

2019 Kaohsiung International Cancer Symposium

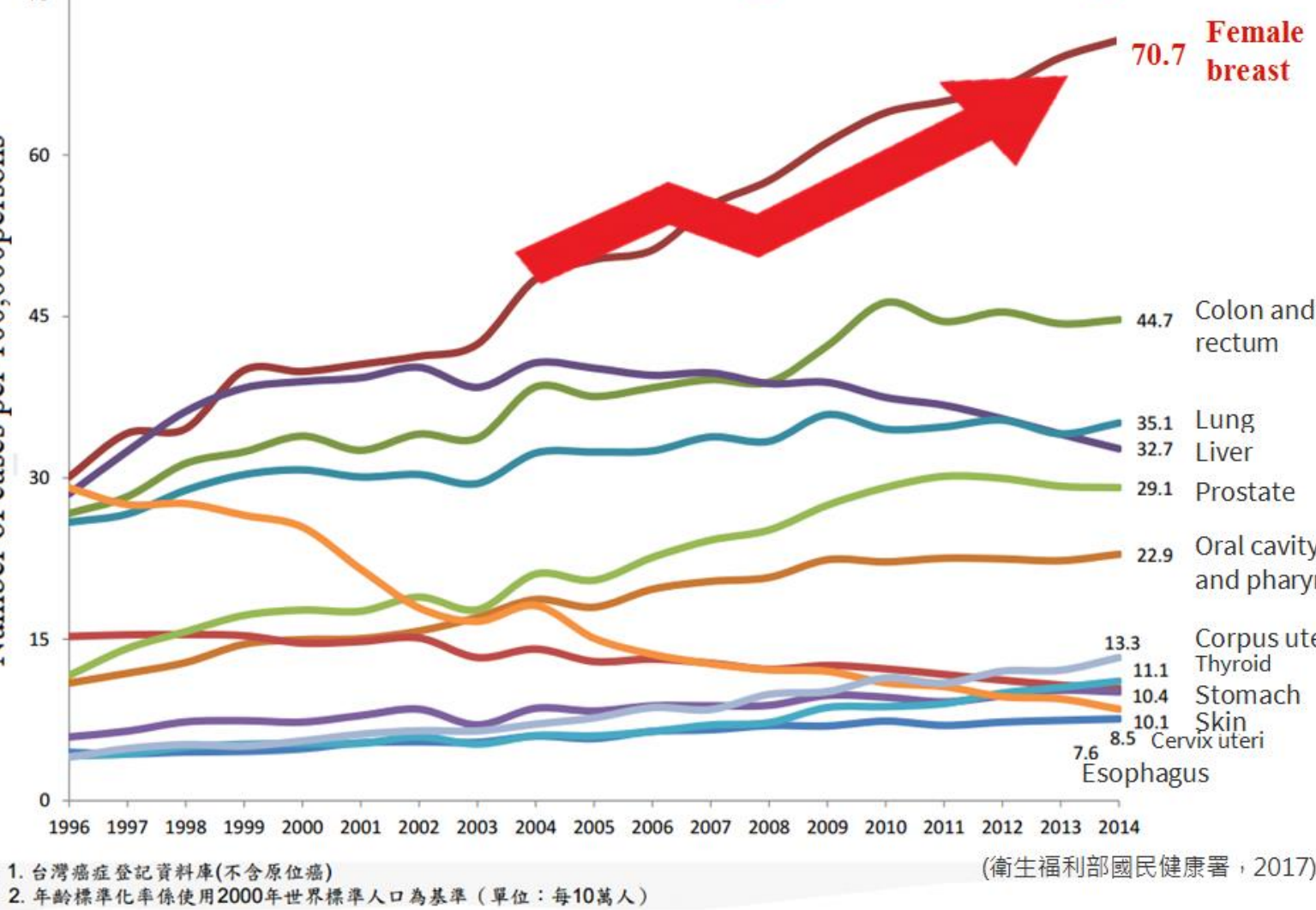
Potential Effects of Drawing and Coloring Art Activities on Reducing Anxiety and Changing Physiological Responses in Female Breast Cancer Patients

