

# The Effects of Mind Subtraction Meditation on Breast Cancer Survivors' Psychological and Spiritual Well-being and Sleep Quality: A Randomized Controlled Trial in South Korea

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본 연구에서는 마음수련 명상의 ‘마음빼기’ 명상법을 활용하여 유방암 생존자를 위한 명상 프로그램을 개발하고 그 효과를 검증하였다. 부정적인 인간마음을 ‘빼기’하여 긍정적인 우주마음으로 변화하는 마음수련 이론에서 중재의 이론적 기반을 확인하였으며, 유방암 생존자의 신체적, 심리적 특성을 고려한 마음빼기 내용을 구성하여 1주일에 2회씩 총 8주간 16회기, 1회에 2시간씩 총 32시간의 프로그램을 개발하였다. 연구 대상자는 수술이나 항암치료를 종료한 지 2년 6개월이 경과되지 않은 유방암 생존자 57명을 모집하여 무작위 배정하였고 최종 분석 대상자는 실험군 22명, 대조군 24명이었다. 실험군에게는 개발된 8주간의 마음수련 명상 프로그램을 제공하였고 대조군에게는 2시간씩 1주일에 1회, 총 4주간의 자기관리교육 프로그램을 제공하였다. 사전조사와 4주 후, 8주 후에 결과지표의 변화가 군간에 차이가 있는지 측정하였으며, repeated measures ANOVA, t-test,  $\chi^2$  test 등으로 분석하였다.

연구 결과, 유방암 생존자를 위한 마음수련 명상군은 자기관리 교육군보다 유의하게 우울, 불안, 지각된 스트레스가 감소되었으며 삶의 질, 수면의 질, 인생만족도, 외상 후 성장이 유의하게 향상되었다. 많은 연구와 이론들에서 건강 증진과 안녕, 삶의 질 향상을 위해서는 자기초월, 영적 건강, 삶에 대한 긍정적 관점이 중요하다고 제안한다. 본 연구는 그것을 가능하게 하는 마음수련 명상을 임상 실무에서 활용 가능한 중재프로그램으로 개발하여 적용한 결과 유의한 효과를 보임으로써 선행연구와 이론들을 지지할 뿐 아니라, 간호 현장에서 적용 가능한 중재의 실무적 방향을 제시하고 있다는 점에서 의의가 있다.

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**주제어:** 유방암 생존자, 마음수련 명상, 우울, 불안, 스트레스, 삶의 질, 수면의 질

## **Background**

Most breast cancer survivors experience psychological and spiritual distress, including depression, anxiety, perceived stress, and loss of meaningfulness in life. This distress can negatively impact physical health, quality of life, and quality of sleep.

## **Objective**

The aim of this study was to compare and examine the effectiveness of mind subtraction meditation (MSM) and a self-management education (SME) group on breast cancer survivors.

## **Methods**

A randomized controlled trial was conducted with South Korean female breast cancer survivors (stages I-III). Self-reported questionnaires were administered to both MSM group (n = 22) and SME group (n = 24) to measure psychological and spiritual well-being, as well as quality of sleep.

