

Supplementary Table 1. The number of patients by anchor categories and corresponding mean change in QOL scores

Anchor	Scale	2 months			4 months			6 months		
		Imp	Stable	Det	Imp	Stable	Det	Imp	Stable	Det
Function										
	N of patients	12	57–59	24–26	13	52–54	21–22	6–7	50–52	14–15
	QL	22.2	-0.3	-5.8	7.7	0.6	-1.9	4.8	5.8	-12.8
	PF	10.0	2.6	-5.6	10.0	2.2	-4.6	1.9	3.5	-9.6
	RF	6.9	0.0	-10.3	1.3	-3.1	-3.0	-2.4	1.3	-18.9
	EF	2.8	11.3	11.2	11.1	9.9	6.8	6.0	10.9	0.2
	CF	1.4	5.6	5.1	5.1	1.9	-0.8	-4.8	4.5	-11.1
	SF	2.8	3.4	5.1	9.0	2.2	0.8	-9.5	4.2	-11.1
	FA	-5.6	-0.9	5.1	-6.8	0.0	8.1	0.0	-6.0	5.9
	NV	-11.1	0.8	3.2	7.7	0.6	-4.5	16.7	-4.6	6.7
	PA	-8.3	-4.2	1.9	-1.3	-4.0	-0.8	0.0	-9.9	-3.3
	DY	-8.3	-3.4	5.1	0.0	-2.5	0.0	0.0	-5.8	11.1
	SL	-16.7	-10.3	-8.0	-10.3	-14.2	1.6	0.0	-7.7	15.6
	AP	-8.3	1.7	7.7	7.7	-0.6	1.5	9.5	-8.3	4.4
	CO	-5.6	3.4	5.1	-2.6	3.1	10.6	4.8	-0.6	6.7
	DI	11.1	5.6	3.8	10.3	5.6	3.2	4.8	5.2	-6.7
	FI	-13.9	0.0	-18.1	-20.5	-7.1	3.0	14.3	-2.7	-9.5
Concern										
	N of patients	21–23	59–62	23	20–21	44–45	18–19	17	52–55	14
	QL	9.1	1.5	-4.0	8.7	0.6	-1.8	14.2	3.0	-6.0
	PF	-1.5	3.0	-0.3	5.1	1.6	-7.0	7.1	3.6	-5.5
	RF	-0.7	-1.1	-2.9	0.0	-1.9	-7.0	19.6	-1.5	-16.7
	EF	10.5	7.3	9.1	13.1	11.7	3.5	19.3	7.7	0.6
	CF	-2.2	3.0	10.9	-2.4	4.8	-3.5	7.8	0.0	1.2
	SF	3.6	2.2	7.2	12.7	2.6	-9.6	6.9	3.1	-10.7

FA	-1.9	-2.7	0.5	-5.8	-0.9	5.8	-15.7	-4.2	1.6
NV	4.3	1.3	-5.1	1.6	2.6	-1.8	-7.8	-3.1	4.8
PA	-5.1	-3.8	-1.4	-7.9	-3.3	7.9	-21.6	-5.8	-2.4
DY	-1.4	-0.5	-4.3	-4.8	-3.7	-3.5	-19.6	1.8	0.0
SL	-13.0	-8.7	-13.6	-9.5	-14.1	0.0	-15.7	-6.8	0.0
AP	-1.4	2.2	0.0	0.0	-1.5	12.3	-7.8	-2.4	-2.4
CO	-5.8	3.8	4.3	-1.7	2.2	5.3	7.8	0.6	2.4
DI	10.1	2.2	5.8	7.9	3.7	17.5	-3.9	7.4	7.1
FI	-3.2	-7.3	-5.8	-14.3	-6.8	-3.5	-5.9	-8.3	-2.4