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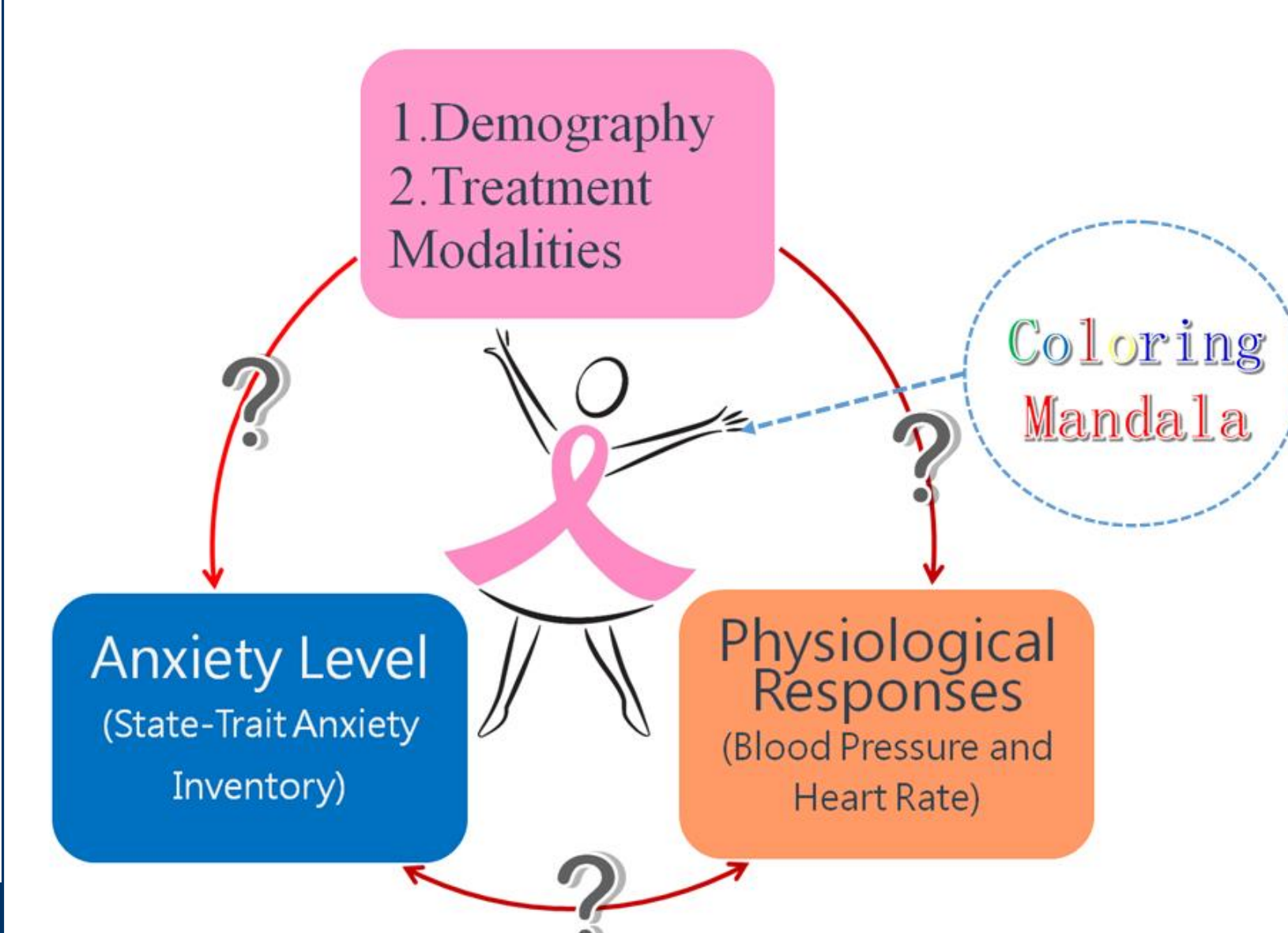
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Introduction

Cancer trend in Taiwan (1996-2014)



Aims



Results

Table 2: Means (SD) of T1, T2, T3 and Changs from T2 to T3 Anxiety Levels for the Control, Coloring Mandala, Drawing Plaid, and Free-From Groups

Group	T1 Anxiety	T2 Anxiety	T3 Anxiety	T3-T2 Anxiety
Control	42.0±13.1	45.8±12.6	42.1±12.6	-3.75±2.4 ^a
Coloring mandala	39.2±12.5	44.9±12.6	33.7±9.4	-11.3±7.3 ^b
Drawing plaid	41.5±11.0	46.6±12.1	36.8±10.1	-9.8±6.4 ^{abc}
Free-from	442.7±10.0	47.4±10.6	38.9±9.1	-8.5±7.7 ^{abc}
Total	41.3±11.4	46.2±11.2	37.9±10.5	-8.3±6.8
P value	0.894	0.962	0.259	0.034*

