

表 1 納の運動障害重症度（Osame Motor Disability Score, OMDS）

Grade	Motor disability
0	No walking or running abnormalities
1	Normal gait but runs slowly
2	Abnormal gait (stumbling, stiffness)
3	Unable to run
4	Needs handrail to climb stairs
5	Needs a cane (unilateral support) to walk
6	Needs bilateral support to walk
7	Can walk 5–10 m with bilateral support
8	Can walk 1–5 m with bilateral support
9	Cannot walk, but able to crawl
10	Cannot crawl, but able to move using arms
11	Cannot move around, but able to turn over in bed
12	Cannot turn over in bed
13	Cannot even move toes

表2 分析対象 HAM 患者の属性・特徴

Characteristic	All (n = 538)	OMDS 0–4 (n = 144)	OMDS 5 (n = 178)	OMDS 6 (n = 96)	OMDS 7– 13 (n = 120)
Age at interview (years), mean (SD)	62.0 (10.8)	58.3 (11.4)	61.4 (10.7)	65.8 (9.4)	64.4 (9.8)
Age at disease onset (years), mean (SD)	45.4 (14.8)	47.6 (14.1)	46 (14.6)	46.2 (14.6)	41.3 (15.3)
Disease duration (years), mean (SD)	16.5 (11.6)	10.6 (8.8)	15.4 (10.8)	19.6 (11.2)	23 (12.0)
Female sex, n (%)	402 (74.7)	96 (66.7)	139 (78.1)	71 (74.0)	96 (80.0)
OMDS, median (IQR)	5 (4–6)	4 (3–4)	5	6	9 (8–10)
OMDS 0–4, n (%)	144 (26.8)	-	-	-	-
OMDS 5, n (%)	178 (33.1)	-	-	-	-
OMDS 6, n (%)	96 (17.8)	-	-	-	-
OMDS 7–13, n (%)	120 (22.3)	-	-	-	-
Leg pain					
Absent, n (%)	308 (57.2)	92 (63.9)	107 (60.1)	52 (54.2)	57 (47.5)
Occasional, n (%)	111 (20.6)	31 (21.5)	30 (16.9)	22 (22.9)	28 (23.3)
Persistent, n (%)	119 (22.1)	21 (14.6)	41 (23.0)	22 (22.9)	35 (29.2)
Leg numbness					
Absent, n (%)	177 (32.9)	46 (31.9)	72 (40.4)	30 (31.3)	29 (24.2)
Occasional, n (%)	106 (19.7)	39 (27.1)	30 (16.9)	12 (12.5)	25 (20.8)
Persistent, n (%)	255 (47.4)	59 (41.0)	76 (42.7)	54 (56.3)	66 (55.0)
HAM-BDSG					
Grade 0, n (%)	42 (7.9)	23 (16.0)	16 (9.0)	2 (2.1)	1 (0.9)
Grade I, n (%)	347 (65.5)	103 (71.5)	121 (68.4)	69 (71.9)	54 (47.8)
Grade II, n (%)	125 (23.6)	18 (12.5)	38 (21.5)	22 (22.9)	47 (41.6)
Grade III, n (%)	16 (3.0)	0 (0)	2 (1.1)	3 (3.1)	11 (9.7)
Constipation, n (%)	419 (77.9)	101 (70.1)	135 (75.8)	75 (78.1)	108 (90.0)
Oral laxatives, n (%)	355 (66.0)	90 (62.5)	117 (65.7)	65 (67.7)	83 (69.2)
Manual extraction or enemas, n (%)	50 (9.3)	4 (2.8)	12 (6.7)	9 (9.4)	25 (20.8)
Corticosteroid treatment, n (%)	231 (42.9)	55 (38.2)	87 (48.9)	46 (47.9)	43 (35.8)

HAM-BDSG, HAM-bladder dysfunction severity grade; OMDS, Osame Motor Disability Score.

