

Additional file 4: Mixed linear regression models with all coefficients

Table S1 Mixed linear regression model for dimension *positive affect* as dependent variable, the severity of agitation and the matching variables as fixed factors and care units nested in nursing homes as random factor

Independent Variables (fixed effects)	Coefficients	95% CI	SE	t	p
(Intercept)	9.81	7.06, 12.59	1.42	6.90	<0.001
Severe Agitation (yes)	-1.68	-2.28, -1.09	0.31	-5.51	<0.001
Age	0.01	-0.03, 0.04	0.02	0.29	0.775
Sex (female)	-0.32	-0.94, 0.29	0.31	-1.04	0.301
Visits (no)	-0.53	-1.68, 0.62	0.59	-0.90	0.371
DSS score	-0.14	-0.24, -0.04	0.05	-2.80	0.005
Duration of stay	0.01	<-0.01, 0.01	0.01	1.20	0.232
NPI-Q Delusions (no)	0.12	-0.46, 0.71	0.30	0.41	0.683
NPI-Q Anxiety (no)	-0.21	-0.80, 0.38	0.30	-0.69	0.492
NPI-Q Aberrant Motor (no)	-0.66	-1.31, -0.03	0.33	-2.03	0.043
NPI-Q Hallucinations (no)	0.43	-0.24, 1.10	0.34	1.26	0.208

Random effects: Care unit (intercept): Variance = 0.59; SD = 0.77; .sig01 = 0.00, 1.46;

Nursing home (intercept): Variance = 0.56; SD = 0.75; .sig02 = 0.00, 1.29;

Residual: Variance = 6.18; SD = 2.49; .sigma = 2.25, 2.68;

Number of obs.: 369, Care units: 115; Nursing homes: 64

Table S2 Mixed linear regression model for dimension *negative affect* as dependent variable, the severity of agitation and the matching variables as fixed factors and care units nested in nursing homes as random factor

Independent Variables (fixed effects)	Coefficients	95% CI	SE	t	p
(Intercept)	2.78	1.27, 4.29	0.78	3.58	<0.001
Severe Agitation (yes)	-0.30	-0.63, 0.03	0.17	-1.78	0.075
Age	0.02	<0.01, 0.04	0.01	2.01	0.045
Sex (female)	-0.86	-1.19, -0.53	0.17	-5.08	<0.001
Visits (no)	0.44	-0.20, 1.07	0.33	1.34	0.182
DSS score	-0.03	-0.09, 0.02	0.03	-1.21	0.227
Duration of stay	<-0.01	-0.01, <0.01	<0.01	-0.60	0.549
NPI-Q Delusions (no)	0.12	-0.20, 0.44	0.17	0.71	0.478
NPI-Q Anxiety (no)	1.23	0.91, 1.55	0.16	7.49	<0.001
NPI-Q Aberrant Motor (no)	-0.10	-0.45, 0.24	0.18	-0.58	0.562
NPI-Q Hallucinations (no)	0.35	-0.01, 0.72	0.19	1.88	0.062

Random effects: Care unit (intercept): Variance = 0.08; SD = 0.27; .sig01 = 0.00, 0.68;

Nursing home (intercept): Variance = 0.43; SD = 0.66; .sig02 = 0.27, 0.91;

Residual: Variance = 1.80; SD = 1.34; .sigma = 1.22, 1.44;

Number of obs.: 369, Care units: 115; Nursing homes: 64

Table S3 Mixed linear regression model for dimension *restless tense behaviour* as dependent variable, the severity of agitation and the matching variables as fixed factors and care units nested in nursing homes as random factor

Independent Variables (fixed effects)	Coefficients	95% CI	SE	t	p
(Intercept)	2.33	-0.04, 4.72	1.22	1.91	0.057
Severe Agitation (yes)	-1.52	-2.04, -1.00	0.27	-5.72	<0.001
Age	0.02	-0.01, 0.05	0.01	1.31	0.191
Sex (female)	0.58	0.06, 1.11	0.27	2.18	0.030
Visits (no)	0.22	-0.76, 1.20	0.50	0.43	0.670
DSS score	-0.13	-0.22, -0.05	0.04	-3.10	0.002
Duration of stay	<0.01	<-0.01, 0.01	<0.01	0.97	0.331
NPI-Q Delusions (no)	0.10	-0.40, 0.60	0.26	0.40	0.692

