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"Recover your smile" –
An evaluation of a short-term, psychosocial intervention in breast cancer patients

BACKGROUND

- Medical cancer treatment is often accompanied by appearance-related side effects (e.g., hair loss, skin irritation, paleness), affecting social and psychological well-being [1], and may promote nonadherence to treatment [2].
- Chemotherapy induced alopecia is associated with a decrease in health-related quality of life [3], especially in patients with higher distress [4] and younger patients [5].
- Initial evidence suggests that psychosocial interventions (i.e., beauty care) during the early stages of cancer may reduce depressive symptoms, and improve body image and quality of life [6, 7].
- To date, no study investigated the effects of a beauty care workshop in a randomized controlled trial and, therefore, it was tested whether depressive symptoms and quality of life would be improved in breast cancer patients (compared with a wait-list control).

METHODS

- $n = 37$ breast cancer patients undergoing chemotherapy were recruited through the Breast Centre Munich (see flowchart in Fig. 2)
- Stratifying for age and depression, patients were randomly assigned either to an immediate intervention group (IG) or a wait-list control (WL), with a waiting period of 4 weeks (Fig. 1)
- The intervention consisted of two elements:
    - **Session 1**: 4-hour group make-up workshop and photo shoot (S1; Fig. 3)
    - **Session 2**: receiving professionally edited portrait-/upper body-photos by email (S2)
- Questionnaires assessing trait-level depression [8] and quality of life [9] were administered at 4 (for IG) and 6 (for WL) measurements
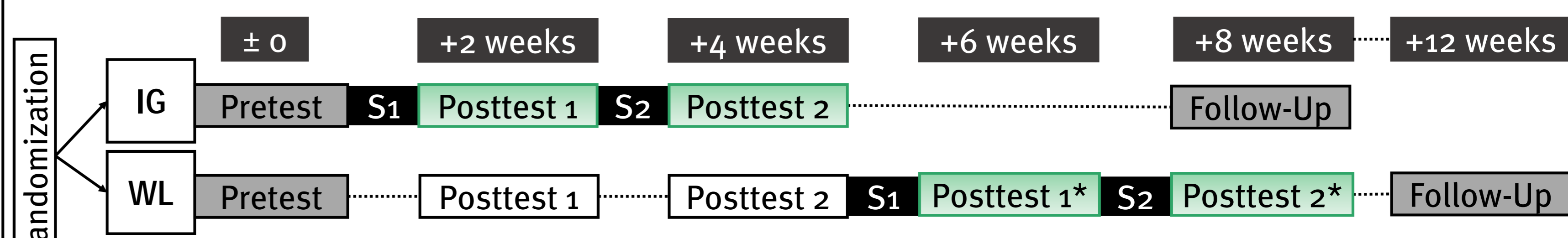

