) p = 0.0525	1.8743 (0.5617 to 6.2539) p = 0.3068
Familial RLS	5.9825 (2.3547 to 15.1990) p = 0.0002	2.8182 (1.1661 to 6.8111) p = 0.0214
ASD	2.0057 (0.8595 to 4.6805) p = 0.1074	n/a
Genetic Conditions	0.3077 (0.0330 to 2.8664)	0.4179 (0.1007 to 1.7333)

	p = 0.3006	p = 0.2293
Externalizing Disorders	n/a	1.1875 (0.5063 to 2.7854) p = 0.6928
ADHD	n/a	1.2847 (0.5531 to 2.9842) p = 0.5601
Internalizing Disorders	1.5918 (0.6816 to 3.7176) p = 0.2827	0.9660 (0.4195 to 2.2244) p = 0.9352
Intellectual Disability	1.5918 (0.2361 to 2.6147) p = 0.6942	0.6476 (0.2355 to 1.7807) p = 0.3999
Neurologic Conditions	0.7412 (0.2446 to 2.2457) p = 0.5964	0.5509 (0.1941 to 1.5640) p = 0.2628
SPD	0.3022 (0.0782 to 1.1678) p = 0.0827	0.6250 (0.1874 to 2.0843) p = 0.4444
SIB	1.3429 (0.3607 to 4.9997) p = 0.6603	1.0968 (0.4299 to 2.7981) p = 0.8467
Iron Deficiency	n/a	n/a
Family History of Iron Deficiency	n/a	n/a
RLS with PLMs (based on clinical description of restlessness)	n/a	5.8333 (1.5416 to 22.0737) p = 0.0094

Table S6a. Number of patients taking various medications across different categories: all patients, patients without ID, patients with ID, patients without a family history of ID, and patients with a family history of ID. .

	All patients N=199	Patients without ID N=11	All patients with ID N=188		
			All patients with ID N=188	No family history of ID N=107	Family history of ID N=81
No medications	32 (16.1%)	2 (18.2%)	30 (16.0%)	15 (14.0%)	15 (18.5%)
Sleep (including melatonin)	69 (34.7%)	4 (36.4%)	65 (34.6%)	34 (31.8%)	31 (38.3%)
Melatonin only	67 (33.7%)	3 (27.3%)	37 (19.7%)	19 (17.8%)	18 (22.2%)
Antihistamines	6 (3.0%)	0 (0%)	6 (3.2%)	4 (3.7%)	2 (2.5%)
Non-stimulants	62 (31.2%)	1 (9.1%)	61 (32.4%)	35 (32.7)	26 (32.1%)
Stimulants	52 (26.1%)	4 (36.4%)	48 (25.5%)	25 (23.4%)	23 (28.4%)
Antipsychotics	42 (21.1%)	2 (18.2%)	40 (21.3%)	24 (22.4%)	16 (19.8%)
Antidepressants (including Trazodone)	79 (39.7%)	5 (45.5%)	74 (39.4%)	45 (42.1%)	29 (35.8%)
Benzodiazepines	11 (5.5%)	2 (18.2%)	9 (4.8%)	4 (3.7%)	5 (6.2%)
All antiseizure medications	32 (16.1%)	1 (9.1%)	31 (16.5%)	19 (17.8%)	12 (14.8%)
Gabapentin/Carbamazepine/ Pregabalin	27 (13.6%)	0 (0%)	27 (14.4%)	17 (15.9%)	10 (12.3%)
Diabetes/thyroid/growth hormone	7 (3.5%)	0 (0%)	7 (3.7%)	5 (4.7%)	2 (2.5%)
Iron (alone or in combination with other medications)	27 (13.6%)	4 (36.4%)	23 (12.2%)	14 (13.1%)	9 (11.1%)
Iron & proton pump inhibitors	6 (3.0%)	1 (9.1%)	5 (2.7%)	3 (2.8%)	2 (2.5%)
Others/ Antihistamines/ Iron/ proton pump inhibitors- all others have been excluded from this group	15 (7.5%)	0 (0%)	15 (8.0%)	10 (9.3%)	5 (6.2%)

Table S6b. Number of patients taking melatonin in combination with various medications across different categories: all patients, patients without ID, patients with ID, patients without a family history of ID, and patients with a family history of ID. .