Global Health

N of patients	22–23	53–57	30–31	20–22	41–42	25–26	18	37–39	25–26
QL	7.6	3.8	-8.1	6.4	3.8	-6.7	13.4	1.3	-4.2
PF	8.0	1.8	-4.1	6.9	-0.4	-1.8	8.1	0.2	1.2
RF	5.1	3.5	-13.4	6.8	-3.2	-8.3	13.0	-6.0	-6.4
EF	6.5	12.1	7.0	17.3	11.2	4.8	13.4	7.9	4.6
CF	1.4	4.1	4.3	-3.0	3.2	3.2	1.9	5.1	-2.6
SF	15.9	5.3	-2.7	2.4	1.6	5.1	11.1	3.8	-7.1
FA	-7.7	-3.5	5.7	-3.3	-2.2	4.7	-9.9	-1.6	-4.3
NV	-5.8	1.5	8.6	0.8	-0.8	3.2	-9.3	-1.3	1.9
PA	-11.6	-3.2	2.7	-8.3	-6.0	5.8	-19.4	-5.1	-7.1
DY	-14.5	-1.2	2.2	0.0	-3.2	-3.8	-5.6	-2.6	0.0
SL	0.0	-12.5	-8.9	-13.6	-6.3	-4.0	-20.4	0.0	-2.7
AP	-10.1	-0.6	17.2	-4.5	0.8	12.8	-5.6	-3.4	5.1
CO	0.0	1.8	4.3	-3.0	4.9	11.5	-3.7	0.9	-2.6
DI	1.4	5.3	6.5	14.3	3.2	5.1	-1.9	2.6	6.4
FI	-15.2	-4.4	-10.8	-6.7	-5.7	-11.5	-14.8	-6.3	-2.6

Change in Performance Status

N of patients	7	103–104	14–17	6	96–98	14–15	7	79–81	20
---------------	---	---------	-------	---	-------	-------	---	-------	----

QL	31.0	1.7	8.8	29.2	3.3	0.0	23.8	4.5	-4.6
PF	12.4	1.2	1.5	-4.4	2.3	-2.7	8.6	3.3	-6.0
RF	-2.4	-1.1	-3.9	-2.8	-0.9	-2.2	11.9	2.7	-11.7
EF	19.0	8.8	15.7	19.4	11.4	15.0	6.0	9.1	3.5
CF	0.0	3.7	2.9	8.3	3.1	0.0	-2.4	2.7	-5.8
SF	11.9	3.2	12.7	8.3	4.6	-1.1	0.0	4.4	-7.5
FA	-9.5	-1.6	0.0	5.6	-3.5	2.2	-11.1	-4.4	-0.6
NV	0.0	3.9	-12.7	8.3	-0.7	0.0	9.5	-3.3	-0.8
PA	-23.8	-5.3	1.0	-2.8	-7.8	2.2	-2.4	-12.3	-5.0
DY	-19.0	-1.0	-5.9	5.6	-6.1	0.0	0.0	-2.1	-5.0
SL	-9.5	-9.2	-13.7	-16.7	-8.5	-11.9	-9.5	-7.5	5.0
AP	-19.0	3.6	-5.9	-5.6	1.7	-8.9	-14.3	-1.2	-3.3
CO	4.8	2.2	2.0	0.0	3.1	23.8	-23.8	0.4	20.0
DI	0.0	6.7	3.9	5.6	5.8	4.4	23.8	4.1	0.0
FI	4.8	-5.5	-4.8	-5.6	-8.0	-4.4	14.3	-6.3	-6.7

Legend for Supplementary Table 1:

Because the number of patients varied by QOL scale and anchor, we present n as a range for all scales and anchors.

Imp, minimally improved; Det, minimally deteriorated; QL, global quality of life; PF, physical function; RF, role function; EF, emotional function; CF, cognitive function; SF, social function; FA, fatigue; NV, nausea and vomiting; PA, pain; DY, dyspnea; SL, insomnia; AP, appetite loss; CO, constipation; DI, diarrhea; FI, financial problems

Supplementary Table 2. Correlation coefficients of absolute, change, and baseline scores with anchors