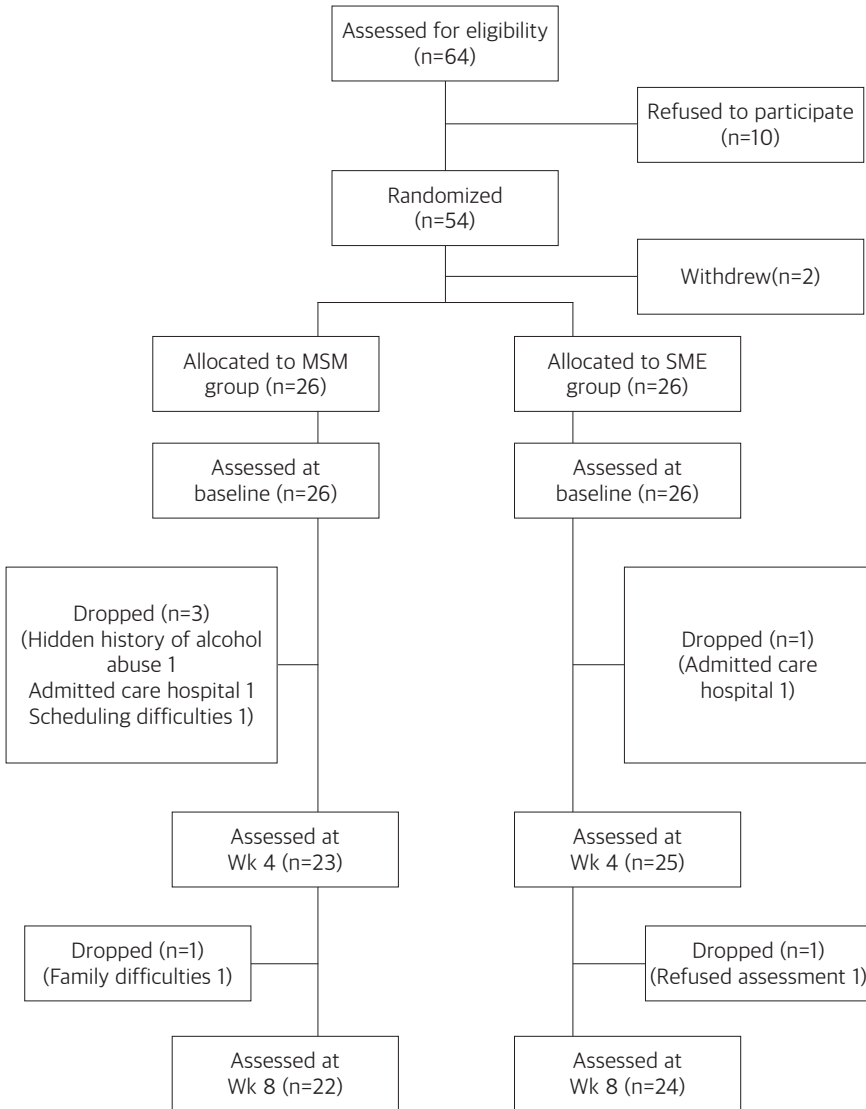


Figure 1. CONSORT flow diagram.

## Results

Compared with the SME group, the MSM group reported a significant decrease in depression ( $P = .034$ ), anxiety ( $P = .036$ ), and perceived stress ( $P = .009$ ) and an increase in quality of life ( $P < .001$ ), satisfaction with life ( $P < .001$ ), posttraumatic growth ( $P = .007$ ), and quality of sleep ( $P = .010$ ).

Table 1. Comparison of Changes in Patient-Reported Outcomes at Baseline, Week 4, and Week 8 Between the Mind Subtraction Meditation and Self-management Education Groups

Variables	Group	Pretest		4wk		8wk		4wk		8wk		F	P <sup>a</sup>
		Mean	SD	Mean	SD	Mean	SD	Group Difference (95% CI)	P <sup>b</sup>	Group Difference (95% CI)	P <sup>c</sup>		
CES-D	MSM n=26	16.36	9.80	14.27	10.82	7.27	7.32	0.19	.921	-3.30	.019	3.521	.034
	SME n=26	13.91	10.50	12.08	10.21	9.37	7.24	(-3.72 to 4.10)		(-6.02 to -0.58)			
BAI	MSM n=26	11.96	8.06	9.73	6.17	7.15	6.47	0.62 (-2.23 to 2.35)	.957	-1.61 (-3.60 to 0.38)	.111	3.428	.036
	SME n=26	8.53	7.41	7.38	6.84	6.96	5.69						
PSS	MSM n=26	17.15	4.58	16.19	4.20	12.19	5.08	0.46 (-2.02 to 2.11)	.964	-3.05 (-5.00 to -1.10)	.003	5.220	.009
	SME n=26	15.88	6.06	15.31	5.84	14.58	5.25						
FACT-B	MSM n=26	85.88	15.71	92.92	15.53	106.69	16.86	1.74 (-4.09 to 7.57)	.359	12.12 (6.74 to 17.50)	<.001	9.149	<.001
	SME n=26	89.54	20.49	94.08	19.73	95.38	14.41						
SWLS	MSM n=26	18.38	6.09	20.15	4.96	25.23	4.89	1.52 (-0.27 to 3.31)	.096	5.46 (3.27 to 7.65)	<.001	11.646	<.001
	SME n=26	19.38	4.21	19.38	5.12	19.27	5.25						
PTGI	MSM n=26	62.65	17.41	63.65	20.01	75.31	18.30	-0.72 (-7.03 to 5.59)	.819	11.16 (4.12 to 18.20)	.003	5.251	.007
	SME n=26	59.57	20.68	61.92	17.69	62.77	20.75						