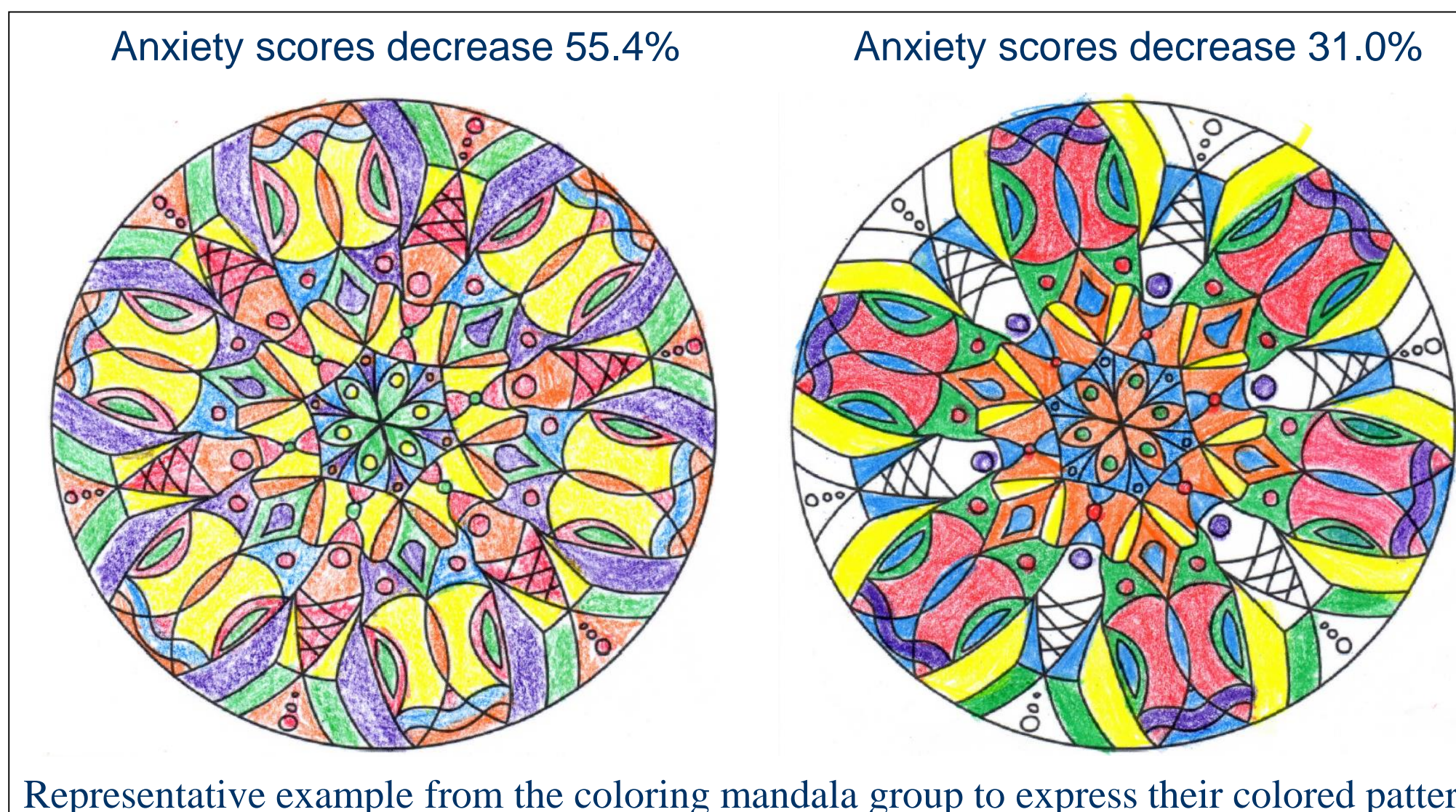
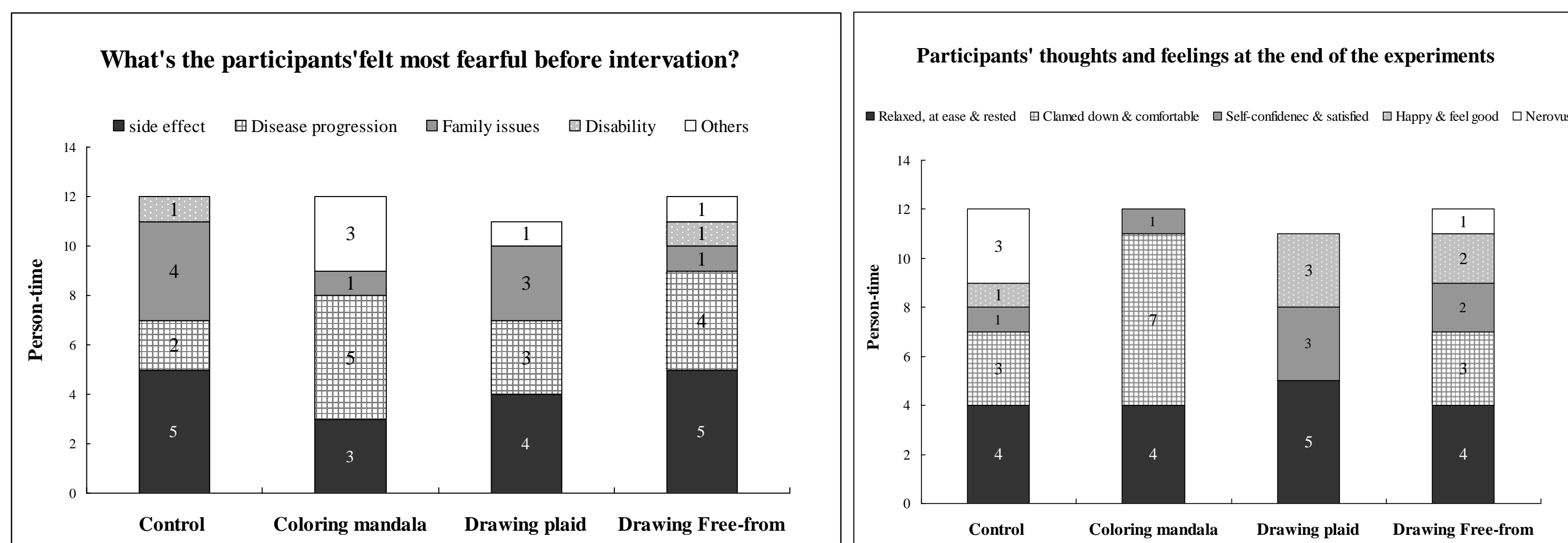
Notes:

T1= measure taken as their baseline. T2= measure taken after anxiety induction. T3= measure taken after intervention.

Anxiety levels, STAI= State-Trait Anxiety Inventory, state version.

SD: standard deviation. Data was analyzed using one way ANOVA followed by Tukey's multiple comparison test. *P<0.05. However, the pairwise comparisons of a, b, and c may not be significant.

Discussion



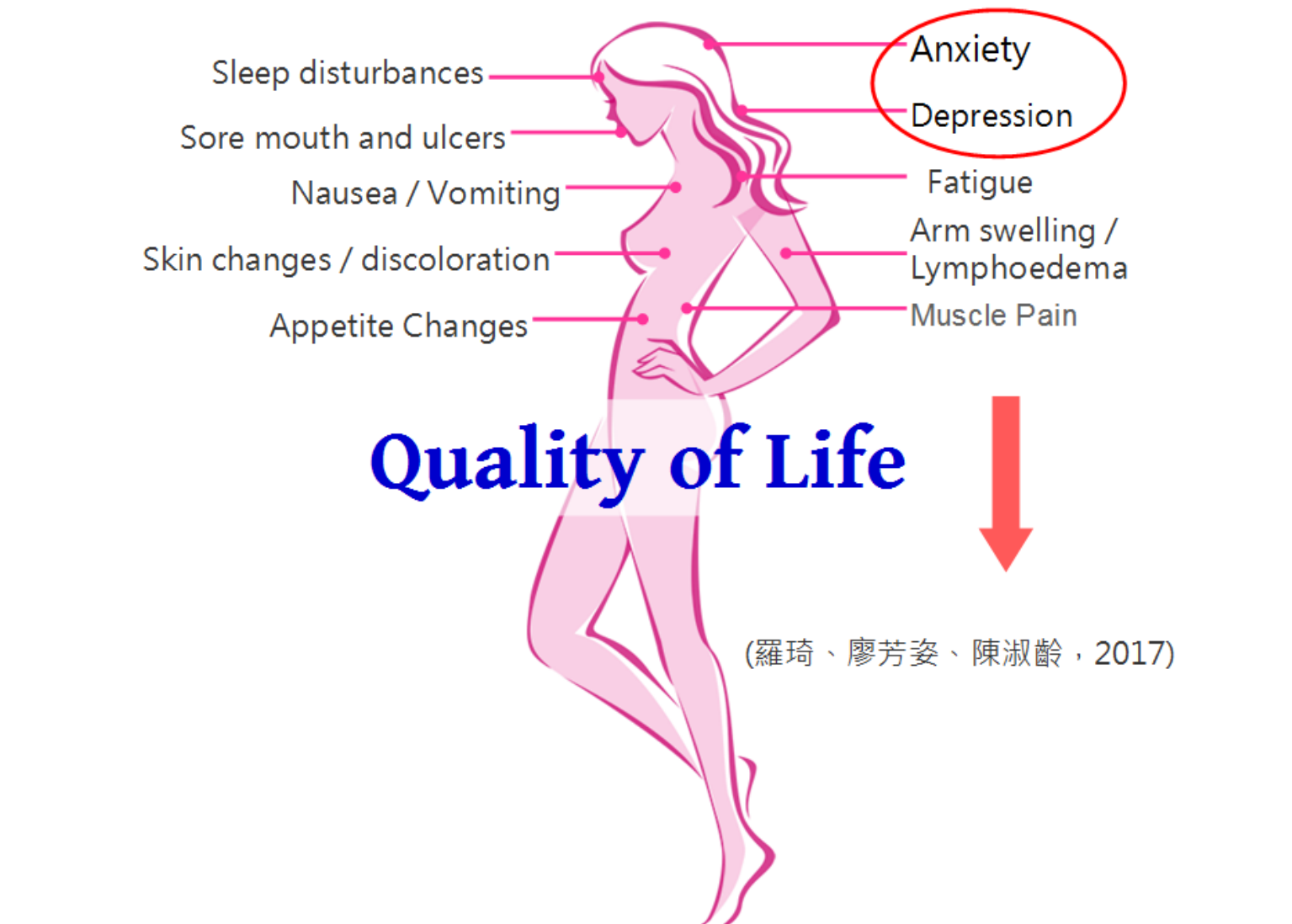
Conclusions

- Coloring mandala activity could effectively reduce the anxiety level in participants.
- Coloring mandala could be used for improving mood for female breast cancer patients.
- There were no statistically significant differences between the groups with respect to the physiological responses.
- Health care units could design more coloring mandala programs as an ideal stress reliever to trigger positive emotions for female breast cancer patients.

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Common side effects of breast cancer treatment