Months	Anchor	Scale	n	Absolute score				Change score				Baseline score				
				Pe	Sp	Pc	Ps	Pe	Sp	Pc	Ps	Pe	Sp	Pc	Ps	
2	Function															
		QL	130	-0.32	-0.33	-0.38	-0.37	-0.37	-0.39	-0.39	-0.38	0.13	0.08	0.09	0.10	
		PF	129	-0.16	-0.16	-0.19	-0.21	-0.30	-0.40	-0.38	-0.33	0.08	0.13	0.10	0.07	
		RF	129	-0.11	-0.13	-0.17	-0.17	-0.27	-0.25	-0.31	-0.31	0.12	0.06	0.07	0.11	
		SF	130	-0.20	-0.16	-0.26	-0.27	-0.28	-0.24	-0.31	-0.29	0.10	0.02	0.04	0.06	
		FA	129	0.24	0.26	0.30	0.31	0.33	0.30	0.34	0.34	-0.04	0.05	0.02	0.00	
		DY	128	0.11	0.13	0.16	0.15	0.31	0.29	0.35	0.33	-0.17	-0.12	-0.17	-0.16	
		AP	128	0.35	0.33	0.43	0.41	0.34	0.37	0.39	0.37	-0.08	-0.07	-0.08	-0.06	
		Concern														
		QL	131	-0.30	-0.27	-0.32	-0.32	-0.31	-0.32	-0.33	-0.32	0.22	0.14	0.20	0.21	
		Global Health														
		QL	131	-0.32	-0.33	-0.34	-0.34	-0.45	-0.40	-0.46	-0.46	0.01	-0.01	-0.01	0.00	
		PF	130	-0.07	-0.12	-0.11	-0.11	-0.32	-0.39	-0.38	-0.34	0.03	0.10	0.04	0.02	
		RF	130	-0.03	-0.10	-0.08	-0.07	-0.26	-0.25	-0.29	-0.30	0.04	0.09	0.05	0.03	
		SF	131	-0.15	-0.14	-0.18	-0.20	-0.32	-0.33	-0.37	-0.36	0.00	0.02	0.00	-0.01	
		FA	130	0.11	0.19	0.18	0.16	0.31	0.34	0.37	0.34	0.01	0.03	0.04	0.03	
		NV	130	0.11	0.13	0.14	0.12	0.24	0.28	0.31	0.26	-0.04	-0.07	-0.08	-0.04	
		PA	131	0.05	0.10	0.09	0.08	0.35	0.30	0.35	0.35	-0.10	-0.15	-0.13	-0.10	
		DY	129	0.00	0.03	0.03	0.03	0.30	0.25	0.33	0.33	-0.05	-0.04	-0.04	-0.04	
	AP	129	0.18	0.22	0.23	0.21	0.31	0.37	0.36	0.34	-0.04	-0.05	-0.04	-0.03		
4	Function															
		QL	121	-0.49	-0.45	-0.56	-0.53	-0.39	-0.36	-0.40	-0.40	-0.10	-0.10	-0.14	-0.13	
		PF	121	-0.45	-0.31	-0.44	-0.50	-0.37	-0.38	-0.42	-0.41	-0.15	-0.07	-0.13	-0.15	
		EF	121	-0.35	-0.29	-0.36	-0.39	-0.32	-0.31	-0.34	-0.32	0.02	0.03	0.01	0.00	
	SF	120	-0.50	-0.43	-0.55	-0.55	-0.32	-0.30	-0.36	-0.34	-0.13	-0.15	-0.17	-0.15		

	FA	121	0.44	0.37	0.48	0.50	0.46	0.44	0.49	0.48	0.01	0.03	0.06	0.04
	PA	121	0.32	0.24	0.34	0.35	0.31	0.31	0.34	0.32	0.02	-0.06	-0.02	0.04
	Concern													
	QL	120	-0.48	-0.45	-0.52	-0.51	-0.35	-0.34	-0.36	-0.36	-0.14	-0.12	-0.16	-0.15
	SF	120	-0.53	-0.48	-0.58	-0.57	-0.35	-0.35	-0.40	-0.37	-0.12	-0.10	-0.14	-0.13
	PA	120	0.39	0.33	0.41	0.42	0.27	0.31	0.29	0.27	0.12	-0.03	0.06	0.13
	Global Health													
	QL	120	-0.49	-0.45	-0.53	-0.52	-0.31	-0.31	-0.33	-0.32	-0.19	-0.16	-0.21	-0.20
	PF	120	-0.32	-0.20	-0.31	-0.35	-0.29	-0.29	-0.31	-0.29	-0.10	-0.01	-0.11	-0.10
	PA	120	0.25	0.18	0.25	0.27	0.28	0.31	0.31	0.29	-0.01	-0.12	-0.06	-0.02
	Change in Performance Status													
	QL	121	-0.23	-0.17	-0.26	-0.25	-0.31	-0.27	-0.38	-0.36	0.06	0.07	0.10	0.10

