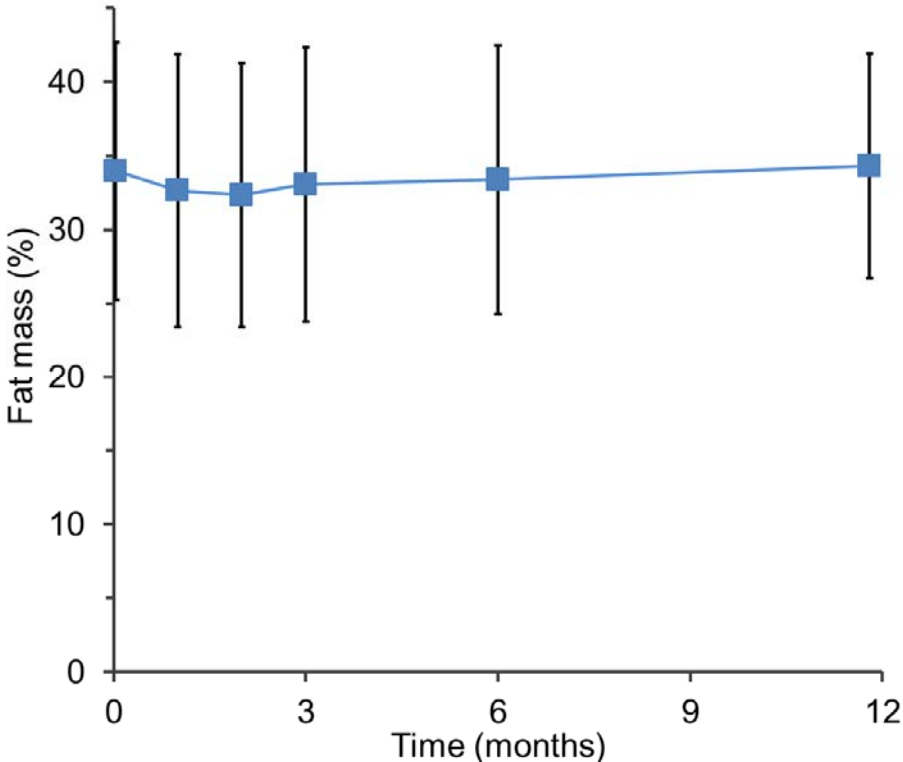
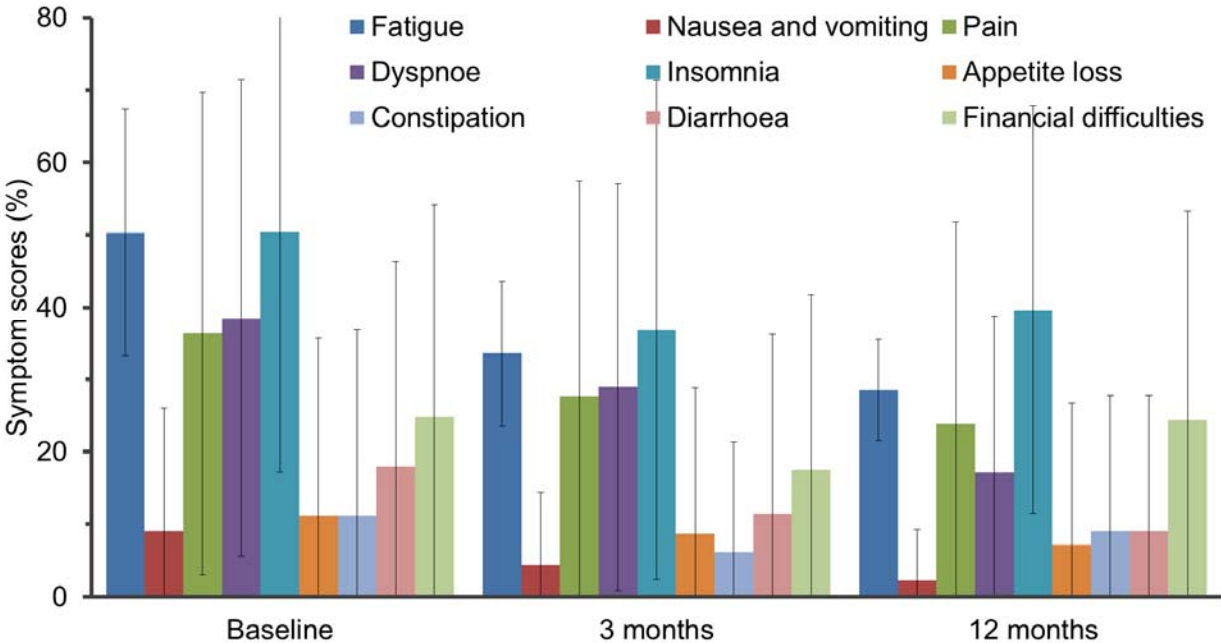