	All patients N=199	Patients without ID N=11	All patients with ID N=188		
			All patients with ID N=188	No family history of ID N=107	Family history of ID N=81
No melatonin	132 (66.3%)	8 (72.7%)	124 (66.0%)	74 (69.2%)	50 (61.7%)
Melatonin & sleep	67 (33.7%)	3 (27.3%)	64 (34.0%)	33 (30.8%)	31 (38.3%)
Melatonin & antihistamines	2 (1.0%)	0 (0%)	2 (1.1%)	1 (0.9%)	1 (1.2%)
Melatonin & non-stimulants	28 (14.1%)	0 (0%)	28 (14.9%)	15 (14.0%)	13 (16.0%)
Melatonin & stimulants	21 (10.6%)	2 (18.2%)	19 (10.1%)	10 (9.3%)	9 (11.1%)
Melatonin & antipsychotics	17 (8.5%)	0 (0%)	17 (9.0%)	9 (8.4%)	8 (9.9%)
Melatonin & antidepressants	34 (17.1%)	2 (18.2%)	32 (17.0%)	20 (18.7%)	12 (14.8%)
Melatonin & benzodiazepines	2 (1.0%)	0 (0%)	2 (1.1%)	1 (0.9%)	1 (1.2%)
Melatonin & antiseizure	9 (4.5%)	0 (0%)	9 (4.8%)	3 (2.8%)	6 (7.4%)
Melatonin & lithium/ anti inflammatory/ antiviral therapy	28 (14.1%)	2 (18.2%)	26 (13.8%)	16 (15.0%)	10 (12.3%)
Melatonin & diabetes/thyroid/growth hormone	2 (1.0%)	0 (0%)	2 (1.1%)	1 (0.9%)	1 (1.2%)
Melatonin & iron	9 (4.5%)	2 (18.2%)	7 (3.7%)	3 (2.8%)	4 (4.9%)
Iron (alone or in combination with other medications)	27 (13.6%)	4 (36.4%)	23 (12.2%)	14 (13.1%)	9 (11.1%)