Abbreviations: BAI, Beck Anxiety Inventory; CES-D, Center for Epidemiologic Studies Depression Scale; CI, confidence interval; FACT-B, Functional Assessment of Cancer Therapy Breast; MSM, mind subtraction meditation; PSS, Perceived Stress Scale; PTGI, Posttraumatic Growth Index; SME, self-management education; SWLS, Satisfaction With Life Scale.

<sup>a</sup>P values for the group × time interaction from the repeated-measures analysis of variance.

<sup>b</sup>P values for group differences in means from baseline to 4 weeks.

<sup>c</sup>P values for group differences in means from 4 weeks to 8 weeks.

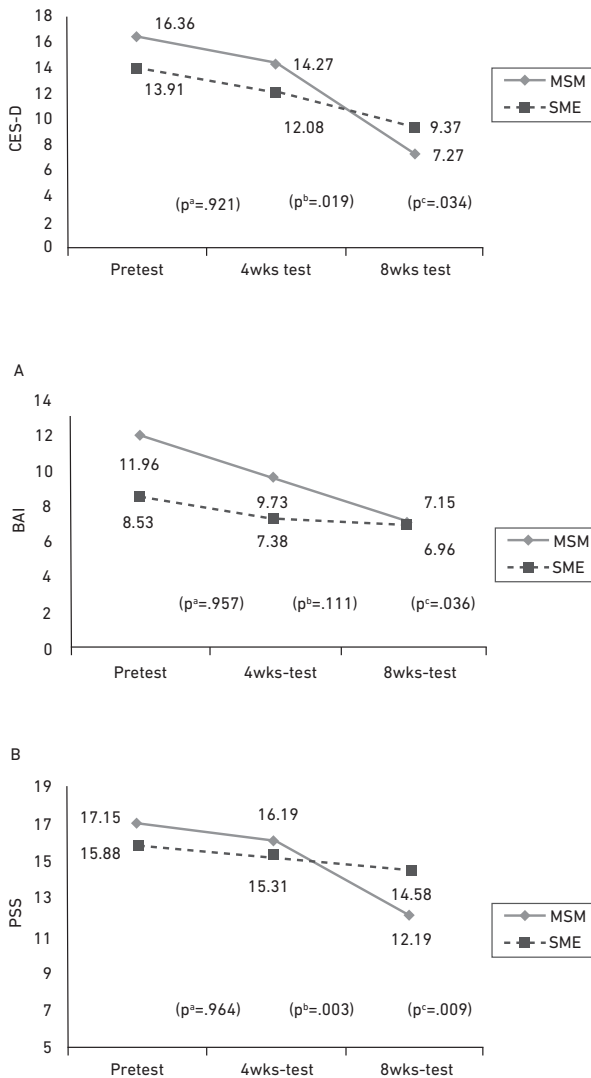


Figure 2. The effects of negative emotions: depression, anxiety, and perceived stress. CES-D indicates Center for Epidemiological Studies Depression Scale; BAI, Beck Anxiety Inventory; PSS, Perceived Stress Scale; MSM, mind subtraction meditation; SME, self-management education. <sup>a</sup>Group differences in baseline to 4weeks' means. <sup>b</sup>Group differences in means from 4weeks to 8weeks; <sup>c</sup>Group X time interaction from repeated-measures analysis of variance.

