DEPRESSIVE DISORDER AND PERSONALITY AFTER MASTECTOMY
Yae Ji (Jean) Kim (Ansuk Jeong, Ph. D)
Department of Psychology

Introduction

In South Korea, breast cancer is the most common cancers in women. The treatment called mastectomy leads to a huge change in physical appearance; moreover, those lesion or injured part are directly related to femininity and maternal instinct (Kang, Sung, Park, Lee & Lee, 2013). Depressive disorder, specifically, is the most commonly outlined psychological disorder, because it affects psycho-social adaptation and overall quality of life of breast cancer patients negatively (Ha, Yu, Kang, Kim, Lee, Lee & Ro, 2011). According to Grabsch and his colleagues (2005), 42% of breast cancer patients complain symptoms of anxiety and depression, and Seo (2007) claims depressive disorder is applied as the most influential predictor in determining quality of life to the patients who have diagnosed breast cancer who show worry of recurrence after treatment. Regarding to this phenomenon, Burgees and his colleagues (2005) reported 50% of patients are undergone depressive disorder the year when they are diagnosed, 25% after 2-4 years, and about 15% after 5 years; this range is much higher than general population's (Weitzner, Stuebing, & Saaleeba, 1997). The previous researches about personality aspect as a risk factor of depression stated, neuroticism, negative cognition, attributional style, and interpersonal sensitivity have been brought up as the factors (Kendler et al., 1993; Ahren & Haaga, 1993; Boyce et al., 1991; Beck et al., 1987). However, those studies mainly focused on at the time of being diagnosed to cancer, not after treatment. Since the physical and psychological state are different in situation of diagnosis and actual treatment, the level of depression would also be various in those situations. The purpose of this research is to study the relationship between depressive disorder and individual personality traits of adult breast cancer patients after mastectomy.

Procedures

The Institutional Review Board application of the study was approved in Kyung Hee University Medical Center in South Korea. The study and participation opportunity has been announced by Sun Young Min who is an assistant professor of breast cancer department at the research site. After recruited 55 participants, they were instructed and informed about the purpose of the research and asked for consent. The survey was conducted with assistant researcher for language or statement issue.

Participants

55 of adult breast cancer patients who are in the middle of or done with treatment at Kyung Hee University Medical Center were targeted. Participants did not have any obstacle to communicate in Korean. The exclusion criteria of the patients are young children and pregnant

women who may experience special treatment. Patients who have a history of mental illness had also been excluded from this study. Patients were asked by their doctor for being participants of the research. Participants signed the informed consent after being informed of the purpose of the study, so that they could sincerely contribute ideas and concerns about breast cancer and their life.

Measurement

This study employed the survey of self-administered questionnaire and interview if needed. The questionnaires contain various psycho-social variables including depressive disorder and were also asked to report demographic information, physical health, and personality. For demographic variables, age, gender, education level, marital status, religion, career change, menopause, living arrangement, family income were measured from the patients. Depressive Disorder- *Center for Epidemiological Studies_Depression* by Radloff (1997) is 20-item measure that asks caregivers to rate how often over the past week they experienced symptoms associated with depression, such as restless sleep, poor appetite, and feeling lonely. Personality- *Big Five Personality Test* (1961) is a measure for personality categorized into five different factors: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

| Predictors | Center for Epidemiological Studies Depression (CES-D) | | | | | |
| | Model I | | Model II | | Model III | |
	β (SE)	p value	β (SE)	p value	β (SE)	p value
Age	0.187	0.305	0.329	0.027	0.419	0.023
Neuroticism			1.110	0.000	1.330	0.000
Extraversion					0.077	0.806
Agreeableness					0.083	0.806
Conscientious ness					0.516	0.148
Openness					-0.256	0.219

Table 1. Predictors of Patient's Personality traits and Center for Epidemiological Studies Depression

Analysis

Hierarchical Multiple Regression Analysis was used to analyze the data. To test effects of age of breast cancer patients, the variable was entered as predictor in Model I. In Model II, to see the effects of Neuroticism as a risk factor on depressive disorder, Neuroticism variable was added. In Model III, above the Neuroticism, other four personality variables were entered to see other personality traits have effects as a risk factor on depression.

Model III shows depression was regressed on Age and Neuroticism. Age was significantly associated with depression ($\beta = 0.419$, $p = 0.023$). It indicates that for every one unit increase in age evaluate a decrease of depression by 0.419 units. Moreover, Neuroticism was

significantly associated with depression ($\beta = 1.33$, $p = 0.000$) implying that every increase of a unit in Neuroticism relates to 1.33 decrease of depression.

Discussion

As many studies have been found out, Neuroticism is also applied as a risk factor on depressive disorder to breast cancer patients among the five personality traits. Other personality traits- Openness, Extraversion Conscientiousness, Agreeableness- are not that effective or not considered as a risk factor on depression relative to Neuroticism to the patients after mastectomy. This research provides sights for planning intervention programs on the cancer patients' about psycho- social well-being in the future. Relatively neurotic breast cancer patients need proper treatment and prevention program on depressive disorder.

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