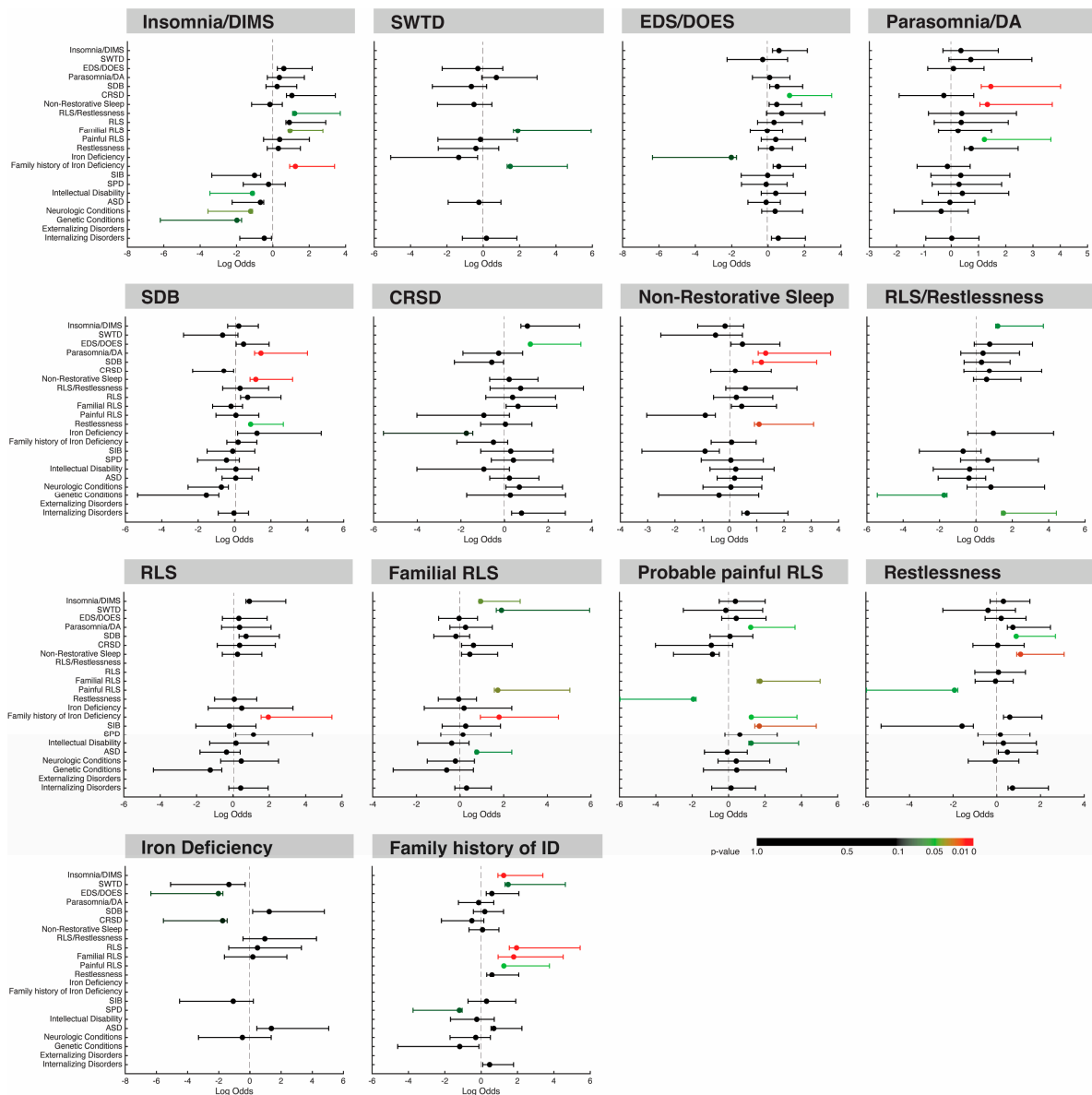


Figure S1. Visual representation of the log(odds ratio) in the subgroup analysis of ADHD. Error bars represent the 95% confidence intervals. Heat maps representing p -values were used to optimize readability. CRSD: circadian rhythm sleep disorders; DA: disorders of arousal; EDS/DOES: excessive daytime sleepiness/disorders of excessive somnolence; RLS: restless legs syndrome; SDB: sleep disordered breathing; SIB: self-injurious behaviours; SPD: sensory processing disorder; SWTD: sleep wake transition disorders.