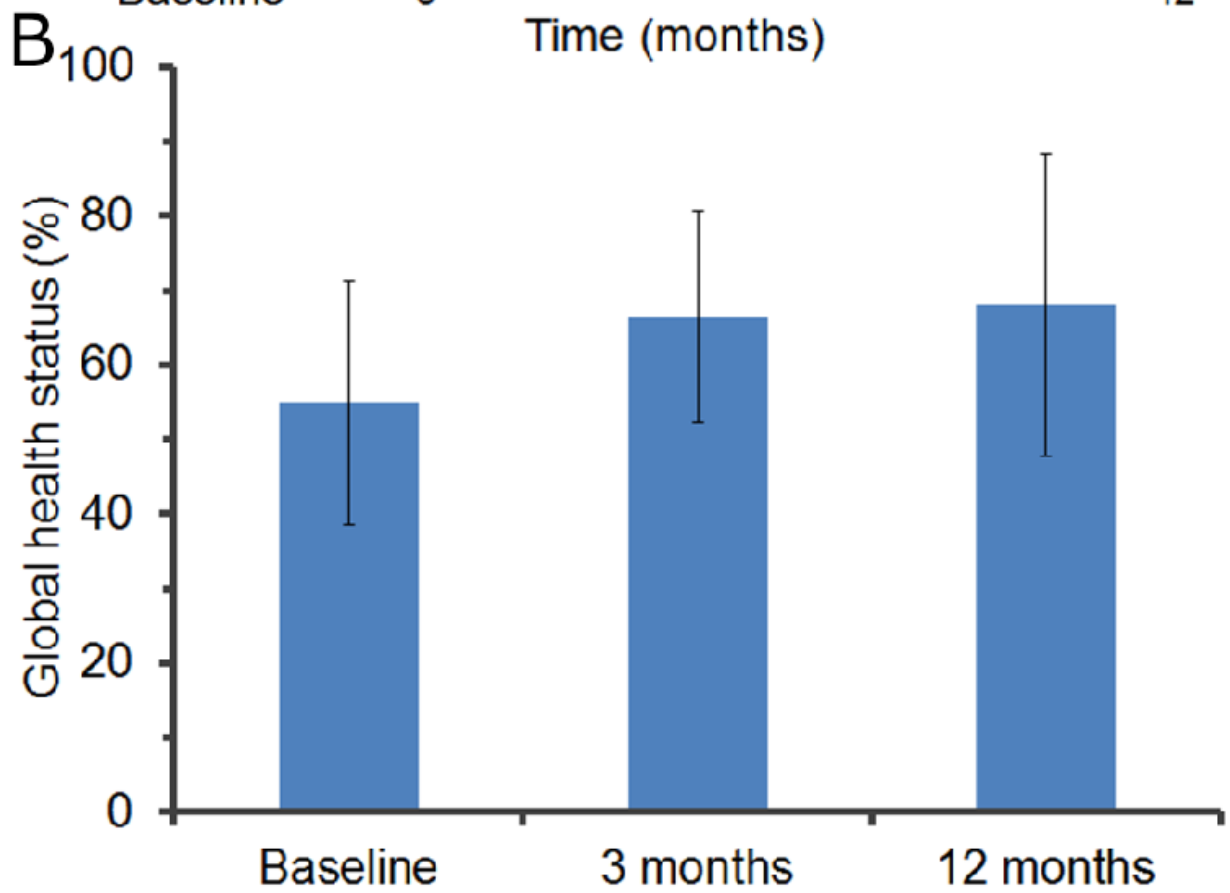