表 3 SF-6D と HAM の主な症状との関連

Variable	β	95% CI	<i>P</i> value
Intercept	0.673	0.642, 0.705	<0.001
Age (years)			
20–39	–0.003	–0.043, 0.037	0.889
40–49	0.008	–0.018, 0.034	0.535
50–59 (reference)	Ref		
60–69	0.015	–0.002, 0.032	0.089
70+	0.015	–0.004, 0.034	0.125
Sex			
Male (vs. female)	–0.002	–0.018, 0.014	0.826
OMDS (reference: OMDS 0–4)			
5	–0.050	–0.068, –0.032	<0.001
6	–0.057	–0.078, –0.035	<0.001
7–13	–0.060	–0.081, –0.038	<0.001
Leg pain (reference: absent)			
Occasional	–0.029	–0.046, –0.011	0.002
Persistent	–0.061	–0.079, –0.042	<0.001
Leg numbness (reference: absent)			
Occasional	–0.012	–0.031, 0.008	0.241
Persistent	–0.029	–0.046, –0.012	0.001
HAM-BDSG (reference: Grade 0)			
Grade I	–0.028	–0.054, –0.001	0.039
Grade II	–0.037	–0.067, –0.007	0.015
Grade III	–0.036	–0.085, 0.013	0.150
Constipation (reference: absent)			
Present, controlled with or without oral laxatives	–0.018	–0.035, –0.001	0.042
Present, needs manual extraction or enemas	–0.010	–0.039, 0.019	0.513

β coefficients (β) and 95% confidential intervals (95% CIs) were calculated using a general linear model to estimate the association between the SF-6D and HAM-related symptoms. Statistically significant coefficients ($p < 0.05$) are shown in bold.

HAM-BDSG, HAM-bladder dysfunction severity grade; OMDS, Osame Motor Disability Score.

1 表 4 SF-36 と HAM の主な症状との関連

Variable	PF			RP			BP			GH		
	β	95% CI	P value	β	95% CI	P value	β	95% CI	P value	β	95% CI	P value
Intercept	41.8	38, 45.6	<0.001	51.2	45.7, 56.7	<0.001	51.0	46.6, 55.3	<0.001	53.6	49.6, 57.6	<0.001
Age (years)												
20–39	1.2	–3.6, 6	0.623	–2.6	–9.7, 4.4	0.467	2.2	–3.4, 7.8	0.445	–3.1	–8.2, 2	0.229
40–49	1.2	–1.9, 4.2	0.465	–1.5	–6, 3.1	0.528	1.6	–2, 5.2	0.391	–1.7	–5, 1.6	0.309
50–59 (reference)	Ref			ref			Ref			Ref		
60–69	1.4	–0.7, 3.4	0.200	1.0	–2, 4	0.512	0.0	–2.4, 2.5	0.974	0.0	–2.2, 2.2	0.993
70+	0.0	–2.3, 2.3	0.996	3.0	–0.3, 6.4	0.078	0.0	–2.6, 2.7	0.979	0.6	–1.8, 3.1	0.613
Sex												
Male (vs. female)	–0.4	–2.3, 1.5	0.668	1.5	–1.2, 4.3	0.272	2.9	0.7, 5.1	0.009	–1.4	–3.4, 0.6	0.177
OMDS (reference: OMDS 0–4)												
5	–15.8	–18, –13.7	<0.001	–4.9	–8, –1.8	0.002	–1.9	–4.4, 0.5	0.123	–3.7	–5.9, –1.4	0.002
6	–25.0	–27.5, –22.4	<0.001	–3.7	–7.5, 0	0.050	–1.4	–4.4, 1.6	0.357	–3.4	–6.1, –0.7	0.013
7–13	–28.9	–31.4, –26.4	<0.001	–5.5	–9.2, –1.8	0.004	–3.5	–6.4, –0.5	0.020	–4.9	–7.6, –2.2	<0.001
Leg pain (reference: absent)												
Occasional	–1.9	–4, 0.2	0.076	–1.0	–4.1, 2.1	0.541	–9.9	–12.3, –7.4	<0.001	–1.5	–3.8, 0.7	0.187
Persistent	–2.9	–5.2, –0.7	0.010	–3.6	–6.9, –0.3	0.032	–16.1	–18.7, –13.5	<0.001	–1.2	–3.6, 1.2	0.335
Leg numbness (reference: absent)												
Occasional	–0.9	–3.3, 1.4	0.425	–0.5	–3.9, 2.9	0.767	–0.9	–3.7, 1.8	0.497	–2.7	–5.2, –0.2	0.032
Persistent	–0.4	–2.4, 1.6	0.669	–3.5	–6.4, –0.5	0.021	–2.0	–4.3, 0.4	0.103	–2.6	–4.7, –0.5	0.017
HAM-BDSG (reference: Grade 0)												
Grade I	–3.7	–6.9, –0.6	0.021	–1.5	–6.1, 3.1	0.525	0.5	–3.2, 4.2	0.801	–2.6	–6, 0.8	0.132
Grade II	–5.1	–8.7, –1.6	0.005	–0.5	–5.7, 4.8	0.859	0.9	–3.3, 5.1	0.669	–6.2	–10.1, –2.4	0.001
Grade III	–5.2	–11, 0.6	0.080	–0.2	–8.8, 8.3	0.959	2.9	–3.9, 9.7	0.399	–0.3	–6.5, 5.9	0.919
Constipation (reference: absent)												
Present, controlled with or without oral laxatives	–2.5	–4.5, –0.5	0.017	–1.6	–4.6, 1.4	0.305	–2.0	–4.4, 0.4	0.102	–1.9	–4.1, 0.3	0.084
Present, needs manual extraction or enemas	–2.9	–6.4, 0.5	0.097	–0.4	–5.4, 4.7	0.889	–1.9	–5.9, 2.1	0.346	–1.1	–4.7, 2.6	0.573

