MS* REGISTER DATATHON

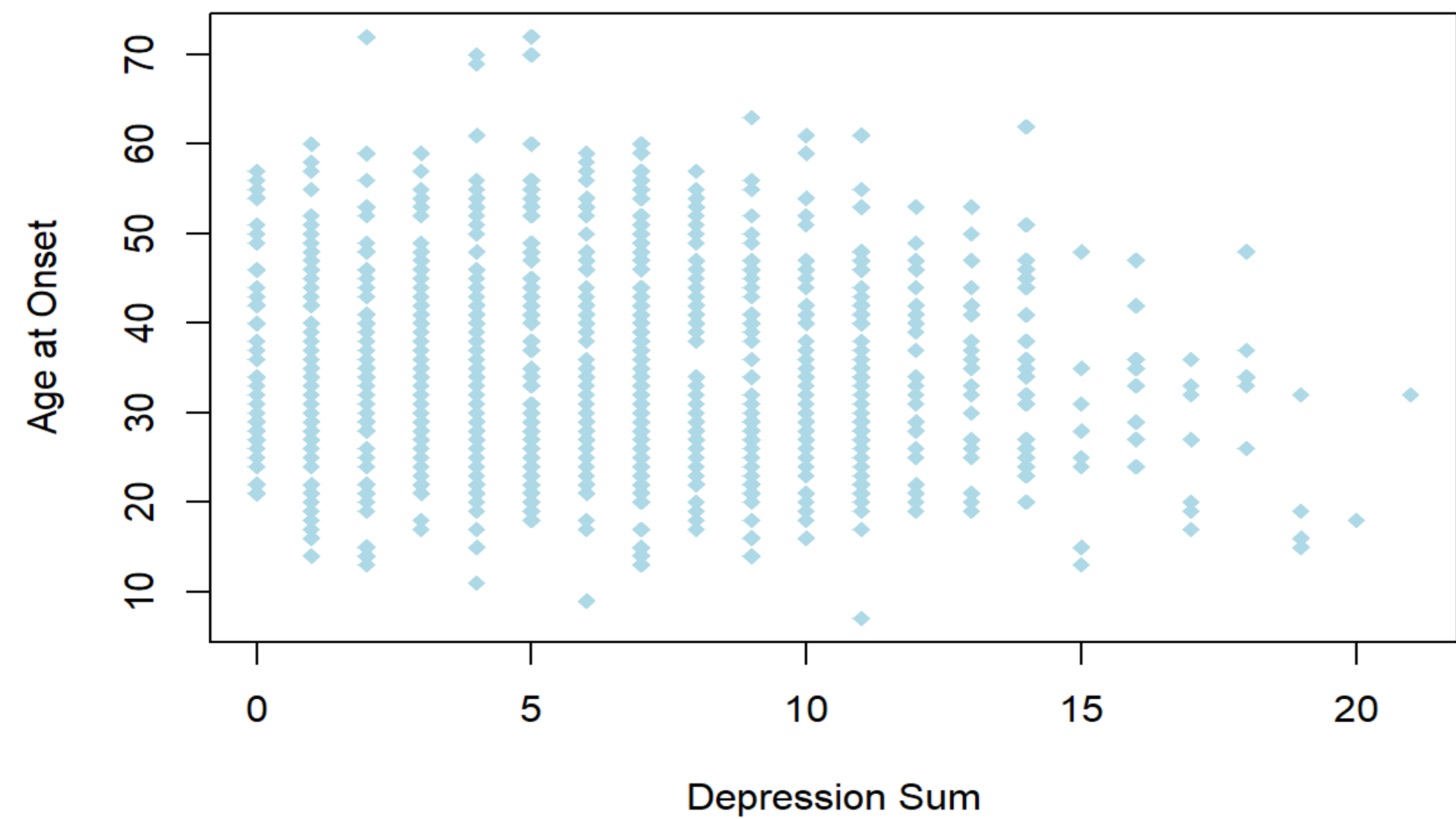# Exploring the relationship between early MS symptoms and psychological symptoms.

Introduction

- A significant incidence and prevalence of psychological symptoms have been reported in patients with early-onset MS symptoms.
- Depression and Anxiety are common psychological symptoms in MS even before diagnosis.
- These two symptoms have a remarkable frequency in MS and could influence the progression of MS.

Methodology

- A longitudinal cohort was selected from the UKMSR that includes the population's demographics and symptoms.
- Anxiety and depression were measured using the Hospital Anxiety and Depression Scale (HADS). HADS total score ranges from 0 – 21 and stratified into 'Normal' (0-8), 'Borderline' (8-13), and 'Abnormal' (14-21).
- Statistical analysis was performed using R. The sample and summarised data were described using descriptive statistics (mean and standard deviation).