Research Design

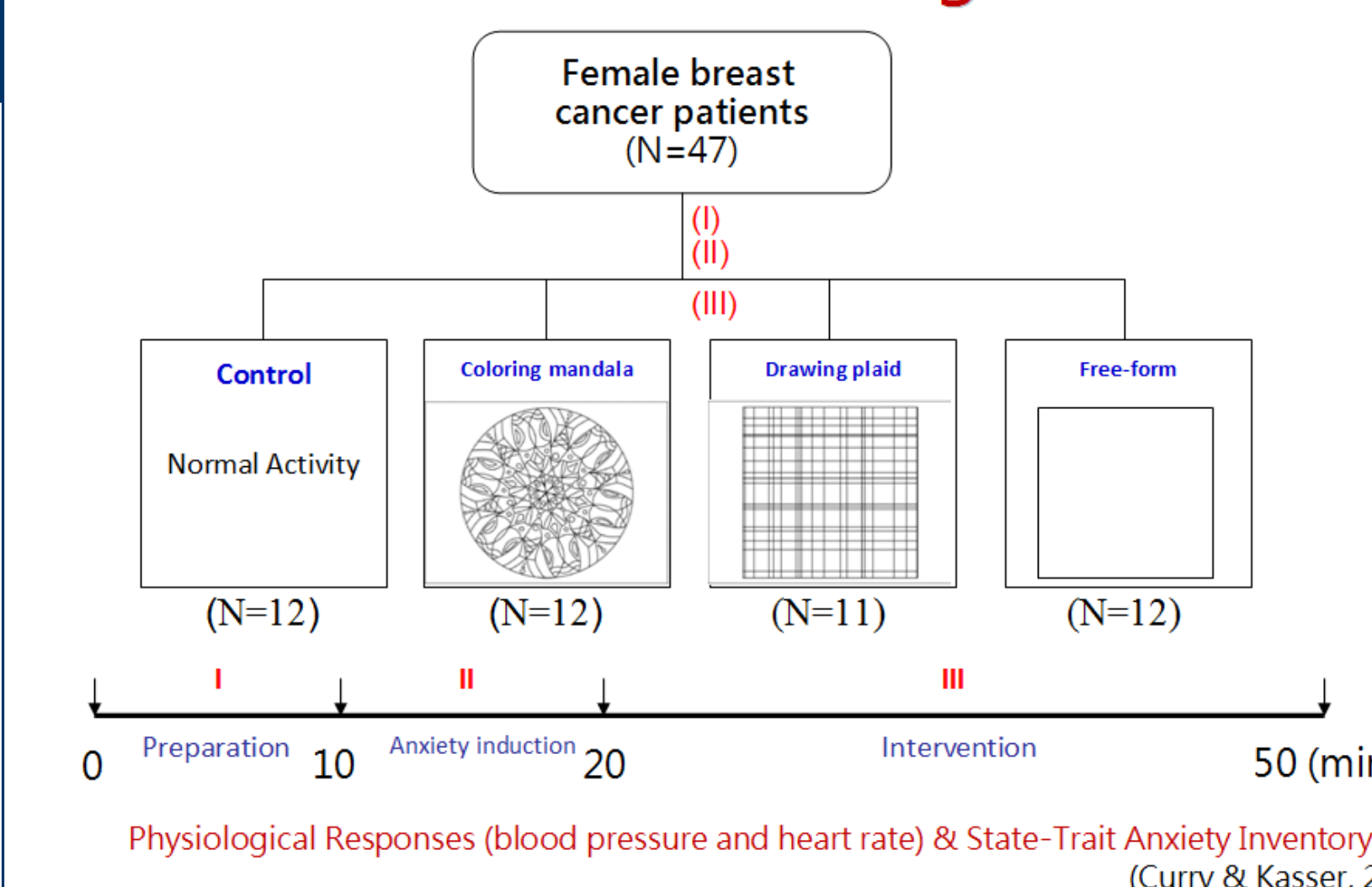