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3 表 4 のつづき

Variable	VT			SF			RE			MH		
	β	95% CI	<i>P</i> value	β	95% CI	<i>P</i> value	β	95% CI	<i>P</i> value	β	95% CI	<i>P</i> value
Intercept	56.3	52.3, 60.3	<0.001	53.5	48.6, 58.4	<0.001	53.1	48.4, 57.8	<0.001	58.9	54.9, 62.9	<0.001
Age (years)												
20–39	–2.1	–7.2, 3	0.417	–1.8	–8, 4.4	0.574	1.2	–4.8, 7.2	0.700	–1.7	–6.8, 3.4	0.514
40–49	–1.8	–5.1, 1.5	0.276	–0.4	–4.4, 3.7	0.863	2.2	–1.6, 6.1	0.258	–0.7	–4, 2.6	0.664
50–59 (reference)	Ref			Ref			Ref			Ref		
60–69	–0.9	–3.1, 1.3	0.420	1.9	–0.8, 4.5	0.169	0.1	–2.5, 2.7	0.930	–1.6	–3.8, 0.6	0.161
70+	–0.9	–3.3, 1.5	0.461	4.8	1.8, 7.8	0.002	1.4	–1.5, 4.2	0.346	–1.0	–3.5, 1.4	0.420
Sex												
Male (vs. female)	–0.6	–2.6, 1.4	0.536	–1.7	–4.2, 0.7	0.167	0.7	–1.7, 3	0.573	–0.5	–2.6, 1.5	0.596
OMDS (reference: OMDS 0–4)												
5	–1.8	–4.1, 0.4	0.115	–4.3	–7.1, –1.6	0.002	–2.3	–5, 0.3	0.087	–0.7	–3, 1.6	0.542
6	2.2	–0.5, 4.9	0.107	–4.9	–8.2, –1.6	0.004	–1.7	–4.9, 1.4	0.283	0.7	–2.1, 3.4	0.635
7–13	–4.0	–6.6, –1.3	0.004	–1.4	–4.7, 1.9	0.404	–0.5	–3.7, 2.6	0.749	–2.7	–5.4, 0	0.050
Leg pain (reference: absent)												
Occasional	–2.3	–4.5, –0.1	0.043	1.2	–1.6, 3.9	0.398	–0.7	–3.3, 2	0.618	–1.9	–4.1, 0.4	0.104