6

	Function													
	QL	107	-0.38	-0.38	-0.48	-0.46	-0.32	-0.23	-0.32	-0.36	-0.01	-0.03	-0.03	-0.03
	PF	107	-0.31	-0.22	-0.34	-0.40	-0.39	-0.34	-0.42	-0.44	0.05	0.06	0.03	0.02
	RF	107	-0.35	-0.31	-0.46	-0.45	-0.37	-0.38	-0.44	-0.41	0.03	0.06	0.02	-0.02
	EF	107	-0.23	-0.12	-0.24	-0.30	-0.30	-0.22	-0.29	-0.34	0.12	0.13	0.11	0.10
	FA	107	0.29	0.26	0.37	0.39	0.30	0.26	0.33	0.34	0.01	0.03	0.05	0.06
	SL	106	0.23	0.19	0.32	0.33	0.32	0.34	0.41	0.36	-0.12	-0.08	-0.07	-0.08
	Concern													
	QL	111	-0.41	-0.39	-0.44	-0.44	-0.28	-0.25	-0.29	-0.30	-0.08	-0.08	-0.08	-0.08
	PF	111	-0.39	-0.26	-0.37	-0.41	-0.30	-0.30	-0.32	-0.34	-0.11	-0.01	-0.07	-0.10
	RF	111	-0.41	-0.35	-0.45	-0.45	-0.29	-0.35	-0.36	-0.34	-0.09	0.02	-0.04	-0.08
	EF	111	-0.40	-0.26	-0.38	-0.42	-0.43	-0.39	-0.46	-0.46	0.11	0.11	0.11	0.13
	CF	111	-0.22	-0.16	-0.21	-0.23	-0.20	-0.14	-0.21	-0.21	-0.01	0.03	0.01	0.00
	SF	110	-0.50	-0.41	-0.57	-0.53	-0.32	-0.25	-0.33	-0.34	-0.12	-0.12	-0.13	-0.12
	Global Health													
	QL	111	-0.48	-0.47	-0.55	-0.54	-0.42	-0.40	-0.44	-0.44	0.01	0.00	-0.01	-0.01
	PF	111	-0.32	-0.18	-0.32	-0.40	-0.37	-0.31	-0.36	-0.41	0.02	0.09	0.01	-0.01

RF	111	-0.39	-0.33	-0.45	-0.46	-0.42	-0.41	-0.45	-0.44	0.05	0.13	0.08	0.01
EF	111	-0.27	-0.16	-0.28	-0.32	-0.40	-0.35	-0.42	-0.44	0.19	0.16	0.17	0.19
SF	110	-0.39	-0.33	-0.46	-0.46	-0.33	-0.29	-0.35	-0.36	-0.02	-0.01	-0.04	-0.03
FA	111	0.30	0.24	0.33	0.36	0.30	0.24	0.30	0.33	0.02	0.03	0.02	0.05
PA	110	0.40	0.27	0.42	0.47	0.35	0.33	0.37	0.36	-0.03	-0.10	-0.06	-0.01
SL	110	0.23	0.15	0.25	0.26	0.29	0.29	0.33	0.31	-0.09	-0.11	-0.09	-0.08
AP	111	0.35	0.29	0.41	0.40	0.31	0.30	0.34	0.33	0.02	0.03	0.04	0.04
Change in Performance Status													
PF	111	-0.15	-0.11	-0.13	-0.14	-0.30	-0.25	-0.31	-0.31	0.12	0.15	0.18	0.16
RF	111	-0.23	-0.20	-0.23	-0.24	-0.25	-0.25	-0.30	-0.29	0.03	0.04	0.06	0.05
CO	111	0.11	0.11	0.16	0.15	0.26	0.30	0.38	0.34	-0.21	-0.23	-0.34	-0.29
DI	111	-0.20	-0.21	-0.33	-0.26	-0.21	-0.21	-0.30	-0.27	0.04	0.02	0.08	0.06