Independent Variables (fixed effects)	Coefficients	95% CI	SE	t	p
NPI-Q Anxiety (no)	1.11	0.60, 1.62	0.26	4.26	<0.001
NPI-Q Aberrant Motor (no)	1.73	1.19, 2.28	0.28	6.17	<0.001
NPI-Q Hallucinations (no)	0.11	-0.46, 0.69	0.30	0.38	0.704

Random effects: Care unit (intercept): Variance = 1.15; SD = 1.07; .sig01 = 0.58, 1.52;
Nursing home (intercept): Variance = 0.29; SD = 0.54; .sig02 = 0.00, 1.12;
Residual: Variance = 4.31; SD = 2.08; .sigma = 1.88, 2.23;
Number of obs.: 369, Care units: 115; Nursing homes: 64

Table S4 Mixed linear regression model for dimension *social relations* as dependent variable, the severity of agitation and the matching variables as fixed factors and care units nested in nursing homes as random factor

Independent Variables (fixed effects)	Coefficients	95% CI	SE	t	p
(Intercept)	6.57	4.66, 8.50	0.99	6.65	<0.001
Severe Agitation (yes)	-1.12	-1.54, -0.71	0.21	-5.28	<0.001
Age	<0.01	-0.02, 0.03	0.01	0.27	0.790
Sex (female)	0.28	-0.14, 0.70	0.22	1.29	0.197
Visits (no)	-0.49	-1.29, 0.31	0.41	-1.18	0.239
DSS score	0.01	-0.06, 0.07	0.03	0.14	0.890
Duration of stay	0.01	<-0.01, 0.01	<0.01	1.64	0.101
NPI-Q Delusions (no)	-0.06	-0.47, 0.35	0.21	-0.27	0.784
NPI-Q Anxiety (no)	-0.56	-0.97, -0.15	0.21	-2.68	0.008
NPI-Q Aberrant Motor (no)	-0.53	-0.97, -0.09	0.23	-2.34	0.020
NPI-Q Hallucinations (no)	0.59	0.13, 1.05	0.24	2.47	0.014

Random effects: Care unit (intercept): Variance = 0.25; SD = 0.50; .sig01 = 0.00, 0.99;
Nursing home (intercept): Variance = 0.23; SD = 0.48; .sig02 = 0.00, 0.94;
Residual: Variance = 3.02; SD = 1.74; .sigma = 1.57, 1.87;
Number of obs.: 369, Care units: 115; Nursing homes: 64

Table S5 Mixed linear regression model for dimension *social isolation* as dependent variable, the severity of agitation and the matching variables as fixed factors and care units nested in nursing homes as random factor

Independent Variables (fixed effects)	Coefficients	95% CI	SE	t	p
(Intercept)	7.65	5.37, 9.94	1.18	6.50	<0.001
Severe Agitation (yes)	-2.07	-2.57, -1.57	0.25	-8.14	<0.001
Age	-0.02	-0.05, <0.01	0.01	-1.72	0.086
Sex (female)	0.13	-0.37, 0.63	0.26	0.50	0.618
Visits (no)	0.27	-0.67, 1.22	0.49	0.56	0.575
DSS score	-0.05	-0.13, 0.03	0.04	-1.18	0.238
Duration of stay	<0.01	-0.01, 0.01	<0.01	0.24	0.813
NPI-Q Delusions (no)	0.45	-0.04, 0.94	0.25	1.80	0.072
NPI-Q Anxiety (no)	0.69	0.21, 1.18	0.25	2.77	0.006
NPI-Q Aberrant Motor (no)	0.37	-0.15, 0.90	0.27	1.38	0.168
NPI-Q Hallucinations (no)	0.38	-0.17, 0.93	0.29	1.34	0.180

Random effects: Care unit (intercept): Variance = 0.48; SD = 0.70; .sig01 = 0.00, 1.24;
Nursing home (intercept): Variance = 0.50; SD = 0.71; .sig02 = 0.00, 1.15;
Residual: Variance = 4.14; SD = 2.04; .sigma = 1.85, 2.19;
Number of obs.: 369, Care units: 115; Nursing homes: 64