Fig. 1. General procedure of the current study. Between-group-comparisons at Pre-, Posttest 1 and Posttest 2. Posttests marked by an asterisk were only considered for within-comparisons.
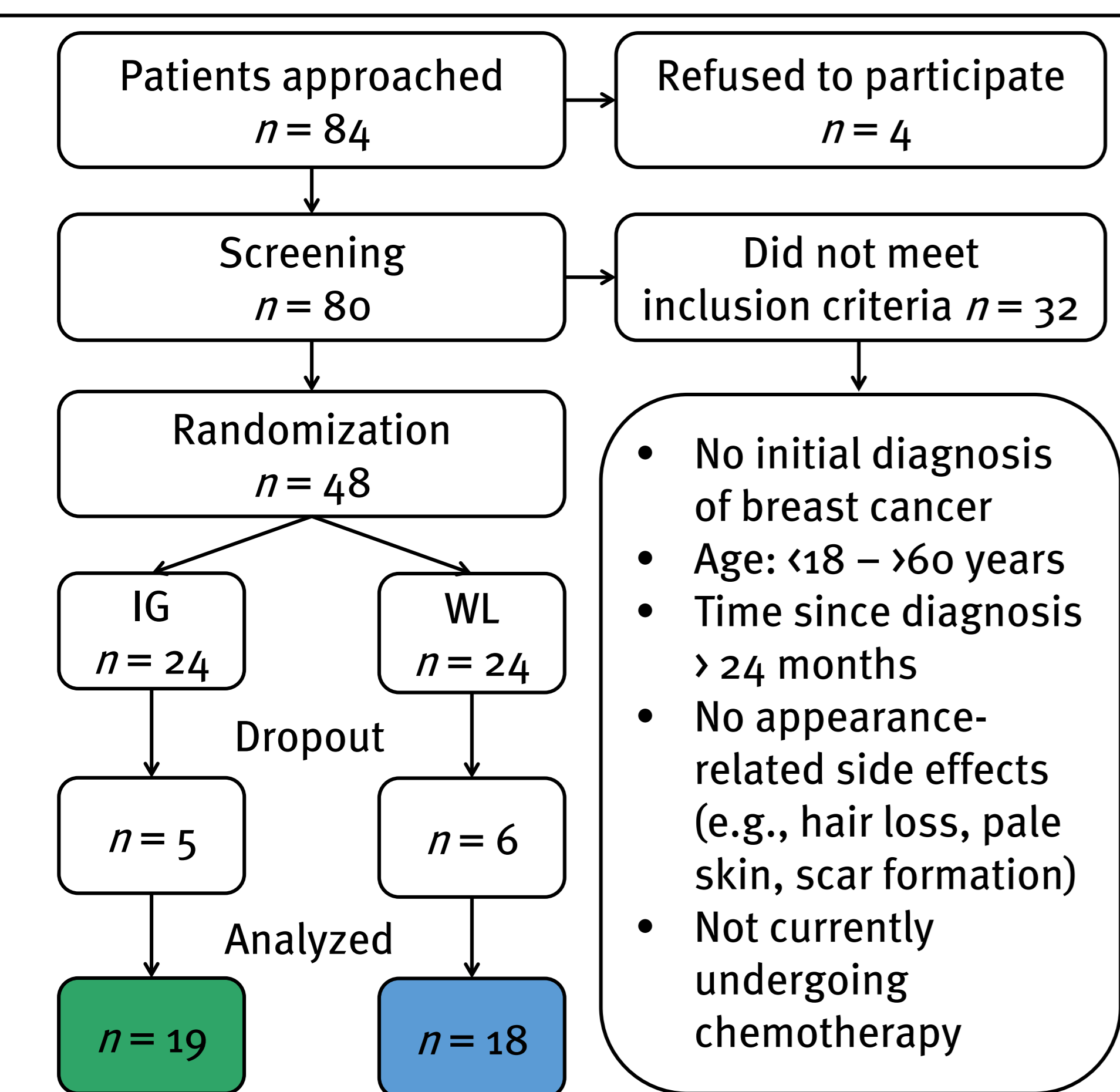

Fig. 2. Flow of participants.
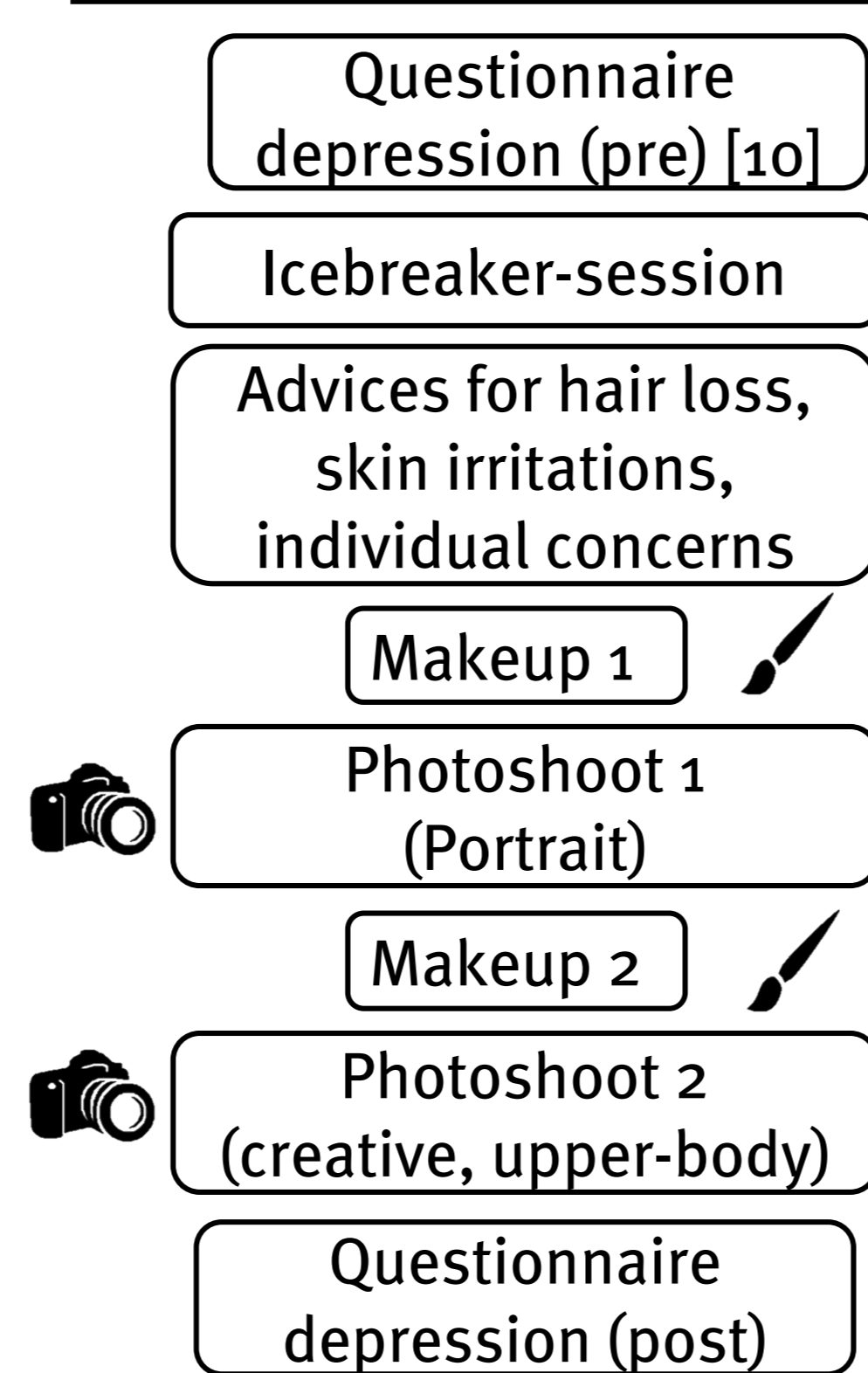
Procedure of Session 1