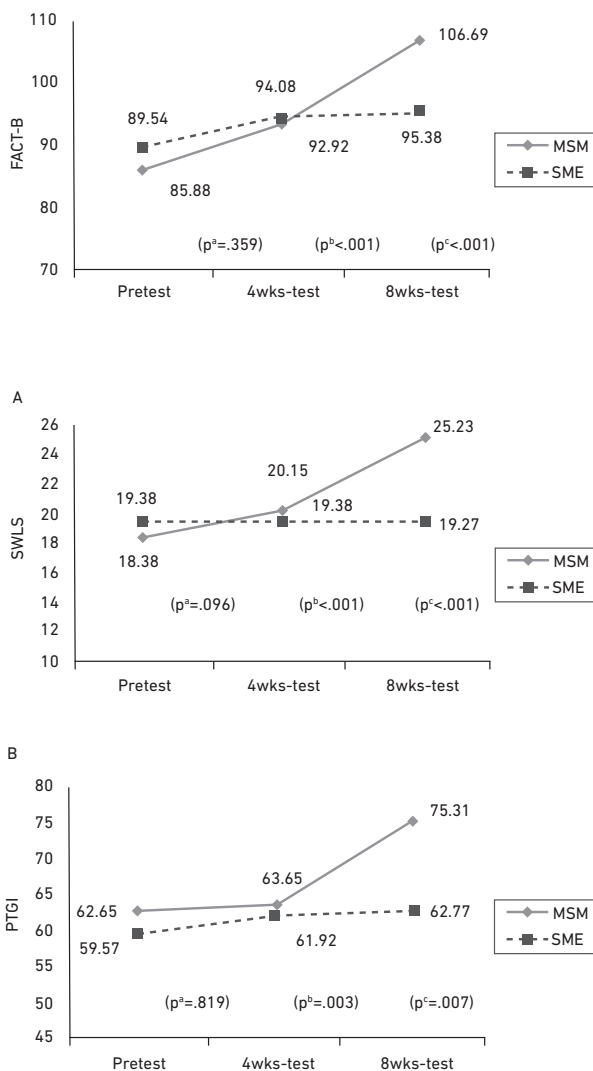


Figure 3. The effects of positive emotions: quality of life, satisfaction with life, and posttraumatic growth. FACT-B indicates Functional Assessment of Cancer Therapy-Breast; SWLS, Satisfaction With Life Scale; PTGI, Posttraumatic Growth Index. <sup>a</sup>Group differences in baseline to 4weeks' means. <sup>b</sup>Group differences in means from 4weeks to 8weeks. <sup>c</sup>Group X time interaction from repeated-measures analysis of variance.

Table 2. Comparison of Changes in PSQI Scores From Baseline to Week 8 Between the Mind Subtraction Meditation and Self-management Education Groups

Change in Sleep Quality			MSM		SME		Total		$\chi^2$	<i>P</i>
Baseline	→	8wk	n	%	n	%	n	%		
Bad	→	Good	8	36.4	1	4.2	9	19.6		
Bad	→	Bad	12	54.5	16	66.7	28	60.9		
Good	→	Good	2	9.1	3	12.5	5	10.9		
Good	→	Bad	22	0	4	16.7	4	8.7	9.887 <sup>a</sup>	0.010
Total			22	100	24	100	46	100		

Abbreviations: MSM, mind subtraction meditation; PSQI, Pittsburgh Sleep Quality Index; SME, self-management education.

<sup>a</sup>Fisher exact test; bad =PSQI ≥5; good=PSQI <5.

## Conclusions

Mind subtraction meditation may have positive therapeutic effects among breast cancer survivors. This meditation program may be useful to manage psychological and spiritual distress, as well as improve quality of life and sleep, in clinical settings among breast cancer survivors.

## Implications for Practice

This study demonstrated the clinical effectiveness and the feasibility of applying the MSM method to breast cancer survivors. The participants had a high attendance rate in the program, which speaks to the likelihood of the applicability of the meditation program on an outpatient basis.