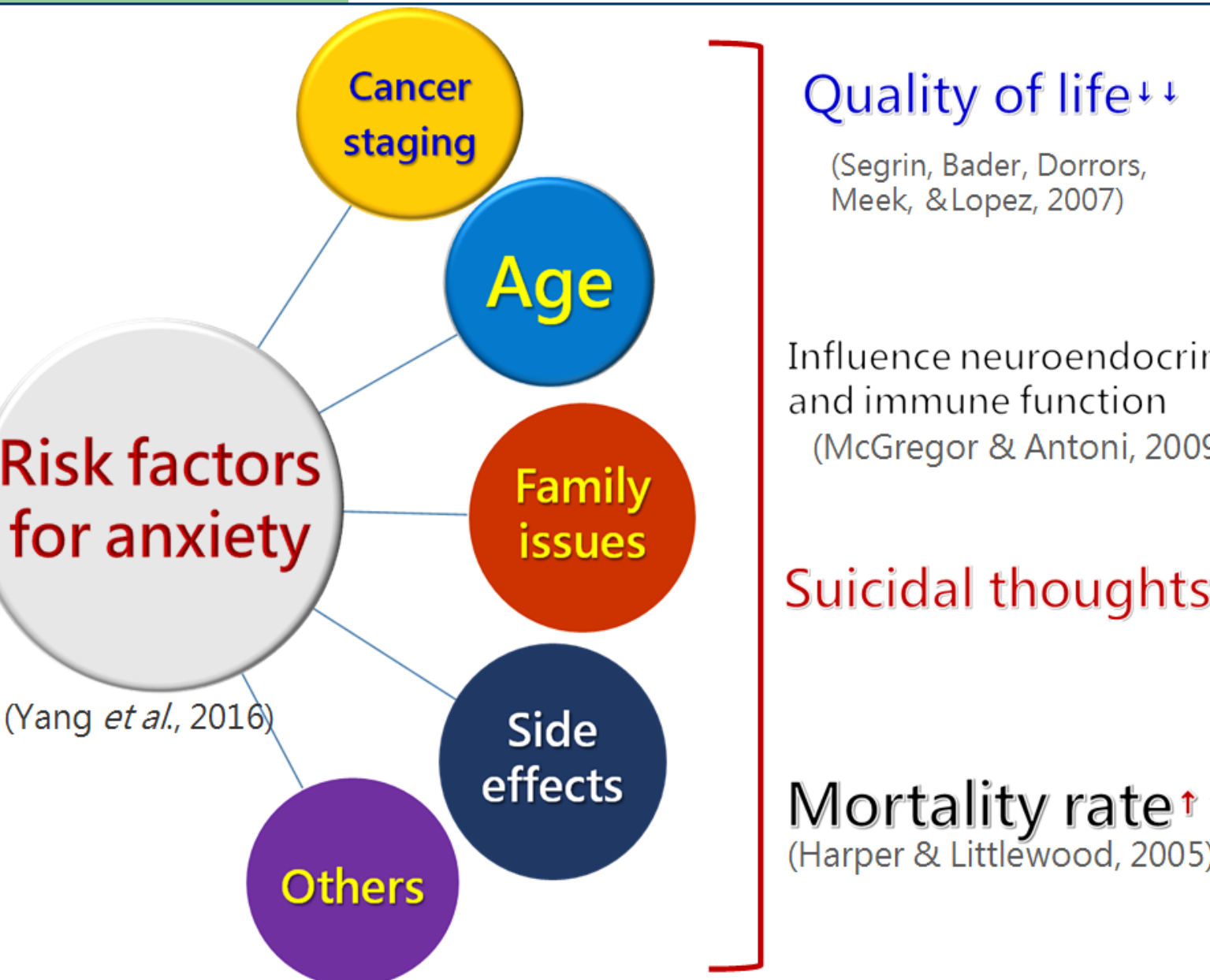