Legend for Supplementary Table 2:

Pe, Pearson's correlation coefficient; Sp, Spearman's rank correlation coefficient; Pc, Polychoric correlation coefficient; Ps, Polyserial correlation coefficient; QL, global quality of life; PF, physical function; RF, role function; EF, emotional function; SF, social function; FA, fatigue; NV, nausea and vomiting; PA, pain; DY, dyspnea; SL, insomnia; AP, appetite loss; CO, constipation; DI, diarrhea

Supplementary Table 3. Estimated differences, p-values, and effect sizes in each pair of anchor and scale

Months	Anchor	Scale	Improvement			Deterioration			
			Estimate (95% CI)	P-value	Effect size	Estimate (95% CI)	P-value	Effect size	
2	Function	QL	No MID			-5.49 (-17.7, 6.74)	0.375	-0.22	
		PF	7.37 (-1.76, 16.50)	0.112	0.31	-8.27 (-15.1, -1.48)	0.018	-0.35	
		RF	6.94 (-7.03, 20.92)	0.326	0.23	-10.3 (-20.6, 0.13)	0.053	-0.34	
		SF	No MID			No MID			
		FA	No MID			6.07 (-3.36, 15.50)	0.204	0.22	
		DY	No MID			8.58 (-2.77, 19.92)	0.137	0.28	
		AP	-10.1 (-32.9, 12.74)	0.383	-0.31	No MID			
	Concern	QL	7.58 (-5.72, 20.88)	0.261	0.30	-5.46 (-18.8, 7.83)	0.417	-0.21	
		Global Health							
	Function	QL	6.23 (-1.09, 13.55)	0.094	0.26	-11.9 (-23.2, -0.58)	0.040	-0.47	
		PF	No MID			-5.90 (-12.5, 0.71)	0.080	-0.25	
		RF	No MID			-16.9 (-26.8, -7.09)	<.001	-0.57	
		SF	10.68 (-1.06, 22.42)	0.074	0.38	-5.15 (-14.6, 4.31)	0.283	-0.23	
		FA	-7.26 (-18.8, 4.32)	0.217	-0.33	No MID			
		NV	-8.38 (-17.8, 1.04)	0.081	-0.32	-7.95 (-18.6, 2.65)	0.140	-0.29	
		PA	-13.3 (-25.1, -1.52)	0.027	-0.43	9.24 (0.04, 18.45)	0.049	0.34	
		DY	No MID			7.14 (-3.32, 17.60)	0.179	0.32	
		AP	-9.55 (-27.6, 8.46)	0.296	-0.30	5.90 (-2.61, 14.42)	0.172	0.22	
		4	Function	QL	7.08 (-6.72, 20.87)	0.311	0.28	No MID	
	PF			7.78 (-0.91, 16.47)	0.079	0.33	-6.84 (-14.0, 0.27)	0.059	-0.29
EF	No MID					No MID			
SF	6.77 (-7.66, 21.20)			0.353	0.24	No MID			