Persistent	–4.4	–6.8, –2	<0.001	–2.1	–5, 0.7	0.146	–3.8	–6.6, –1	0.007	–5.0	–7.4, –2.6	<0.001
Leg numbness (reference: absent)												
Occasional	–1.2	–3.7, 1.3	0.348	–1.8	–4.8, 1.2	0.243	–0.8	–3.7, 2.1	0.596	–0.8	–3.3, 1.7	0.553
Persistent	–2.7	–4.8, –0.5	0.014	–2.9	–5.5, –0.3	0.030	–1.9	–4.4, 0.7	0.147	–2.8	–4.9, –0.6	0.011
HAM-BDSG (reference: Grade 0)												
Grade I	–3.4	–6.8, –0.1	0.045	–2.4	–6.5, 1.7	0.255	–2.1	–6.1, 1.8	0.288	–2.5	–5.9, 0.8	0.141
Grade II	–5.7	–9.5, –1.9	0.003	–4.0	–8.6, 0.7	0.093	–2.7	–7.1, 1.8	0.242	–4.7	–8.5, –0.9	0.016
Grade III	–3.3	–9.5, 2.9	0.292	–3.1	–10.6, 4.4	0.420	0.5	–6.8, 7.7	0.902	–1.8	–8, 4.4	0.575
Constipation (reference: absent)												
Present, controlled with or without oral laxatives	–1.7	–3.8, 0.5	0.135	–1.3	–3.9, 1.4	0.353	–0.4	–3, 2.1	0.756	–2.0	–4.2, 0.2	0.071
Present, needs manual extraction or enemas	–0.9	–4.6, 2.7	0.617	–0.4	–4.9, 4.1	0.861	0.4	–3.9, 4.7	0.860	–0.3	–4, 3.4	0.860

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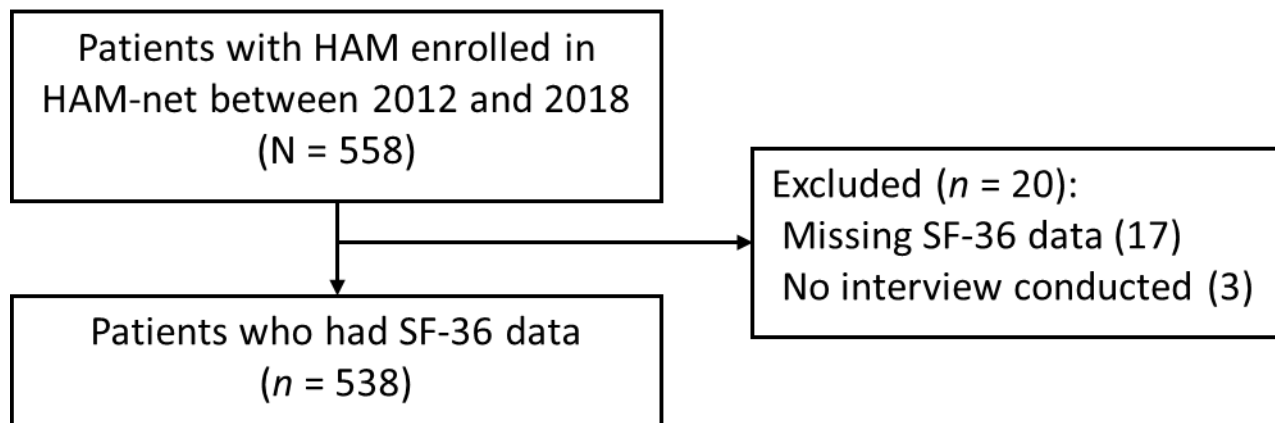
5 β coefficients (β) and 95% confidential intervals (95% CIs) were calculated using a general linear model to estimate the association between
6 SF-36 subscales and HAM-related symptoms. Bold values represent *p*-values of less than 0.05.