Fig. 3. Procedure of Session 1. Adherence was checked by questionnaire to ensure compliance and standardized session procedures.

Table. 1. Sample characteristics with means (SD) and frequencies (%) of immediate intervention group ($n = 19$) and wait-list control ($n = 18$).

		IG	WL
Time since diagnosis (months)		12.9 (5.9)	16.0 (6.3)
Age (years)		40.6 (11.7)	37.0 (9.5)
PHQ-2 (Screening)		1.9 (0.9)	2.4 (1.3)
Chemotherapeutic cycle		2.0 (2.5)	2.6 (3.2)
Tumor size	pT1: ‹ 2cm	7 (36.8%)	7 (38.9%)
	pT2: 2 – 5 cm	11 (57.9%)	10 (55.6%)
	pT3: › 5 cm	1 (5.3%)	1 (5.6%)
Lymph node status	pNo: negative	9 (47.4%)	12 (66.7%)
	pN1: 3 lymph nodes	6 (31.6%)	5 (27.8%)
	pN2: 4 – 9 lymph nodes	3 (15.8%)	1 (5.6%)

Notes. No significant differences between groups. PHQ-2, Patient Health Questionnaire [11] to screen for depressive symptoms; pT, primary tumor; pN, pathology of regional lymph nodes.

RESULTS

Immediate psychological effect within Session 1:
There was a decrease of depressive symptoms measured by the State-Trait Depression Scales [10] from the beginning ($M = 20.2$, $SD = 4.9$) to the end of Session 1 ($M = 15.1$, $SD = 3.3$), $t_{(36)} = -5.128$, $p < .001$, $d = -1.25$.

Effect of the intervention:
- Groups did not differ in any measure before treatment.
- Regarding **trait depression**, there was a Group × Time interaction, $F_{(1,35)} = -4.81$, $p = .035$, $\eta_p^2 = .15$, indicating that only participants of IG reported less depressive symptoms pre- to post1, $t_{(18)} = -2.36$, $p = .030$, $d = -0.51$ (Fig. 4A).
- Regarding **breast-cancer-related quality of life**, there was a Group × Time interaction, $F_{(1,35)} = 5.52$, $p = .025$, $\eta_p^2 = .15$, indicating that only participants of IG reported higher quality of life pre- to post1, $t_{(18)} = 2.85$, $p = .011$, $d = 0.35$ (Fig. 4B).
- Posttest 2 (at 4 weeks) and Follow-Up (at 8 weeks) indicated moderate stability of effects (see effect sizes and broken green line in Fig. 4A and 4B).