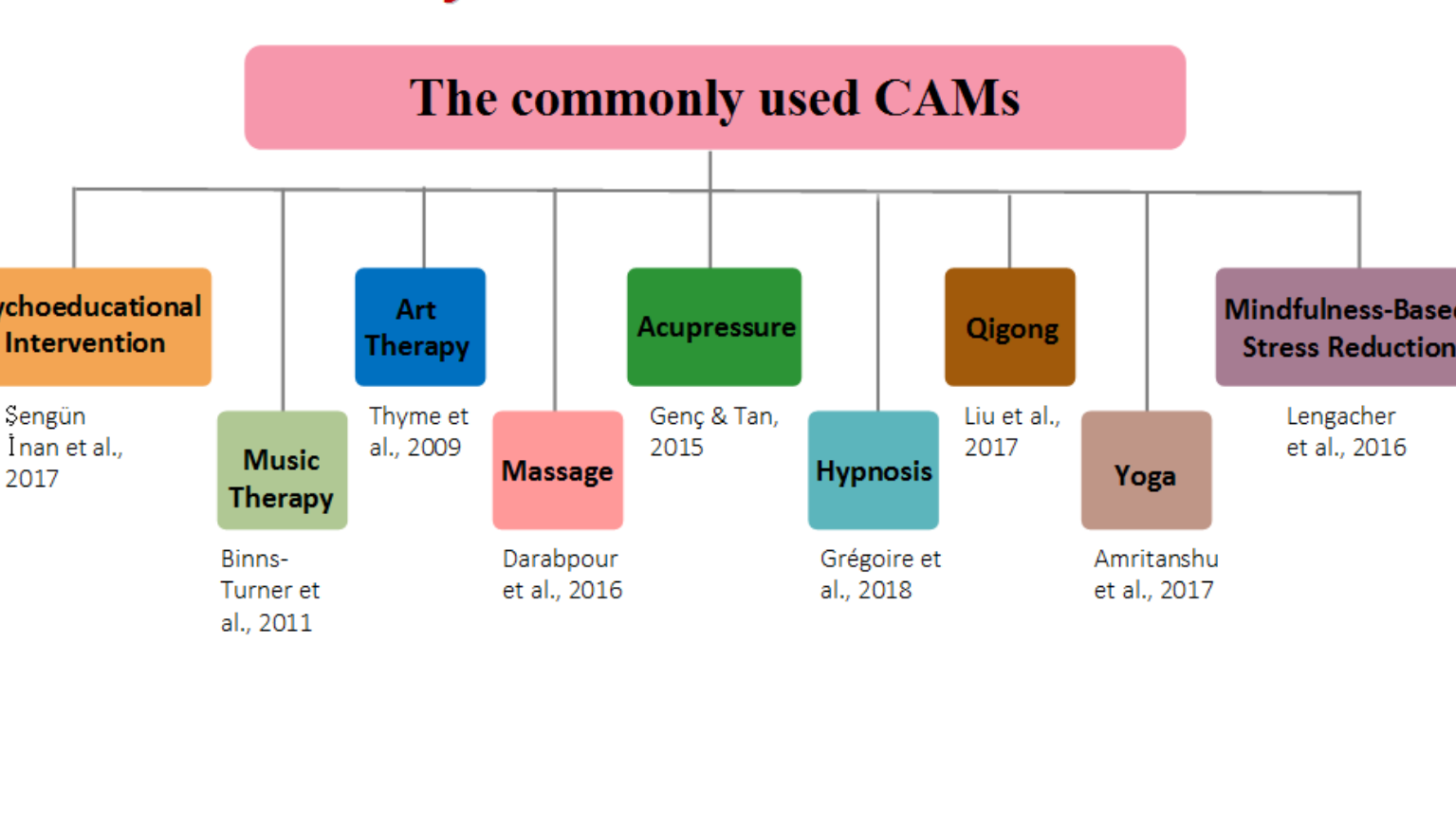