7 Abbreviations of the SF-36 subscales: BP, bodily pain; GH, general health perception; MH, mental health; PF, physical functioning; RE,
8 role emotional; RP, role physical; SF, social functioning; VT, vitality.

9 HAM-BDSG, HAM-bladder dysfunction severity grade; OMDS, Osame Motor Disability Score.

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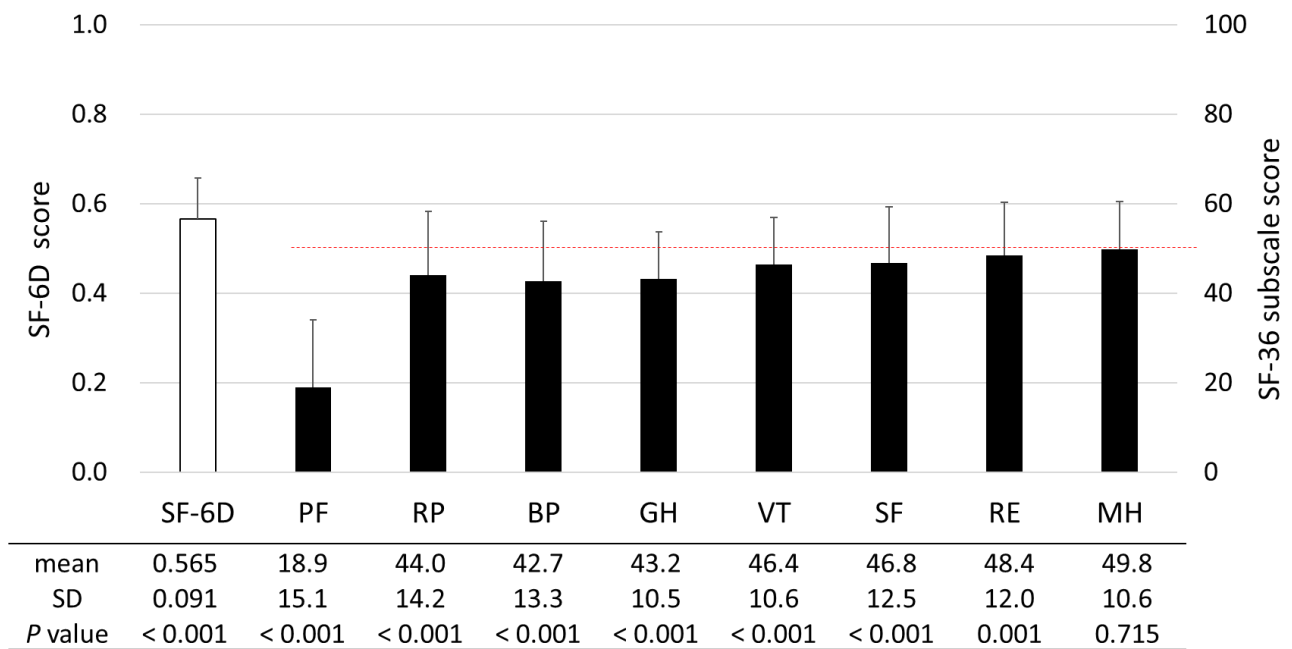
11 図1 分析対象 HAM 患者決定フロー



12 HAM, HTLV-1-associated myelopathy.

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14 図2 分析対象 HAM 患者における SF-6D スコアと SF-36 下位尺度スコア