d = baseline corrected effect size of between-group differences — IG — WL

A

	IG	WL	d
Pre-post1	-0.51	0.23	-0.72
Pre-post2	-0.45	-0.09	-0.42

B

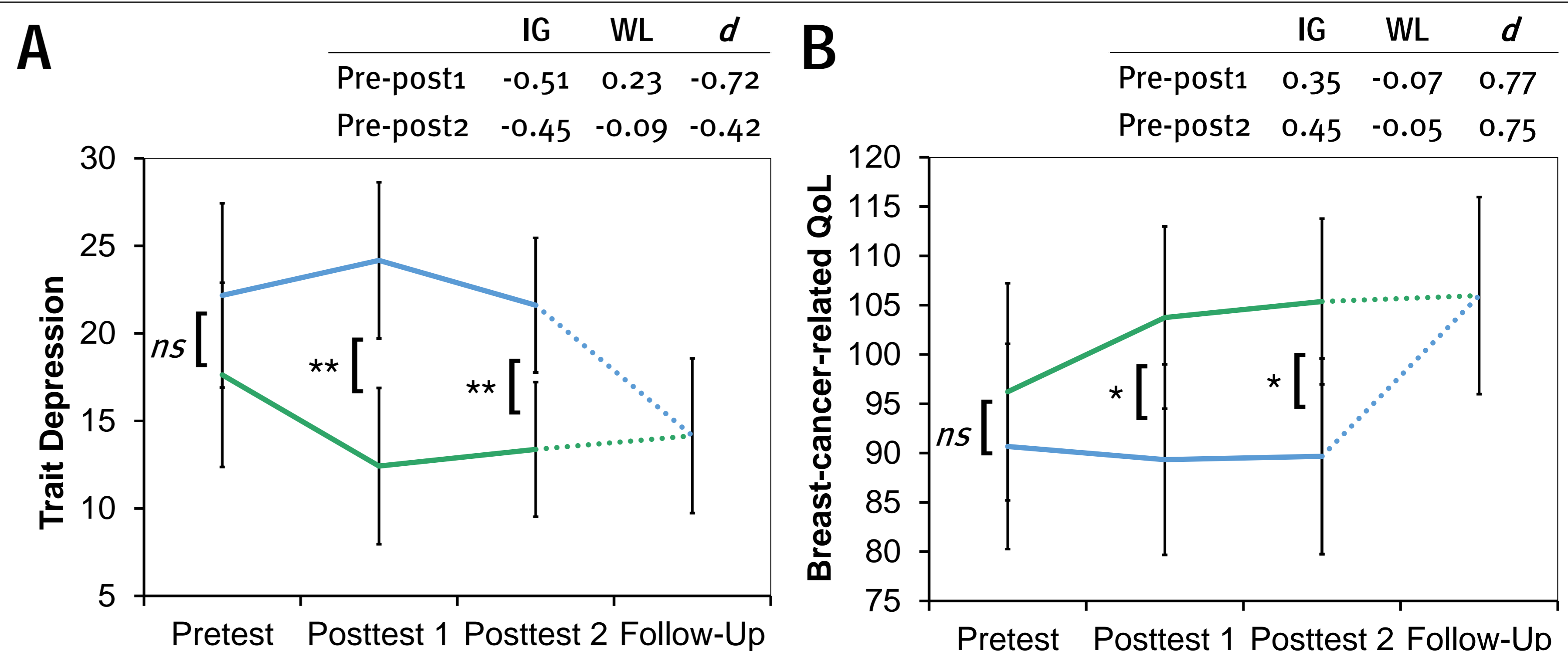|	IG	WL	d
Pre-post1	0.35	-0.07	0.77
Pre-post2	0.45	-0.05	0.75

Fig. 4. Means of study variables as a function of Group and Time. Error bars represent standard errors. ** $p < .01$, * $p < .05$. WL received treatment after 4 weeks and showed similar improvements (see broken blue lines).

CONCLUSION

- To our knowledge, this study represents the first randomized controlled trial examining the effectiveness of a beauty care intervention in breast cancer patients.
- Results show that participation in a group makeup-workshop and receiving the edited photos (Session 2, at 3 weeks after Session 1) decrease patient's depressive symptoms and increase self-reported, breast-cancer-related quality of life (compared to pretest and compared to WL, respectively).
- Results support the use of this type of brief, low-cost psychosocial intervention in women undergoing medical breast cancer treatment to improve their well-being.

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