	FA	-6.84 (-18.9, 5.23)	0.263	-0.25	8.08 (-1.80, 17.96)	0.108	0.29
	PA	No MID			No MID		
	Concern						
	QL	8.17 (-3.51, 19.86)	0.168	0.32	No MID		
	CF	No MID			No MID		
	SF	10.11 (-1.52, 21.73)	0.088	0.36	-12.2 (-24.3, -0.21)	0.046	-0.44
	PA	No MID			11.23 (-0.50, 22.96)	0.060	0.43
	Global Health						
	QL	No MID			-10.5 (-21.6, 0.64)	0.064	-0.41
	PF	7.29 (-0.31, 14.89)	0.060	0.31	No MID		
	PA	No MID			11.72 (1.50, 21.94)	0.025	0.44
	Change in Performance Status						
	QL	No MID			No MID		
6	Function						
	QL	No MID			-18.5 (-33.9, -3.21)	0.019	-0.73
	PF	No MID			-13.0 (-21.8, -4.19)	0.004	-0.55
	RF	No MID			-20.2 (-34.2, -6.10)	0.006	-0.67
	EF	No MID			-10.7 (-22.3, 0.86)	0.069	-0.49
	FA	No MID			11.91 (-0.45, 24.27)	0.059	0.43
	SL	No MID			23.25 (6.30, 40.20)	0.008	0.77
	Concern						
	QL	11.19 (-4.12, 26.49)	0.150	0.44	-8.98 (-25.5, 7.53)	0.282	-0.35
	PF	No MID			-9.11 (-19.3, 1.03)	0.078	-0.39
	RF	21.12 (6.88, 35.37)	0.004	0.71	-15.2 (-30.5, 0.21)	0.053	-0.51
	EF	11.55 (0.39, 22.71)	0.043	0.53	-7.13 (-19.2, 4.91)	0.242	-0.33
	SF	No MID			-13.8 (-27.3, -0.29)	0.045	-0.50
	Global Health						
	QL	12.14 (-2.03, 26.32)	0.092	0.48	-5.45 (-18.0, 7.15)	0.392	-0.21
	PF	7.98 (-0.18, 16.14)	0.055	0.34	No MID		

	RF	18.95 (5.99, 31.90)	0.005	0.63	No MID		
	EF	5.52 (-6.11, 17.15)	0.348	0.25	No MID		
	SF	7.26 (-5.29, 19.82)	0.253	0.26	-10.9 (-22.1, 0.26)	0.055	-0.39
	FA	-8.31 (-19.7, 3.12)	0.152	-0.30	No MID		
	PA	-14.3 (-26.5, -2.12)	0.022	-0.54	No MID		
	SL	-20.4 (-36.6, -4.15)	0.014	-0.67	No MID		
	AP	No MID			8.55 (-7.55, 24.64)	0.294	0.27
	Change in Performance Status						
	PF	5.32 (-8.77, 19.41)	0.456	0.27	-9.25 (-18.2, -0.32)	0.042	-0.46
	RF	9.23 (-12.1, 30.51)	0.392	0.35	-14.3 (-27.8, -0.85)	0.037	-0.55
	CO	No MID			No MID		
	DI	No MID			-4.12 (-15.3, 7.07)	0.467	-0.21
All	Function						
	QL	11.22 (3.69, 18.75)	0.004	0.44	-5.76 (-13.8, 2.32)	0.162	-0.23
	PF	4.83 (-0.37, 10.03)	0.069	0.21	No MID		
	RF	No MID			-8.38 (-16.2, -0.61)	0.034	-0.28
	Concern						
	QL	No MID			-7.72 (-14.5, -0.93)	0.026	-0.30
	EF	No MID			-5.25 (-10.1, -0.36)	0.035	-0.24
	Global Health						
	QL	No MID			-10.4 (-16.7, -4.00)	0.001	-0.41
	PF	4.84 (0.77, 8.91)	0.020	0.21	No MID		
	RF	6.77 (1.25, 12.29)	0.016	0.23	-6.30 (-12.2, -0.36)	0.038	-0.21
	SF	No MID			-7.32 (-12.5, -2.12)	0.006	-0.26
	FA	No MID			6.59 (2.30, 10.88)	0.003	0.24
	PA	-6.69 (-12.4, -0.99)	0.021	-0.25	No MID		

Legend for Supplementary Table 3:

The mean change method was applied for months 2, 4, and 6; the GEE method was applied for overall timepoints. Estimates with P < 0.05 are shown in **bold**.

QL, global quality of life; PF, physical function; RF, role function; EF, emotional function; SF, social function; FA, fatigue; NV, nausea and vomiting; PA, pain; DY, dyspnea; SL, insomnia; AP, appetite loss; CO, constipation; DI, diarrhea