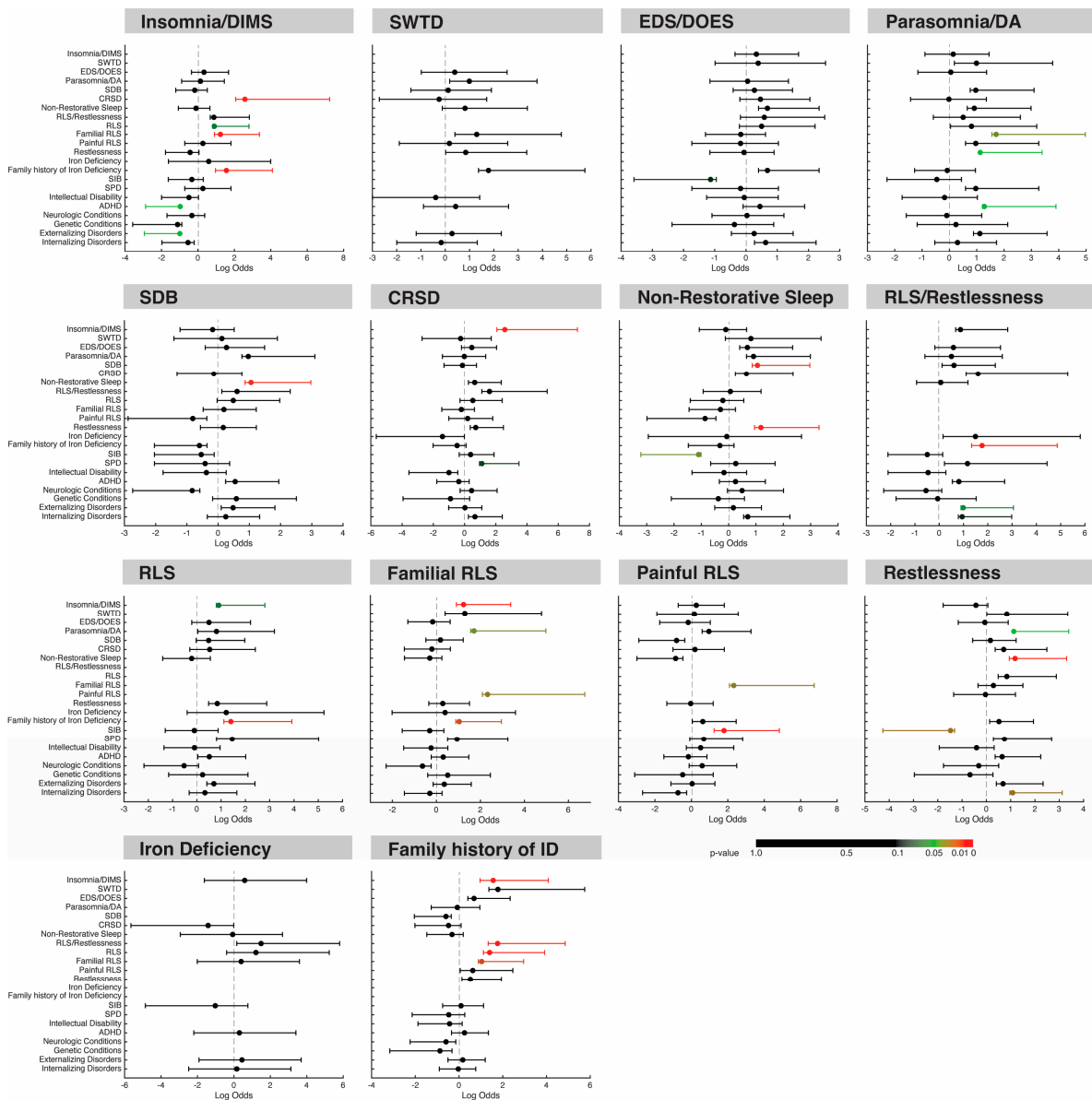


Figure S2. Visual representation of the log(odds ratio) in the subgroup analysis of ASD. Error bars represent the 95% confidence intervals. Heat maps representing p-values were used to optimize readability. CRSD: circadian rhythm sleep disorders; DA: disorders of arousal; EDS/DOES: excessive daytime sleepiness/disorders of excessive somnolence; RLS: restless legs syndrome; SDB: sleep disordered breathing; SIB: self-injurious behaviours; SPD: sensory processing disorder; SWTD: sleep wake transition disorders.