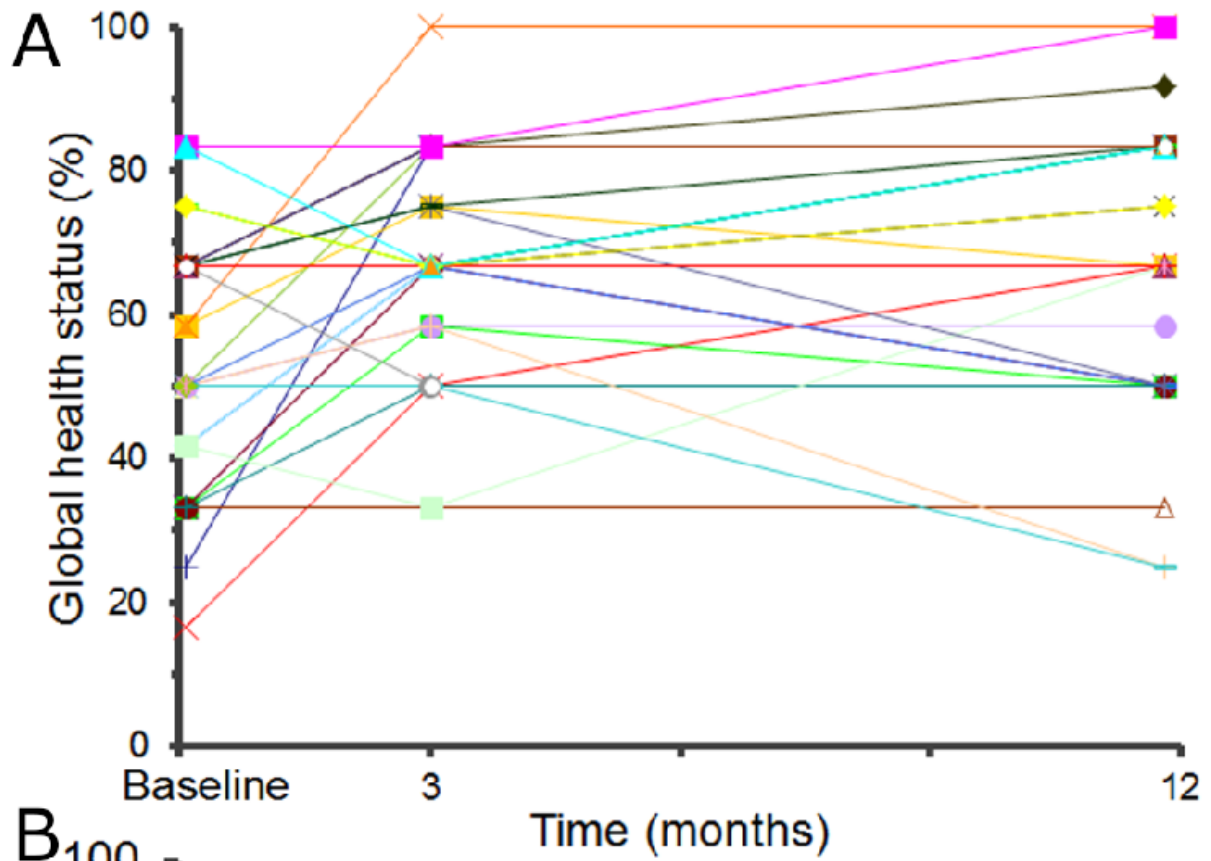
Supplementary Material:



Supplementary Figure 1: Development of body fat mass (in %) among 37 cancer patients at baseline and following 1, 2, 3, 6 and 12 months of continuous physical exercise.



Supplementary Figure 2: Quality of life data on symptom scales for 37 cancer patients at baseline and at 3 and 12 months following continuous physical exercise



Supplementary Figure 3: Global health status in 37 cancer patients at baseline and at 3 and 12 months following continuous physical exercise. A) Individual values and B) mean values. Error bars represent standard deviation.

Supplementary table 1:

Data for body mass composition (median values \pm SD) among 39 cancer patients at baseline and at 1,2,3,6 and 12 months following physical exercise. FM, Fat mass; BCM, body cell mass; BMI, body mass index. RARF PA, phase angle.

	Phase angle	FM %	FM kg	BCM kg	BMI
0 months (n = 39)	5,39 (0,81)	35,9 (8,8)	30,7 (15,4)	24,2 (4,0)	28,9 (7,2)
1 months (n = 35)	5,33 (0,71)	34,9 (9,0)	29,2 (15,5)	23,6 (3,6)	28,1 (7,3)
2 months (n = 35)	5,36 (0,66)	35,1 (8,7)	29,4 (15,0)	23,8 (3,5)	28,2 (7,3)
3 months (n = 39)	5,26 (0,58)	34,6 (9,0)	28,9 (14,6)	23,8 (3,5)	28,2 (7,0)
6 months (n = 37)	5,26 (0,63)	34,8 (8,7)	29,2 (13,8)	23,8 (3,0)	28,5 (6,8)
12 months (n = 38)	5,40 (0,75)	35,3 (7,9)	29,5 (13,3)	24,0 (3,0)	28,5 (6,7)

Supplementary table 2:

Peak oxygen consumption (VO_{2max}) among 36 cancer patients at baseline and after 3 and 12 months during continuous physical exercise (median values \pm SD).

	VO_{2max} ml/min (SD)	VO_{2max} ml/min per kg BW (SD)
Baseline (n = 36)	1421.0 (387.6)	18.5 (5.6)
3 months (n = 36)	1537.6 (300.2) (p = 0.006)	20.4 (4.6) (p = 0.005)
12 months (n = 32)	1520.1 (334.3) (p = 0.017)	20.0 (4.7) (p = 0.003)

Supplementary table 3:

Functional scales among 39 cancer patients at baseline and after 3 and 12 months during continuous physical exercise (median values \pm SD).

	Physical functioning	Role functioning	Emotional functioning	Cognitive functioning	Social functioning
0 months (n = 39)	77,3 (18,3)	55,6 (26,9)	52,4 (24,5)	66,7 (27,3)	58,1 (28,8)
3 months (n = 38)	83,9 (18,5)	73,7 (26,7)	63,4 (20,7)	70,2 (30,5)	72,4 (25,2)
12 months (n = 37)	84,7 (21,3)	76,1 (30,3)	67,1 (23,8)	76,1 (23,7)	73,4 (27,3)

Supplementary table 4:

Symptom-scales among 39 cancer patients at baseline and after 3 and 12 months during continuous physical exercise (median values \pm SD).

	Fatigue	Nausea and vomiting	Pain	Dyspnoea	Insomnia	Appetite loss	Constipation	Diarrhoea	Financial difficulties
0 months (n = 39)	50,3 (27,4)	9,0 (17,0)	36,3 (33,3)	38,5 (32,9)	50,4 (33,2)	11,1 (24,6)	11,1 (25,7)	17,9 (28,5)	24,8 (29,3)
3 months (n = 38)	33,6 (24,7)	4,4 (10,0)	27,6 (29,8)	28,9 (28,1)	36,8 (34,5)	8,8 (20,0)	6,1 (15,2)	11,4 (24,8)	17,5 (24,2)
12 months (n = 37)	28,5 (23,8)	2,3 (7,0)	23,9 (27,9)	17,1 (21,7)	39,6 (28,2)	7,2 (19,5)	9,0 (18,7)	9,0 (18,7)	24,3 (29,0)

