



Predictors of distress trajectories in the first year after a breast cancer diagnosis

Jin-Hee Park, Sun Hyung Bae
College of Nursing, Ajou University, Republic of Korea

Backgrounds

Distress has been defined by the NCCN as “an unpleasant experience of an emotional, psychological, social, or spiritual nature that interferes with the ability to cope with cancer treatment [Bultz et al, 2011]. Given that psychological distress is associated with reduced survival, quality of life and psychological outcomes [VanHoose et al, 2015], identifying patients who may be at high risk for persistent psychological distress over time may assist health professionals in developing more efficient and efficacious interventions tailored to these individuals [Carlson et al, 2013]. **The purpose of this study were to: (1) identify distinct trajectories of distress and (2) identify predictors of trajectories of distress in breast cancer patients.**

METHODS

Participants were 117 women who underwent surgery for breast cancer. Measures of psychological distress (The Distress thermometer, DT) and problem lists and socio-demographic and medical characteristics were assessed at baseline (before chemotherapy, T1), after (within a week of) completing adjuvant chemotherapy, T2), and 6 months after adjuvant chemotherapy (T3), respectively. A group-based trajectory model was used to identify distinct trajectories of distress and logistic regression analysis was used to explore predictors of the distinct groups.

RESULTS

The mean age of the participants (n = 117) was 45.12 years (range, 26-64 years). There were two trajectories of distress: the **chronically higher distressed group (Group 2)** reported a cut-off score of ≥ 4 on the DT all measurement points, even though linearly declined at a bit slope ($b_1 = -0.42$, $SE = 0.54$, $p = .446$) over time. Meanwhile, **the lower distressed group (Group 1)** started out with a rather moderate level of distress but declined ($b_2 = -1.08$, $SE = 0.22$, $p < .001$) over time below the cut-off score after adjuvant chemotherapy.

RESULTS

Multiple logistic regression revealed that older women (measured in five-year intervals) had a 50% increased odd ratios [OR = 1.50, 95% CIs (1.12, 2.04)] for having severe distress (Group 2) than mild distress (Group 1). And women who had problems dealing with depression [OR = 7.51, 95% CIs (1.26, 44.86)], nervousness [OR = 10.07, 95% CIs (1.20, 84.61)] and pain [OR = 6.74, 95% CIs (1.10, 41.05)] were more likely to have severe distress.

Table 1. Predictors of psychological distress trajectory (N=117)

Variables	β	SE	OR	p	95% CIs
Age	0.41	0.15	1.50	.007	1.12-2.04
Presence of spouse(No=1)	1.54	1.11	4.68	.162	0.54-40.81
Amenorrhea(No=1)	1.77	1.39	5.88	.203	0.38-90.19
Child care (Yes=1)	0.09	1.04	1.10	.932	0.14-8.48
Insurance/financial (Yes=1)	0.88	0.81	2.41	.277	0.49-11.80
Depression (Yes=1)	2.02	0.91	7.51	.027	1.26-44.86
Fear (Yes=1)	0.81	0.91	2.26	.373	0.38-13.51
Nervousness(Yes=1)	2.31	1.09	10.07	.033	1.20-84.61
Sadness (Yes=1)	-0.98	1.09	0.38	.371	0.04-3.21
Worry (Yes=1)	1.29	1.21	3.65	.284	0.34-38.93
Loss of interest in usual activities (Yes=1)	0.93	0.93	2.54	.315	0.41-15.58
Pain (Yes=1)	1.91	0.92	6.74	.039	1.10-41.05

CIs = confidence interval; OR = odds ratio; SE = standard error.
* p<.05 ** p<.01

CONCLUSIONS

This study identified two distinct trajectories of distress, a sub-group of 19.4% of the women with breast cancer experienced chronic severe distress from primary surgery and throughout the first twelve months after diagnosis. Older age and having problem of dealing with depression, nervousness, and pain may characterize women whose psychological distress remain severe over time. Our results suggest can be used to detect and support the highest risk groups of severe distress. Further research should explore to replicate these findings with a larger sample and after a longer follow-up period.

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