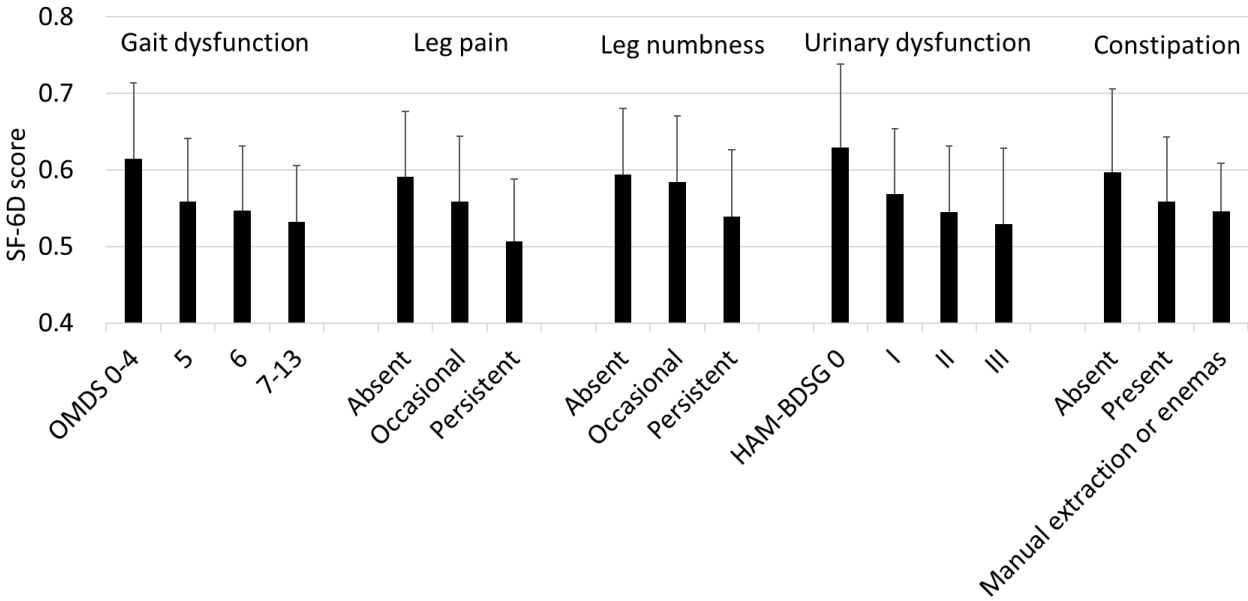


15 The means and standard deviations (SDs) of the SF-6D and SF-36 subscale scores are presented (n =
16 538). The dashed line (50 points) represents the mean SF-36 subscale score among the general
17 Japanese population. The unpaired t-test was used to compare the SF-6D score of patients with HAM
18 to the national population norm reported by Shiroywa et al (mean [SD] score in the 60-69 years age:
19 0.674 [0.128]) (23). The SF-36 subscale scores were compared with the national standard of 50 using
20 the one-sample t-test.

21 Abbreviations of SF-36 subscales: BP, bodily pain; GH, general health perception; MH, mental
22 health; PF, physical functioning; RE, role emotional; RP, role physical; SF, social functioning; VT,
23 vitality.

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25 図3 分析対象 HAM 患者における HAM の主な症状の重症度別 SF-6D スコア