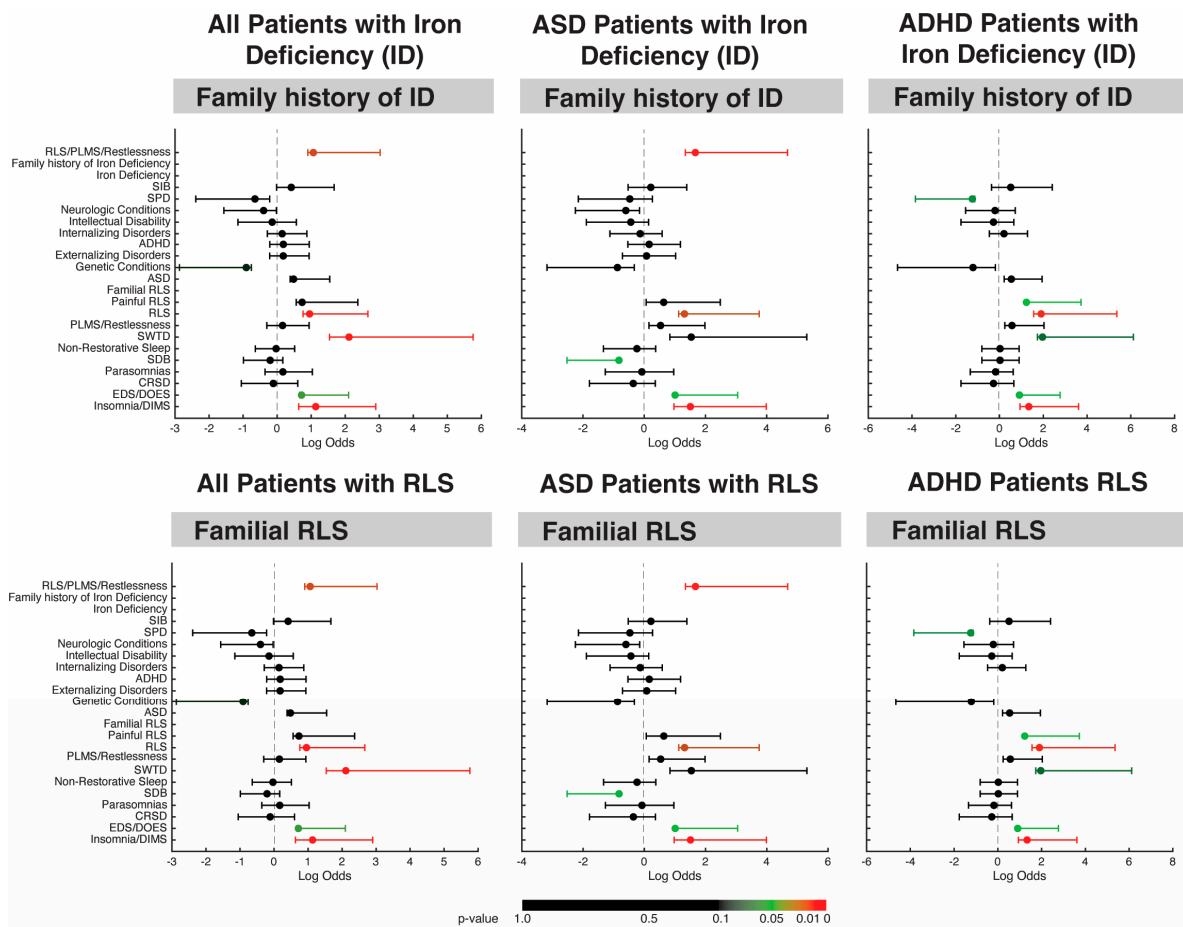


Figure S3. Visual representation of the log(odds ratio) based on family history of ID and familial RLS. Error bars represent the 95% confidence intervals. Heat maps representing p -values were used to optimize readability. CRSD: circadian rhythm sleep disorders; DA: disorders of arousal; EDS/DOES: excessive daytime sleepiness/disorders of excessive somnolence; RLS: restless legs syndrome; SDB: sleep disordered breathing; SIB: self-injurious behaviours; SPD: sensory processing disorder; SWTD: sleep wake transition disorders.