Depression levels and Onset Age

Results

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--------Summary descriptives table by 'Depression_category'---------
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	Normal N=798	Borderline N=234	Abnormal N=187	p.overall	p.trend
Vision:				0.893	0.785
0	500 (62.7%)	145 (62.0%)	120 (64.2%)		
1	298 (37.3%)	89 (38.0%)	67 (35.8%)		
Coordination:				0.043	0.012
0	587 (73.6%)	163 (69.7%)	121 (64.7%)		
1	211 (26.4%)	71 (30.3%)	66 (35.3%)		
Cognitive:				0.057	0.051
0	731 (91.6%)	203 (86.8%)	165 (88.2%)		
1	67 (8.40%)	31 (13.2%)	22 (11.8%)		
Motor:				0.256	0.099
0	489 (61.3%)	136 (58.1%)	103 (55.1%)		
1	309 (38.7%)	98 (41.9%)	84 (44.9%)		
BladderBowel:				0.140	0.047
0	658 (82.5%)	186 (79.5%)	143 (76.5%)		
1	140 (17.5%)	48 (20.5%)	44 (23.5%)		
Encephalopathy:				0.182	0.179
0	796 (99.7%)	234 (100%)	185 (98.9%)		
1	2 (0.25%)	0 (0.00%)	2 (1.07%)		
Fatigue:				0.817	0.935
0	538 (67.4%)	153 (65.4%)	127 (67.9%)		
1	260 (32.6%)	81 (34.6%)	60 (32.1%)		
Sensory:				0.317	0.909
0	292 (36.6%)	96 (41.0%)	64 (34.2%)		
1	506 (63.4%)	138 (59.0%)	123 (65.8%)		
Other:				0.767	0.510
0	763 (95.6%)	224 (95.7%)	181 (96.8%)		
1	35 (4.39%)	10 (4.27%)	6 (3.21%)		
OnsetAge	36.2 (10.9)	35.8 (10.5)	32.7 (10.7)	0.001	0.001
TimeSinceDiagnosis	15.2 (8.94)	17.1 (9.47)	17.8 (9.99)	0.001	<0.001

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--------Summary descriptives table by 'Anxiety_category'---------
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	Normal N=667	Borderline N=260	Abnormal N=293	p.overall	p.trend
Vision:				0.017	0.020
0	430 (64.5%)	171 (65.8%)	163 (55.6%)		
1	237 (35.5%)	89 (34.2%)	130 (44.4%)		
Coordination:				0.025	0.009
0	499 (74.8%)	178 (68.5%)	197 (67.2%)		
1	168 (25.2%)	82 (31.5%)	96 (32.8%)		
Cognitive:				0.002	0.001
0	616 (92.4%)	236 (90.8%)	249 (85.0%)		
1	51 (7.65%)	24 (9.23%)	44 (15.0%)		
Motor:				0.641	0.369
0	406 (60.9%)	152 (58.5%)	170 (58.0%)		
1	261 (39.1%)	108 (41.5%)	123 (42.0%)		
BladderBowel:				0.415	0.189
0	551 (82.6%)	209 (80.4%)	232 (79.2%)		
1	116 (17.4%)	51 (19.6%)	61 (20.8%)		
Encephalopathy:				0.246	0.181
0	666 (99.9%)	259 (99.6%)	291 (99.3%)		
1	1 (0.15%)	1 (0.38%)	2 (0.68%)		
Fatigue:				0.047	0.013
0	468 (70.2%)	173 (66.5%)	182 (62.1%)		
1	199 (29.8%)	87 (33.5%)	111 (37.9%)		
Sensory:				0.657	0.359
0	257 (38.5%)	96 (36.9%)	104 (35.5%)		
1	410 (61.5%)	164 (63.1%)	189 (64.5%)		
Other:				0.215	0.081
0	632 (94.8%)	249 (95.8%)	285 (97.3%)		
1	35 (5.25%)	11 (4.23%)	8 (2.73%)		
OnsetAge	37.0 (10.9)	35.1 (10.8)	32.7 (10.1)	<0.001	<0.001
TimeSinceDiagnosis	15.6 (8.94)	16.9 (10.1)	16.0 (9.12)	0.170	0.303

Discussion

- Onset Age decreases with higher levels of anxiety and depression. There is a progression from normal to abnormal anxiety and depression levels as the onset age decreases. Additionally, earlier MS onset is associated with higher anxiety/depression severity.
- Furthermore, physical MS symptoms were more prevalent in patients with severe anxiety and depression. Also, longer duration was associated with higher depression and anxiety severity.

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