Table 1: Characteristics of study participants

Variable	Group	Total (N=47)	Control (N=12)	Coloring mandala (N=12)	Drawing plaid (N=11)	Free-from (N=12)	
Age (year), mean (SD)		54.3 ± 6.3	56.0 ± 6.0	51.9 ± 5.9	54.4 ± 7.5	55.0 ± 6.1	0.451
Body mass index (kg/m ²), mean (SD)		24.5 ± 3.6	24.4 ± 2.7	24.7 ± 3.6	24.2 ± 4.4	24.7 ± 3.9	0.981
Education level							
Elementary school or below		16 (34.0)	7 (43.8)	2 (12.5)	2 (12.5)	5 (31.3)	
Middle school		21 (44.7)	3 (14.3)	6 (28.6)	7 (33.3)	5 (23.8)	0.294
High school		10 (21.3)	2 (20.0)	4 (40.0)	2 (20.0)	2 (20.0)	
Marital status							
Single		6 (12.8)	2 (33.3)	2 (33.3)	1 (16.7)	1 (16.7)	
Married		37 (78.7)	10 (27.0)	10 (27.0)	8 (21.6)	9 (24.3)	0.555
Divorced/widowed		4 (8.5)	0 (0.0)	0 (0.0)	2 (50.0)	2 (50.0)	
Number of children							
0		6 (12.8)	2 (33.3)	1 (16.7)	1 (16.7)	2 (33.3)	
1		6 (12.8)	1 (16.7)	4 (66.7)	0 (0.0)	1 (16.7)	0.212
2		25 (53.2)	5 (20.0)	7 (28.0)	8 (32.0)	5 (20.0)	
≥3		10 (21.3)	4 (40.0)	0 (0.0)	2 (20.0)	4 (40.0)	
Working status							
No		20 (42.6)	6 (30.0)	3 (15.0)	5 (25.0)	6 (30.0)	
Working		24 (51.1)	6 (25.0)	8 (33.3)	5 (20.8)	5 (20.8)	0.612
Part time		2 (4.3)	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)	
leave without pay		1 (2.1)	0 (0.0)	0 (0.0)	1 (100.0)	0 (0.0)	
Religious							
No		7 (14.9)	2 (28.6)	2 (28.6)	2 (28.6)	1 (14.3)	
Buddhism		12 (25.5)	2 (16.7)	5 (41.7)	1 (8.3)	4 (33.3)	0.606
Taoism		25 (53.2)	7 (28.0)	4 (16.0)	8 (32.0)	6 (24.0)	
Christian/Catholicism		1 (2.1)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	
I-Kuan Tao		2 (4.3)	1 (50.0)	0 (0.0)	0 (0.0)	1 (50.0)	
Stage of breast cancer							
I		12 (25.5)	4 (33.3)	3 (25.0)	3 (25.0)	2 (16.7)	
II		17 (36.2)	3 (17.6)	6 (35.3)	4 (23.5)	4 (23.5)	0.960
III		11 (23.4)	3 (27.3)	2 (18.2)	2 (18.2)	4 (36.4)	
IV		7 (14.9)	2 (28.6)	1 (14.3)	2 (28.6)	2 (28.6)	
Type of Surgery							
No		2 (4.4)	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	
Partial Mastectomy		1 (2.2)	0 (0.0)	1 (100.0)	0 (0.0)	0 (0.0)	0.487
Mastectomy with lymph node dissection		42 (93.3)	10 (23.8)	9 (21.4)	11 (26.2)	12 (28.6)	
Number of cycles of chemotherapy							
1		11 (23.4)	4 (36.4)	2 (18.2)	3 (27.3)	2 (18.2)	
2		8 (17.0)	1 (12.5)	2 (25.0)	3 (37.5)	2 (25.0)	
3		5 (10.6)	1 (20.0)	2 (40.0)	1 (20.0)	1 (20.0)	0.991
4		5 (10.6)	1 (20.0)	2 (40.0)	1 (20.0)	1 (20.0)	
5		6 (12.8)	1 (16.7)	2 (33.3)	1 (16.7)	2 (33.3)	
≥6		12 (25.5)	4 (33.3)	2 (16.7)	2 (16.7)	4 (33.3)	
Radiotherapy							
No		43 (91.5)	11 (25.6)	10 (23.3)	11 (25.6)	11 (25.6)	0.562
Yes		4 (8.5)	1 (25.0)	2 (50.0)	0 (0.0)	1 (25.0)	
Hormonal therapy							
No		44 (93.6)	11 (25.0)	11 (25.0)	10 (22.7)	12 (27.3)	0.776
Yes		3 (6.4)	1 (33.3)	1 (33.3)	1 (33.3)	0 (100.0)	
Target therapy							
No		40 (85.1)	11 (27.5)	9 (22.5)	10 (25.0)	10 (25.0)	0.638
Yes		7 (14.9)	1 (14.3)	3 (42.9)	1 (14.3)	2 (28.6)	
Complementary & Alternative Medicine Use							
No		10 (21.3)	4 (40.0)	2 (20.0)	3 (30.0)	1 (10.0)	0.452
Yes		37 (78.7)	8 (21.6)	10 (27.0)	8 (21.6)	11 (29.7)	



Complementary and Alternative Therapies for Anxiety in Breast Cancer Patients



Art therapy vs. Health care



Coloring mandala vs. Emotional distress