Supplementary Table 5: Subgroup analysis for the BMI difference at 3 months vs. baseline and 12 months vs. Baseline

BMI difference 3 months vs. Baseline				
patient characteristic	number of patients	mean value in kg/m ²	standard deviation in kg/m ²	p value
≤ 50 years	18	-1.31	1.83	0.031
> 50 years	21	-0.18	1.31	
men	4	-0.27	0.29	0.590
women	35	-0.75	1.73	
others	13	-0.97	1.97	0.470
breast cancer	26	-0.56	1.49	
curative	32	-0.72	1.80	0.855
palliative	7	-0.59	0.71	
BMI difference 12 months vs. Baseline				
≤ 50 years	18	-1.30	2.40	0.054
> 50 years	20	-0.01	1.54	
men	4	-0.35	1.19	0.787
women	34	-0.65	2.16	
others	12	-1.06	2.14	0.375
breast cancer	26	-0.41	2.05	
curative	32	-0.56	2.15	0.702
palliative	6	-0.92	1.73	

Supplementary Table 6: Subgroup analysis for the fat mass difference at 3 months vs. baseline and 12 months vs. baseline

FM difference 3 months vs. Baseline				
patient characteristic	Number of patients	mean value in kg	standard deviation in kg	p value
≤ 50 years	18	-2.9	3.5	0.037
> 50 years	21	-0.8	2.3	
men	4	-0.6	1.9	0.424
women	35	-1.9	3.2	
others	13	-2.6	3.5	0.264
breast cancer	26	-1.4	2.8	
curative	32	-1.8	3.3	0.901
palliative	7	-1.6	1.5	
FM difference 12 months vs. Baseline				
≤ 50 years	18	-3.0	5.0	0.071
> 50 years	20	-0.4	3.3	
men	4	-0.2	3.1	0.493
women	34	-1.8	4.5	
others	12	-2.7	4.2	0.316
breast cancer	26	-1.1	4.4	
curative	32	-1.5	4.5	0.677
palliative	6	-2.3	3.9	

Supplementary Table 7: Subgroup analysis for the difference of peak oxygen consumption at 3 months vs. baseline and 12 months vs. baseline

Difference of peak oxygen consumption at 3 months vs. Baseline				
patient characteristic	number of patients	mean value in ml/min	standard deviation in ml/min	p value
≤ 50 years	17	121.1	305.9	0.926
> 50 years	19	112.6	235.5	
men	4	-229.3	404.0	0.004
women	32	159.8	217.6	
others	11	8.9	344.1	0.109
breast cancer	25	164.0	216.8	
curative	30	177.3	215.8	0.001
palliative	6	-187.0	310.6	
Difference of peak oxygen consumption at 12 months vs. baseline				
≤ 50 years	16	84.9	242.8	0.507
> 50 years	16	152.3	318.6	
men	2	184.5	385.4	0.738
women	30	114.2	280.7	
others	8	51.9	330.8	0.447
breast cancer	24	140.8	266.1	
curative	30	130.4	277.2	0.365
palliative	2	-58.5	384.0	

Supplementary Table 8: Subgroup analysis for the difference of the global health status at 3 months vs. baseline and 12 months vs. baseline

Difference of global health status after 3 months vs baseline				
patient characteristic	number of patients	mean value in %	standard deviation in %	p value
≤ 50 years	15	10.6	17.7	0.833
> 50 years	21	11.9	19.5	
Men	4	-4.2	10.8	0.075
Women	32	13.3	18.4	
Others	12	0.7	16.5	0.012
breast cancer	24	16.7	17.4	
Curative	30	12.5	18.0	0.409
Palliative	6	5.6	21.5	
Difference of global health status after 12 months vs baseline				
≤ 50 years	15	15.6	24.0	0.561
> 50 years	20	10.8	23.3	
men	3	2.8	4.8	0.442
women	32	13.8	24.2	
others	10	-1.7	25.4	0.017
breast cancer	25	18.7	20.2	
curative	31	15.1	20.8	0.123
palliative	4	-4.2	37.6	