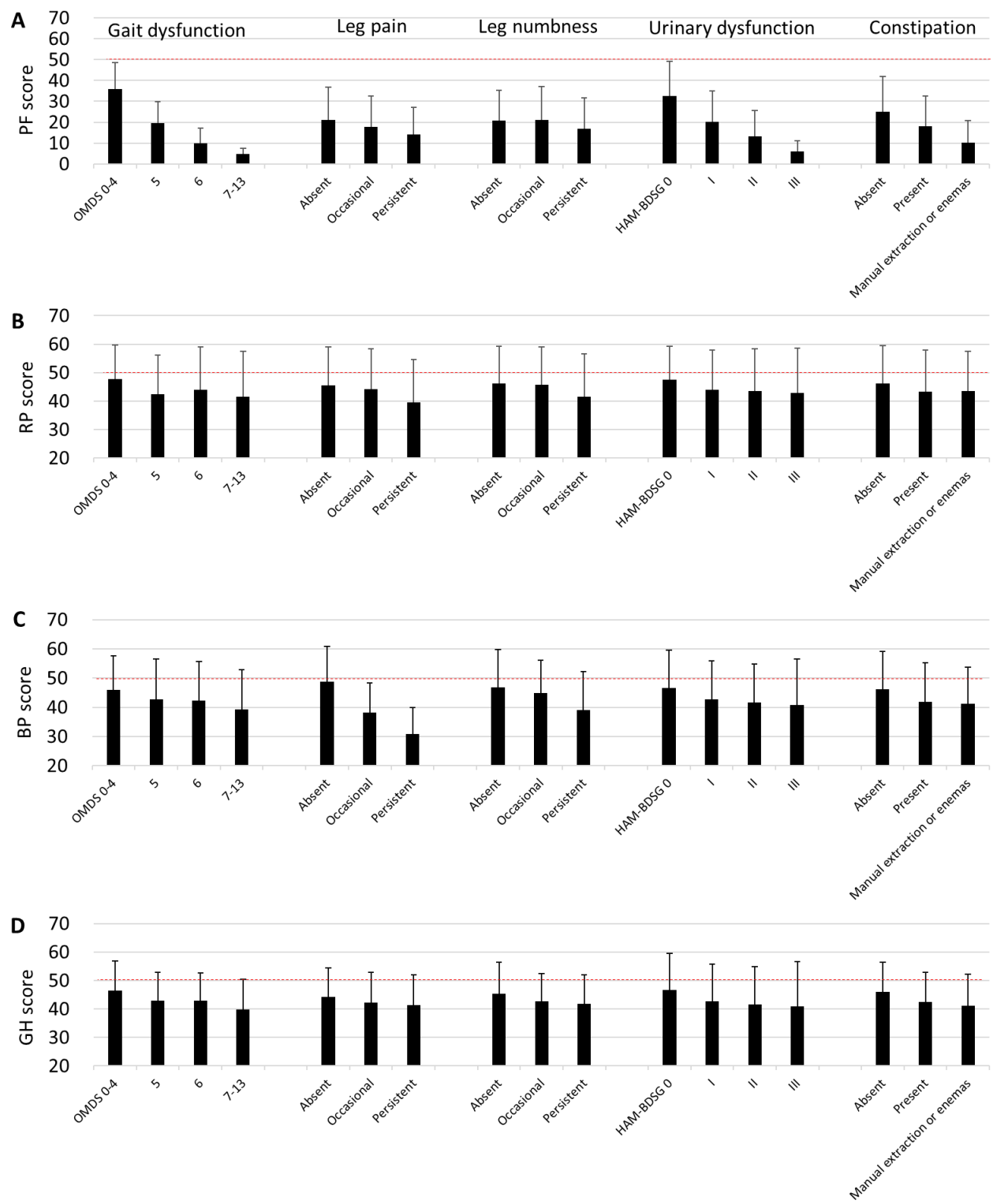


26 The SF-6D score is expressed as mean and standard deviation (n = 538).

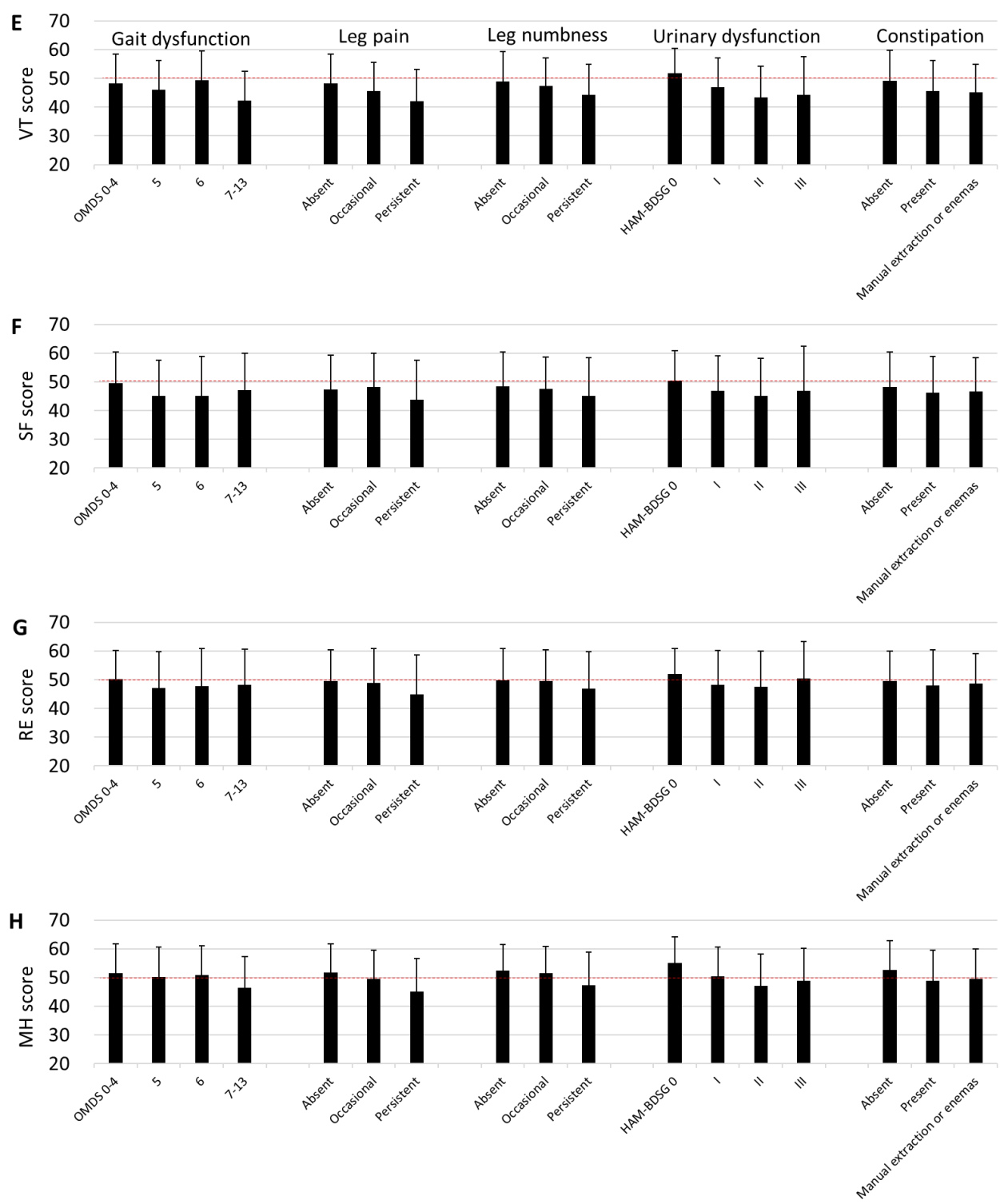
27 HAM-BDSG, HAM-bladder dysfunction severity grade; OMDS, Osame Motor Disability Score.

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29 図4 分析対象 HAM 患者における HAM の主な症状の重症度別 SF-6D スコア



31 図 4 のつづき



32 The SF-36 subscale scores are expressed as means and standard deviations (n = 538). The dashed
33 lines (50 points) indicate the mean score of the SF-36 subscales among the general Japanese
34 population.

35 (A) Physical functioning (PF), (B) role physical (RP), (C) bodily pain (BP), (D) general health
36 perception (GH), (E) vitality (VT), (F) social functioning (SF), (G) role emotional (RE), (H) mental
37 health (MH).

38 HAM-BDSG, HAM-bladder dysfunction severity grade; OMDS, Osame Motor Disability Score.

39