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Group Versus Individual Educational Sessions With a *Promotora* and Hispanic/Latina Women's Satisfaction With Care in the Screening Mammography Setting: A Randomized Controlled Trial

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Abstract

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Based on presentations at the Meharry Vanderbilt Tennessee State Cancer Partnership 2019 annual meeting Nashville, TN, and the Tennessee Public Health Association Middle Tennessee Grand Division 2019 annual meeting, Lebanon, TN.

OBJECTIVE.—We studied Hispanic/Latina women's satisfaction with care after receiving group or individual educational sessions (vs standard of care) with a *promotora* before screening mammography. A *promotora* is a culturally appropriate community health worker for the Hispanic/Latino community. *Promotoras* have been shown to increase screening mammography rates and follow-up of abnormal mammograms in this population. However, a *promotora's* impact on elements of patient care and patient satisfaction remains poorly described.

MATERIALS AND METHODS.—Hispanic/Latina women 40–64 years old were randomized to one of three groups: the control group (standard-of-care well woman screening), an individual educational session with a *promotora* followed by well woman screening with access to the *promotora*, or a group educational session followed by well woman screening with access to the *promotora*. Access to the *promotora* included the opportunity to ask questions during well woman screening and a follow-up telephone call to discuss results and follow-up if necessary. Participants completed a premammography survey that assessed demographics and health literacy and a postmammography survey that assessed satisfaction with care, interpersonal processes of care, and satisfaction with the *promotora*. We used multivariable linear regression models and two-sample *t* tests for continuous outcome measures and a multivariable logistic regression model for dichotomized outcomes.

RESULTS.—Of the 100 women enrolled in the study, 94 completed well woman screening and the postmammography survey. Hispanic/Latina women with access to the *promotora* providing educational sessions in either the group (mean satisfaction with care score, 78.1) or individual (mean satisfaction with care score, 78.8) setting reported higher satisfaction with care than those receiving the standard of care (mean satisfaction with care score, 74.9) ($p < 0.05$). The odds of highly compassionate care in women receiving educational sessions was increased and was particularly strong for those receiving individual educational sessions compared with standard of care (odds ratio, 4.78 [95% CI, 1.51–15.13]). We found that increased satisfaction with the *promotora* was significantly associated with increased satisfaction with care but that group versus individual educational sessions did not significantly impact satisfaction with the *promotora*.

CONCLUSION.—Our study findings have important implications as patient navigators and shared decision making become integral to cancer screening. Group educational sessions may offer a method to decrease the time and expense of providing educational services in the cancer screening setting. However, the overall more positive interpersonal experiences suggested in the individual setting suggest that a larger study is warranted to better understand differences between group and individual educational settings.

Keywords

community health worker; *promotora*; satisfaction with care; screening mammography

Significant disparities persist in mammography utilization in medically underserved communities [1]. In Hispanic/Latina women, breast cancer has the highest incidence and mortality of any cancer [2] in part because, among this group, women 40–65 years old participate in screening mammography at significantly lower rates than their white counterparts [3]. Breast cancers continue to be more frequently diagnosed at advanced

stages in Hispanic/Latina women when compared with non-Hispanic white women, at least in part because of later presentation and lower frequency of screening [2].

Culturally adapted patient-targeted interventions have been shown to reduce disparities in access to cancer screening programs [4–6]. Specifically, *promotoras*—that is, culturally appropriate patient navigators for the Hispanic/Latino community—have been shown to increase screening mammography rates and follow-up of abnormal mammograms in the Hispanic/Latino population [7–9]. The interaction between *promotoras* and community members has been postulated to increase positive attitudes about screening [10]. However, the *promotora*'s impact on elements of patient care, such as satisfaction with care, remains poorly described. Understanding this interaction can lead to more targeted future interventions to reduce disparities in cancer-related care [11].

We tested the hypothesis that satisfaction with care will be higher among women receiving either individual educational sessions or group educational sessions with a *promotora* than among women receiving standard-of-care screening mammography.

Materials and Methods

Ethical Considerations

This study was approved by the Vanderbilt University Medical Center Internal Review Board (IRB) and the Meharry Medical College IRB (IRB of record for Matthew Walker Comprehensive Medical Center, the federally qualified health center [FQHC] site where the research was performed) and is registered on clinicaltrials.gov (). All participants provided written informed consent. All participants were given a \$40 incentive gift card at the time of consent.

Study Design

The study was a randomized controlled trial with three arms. The study design was informed by an established community academic partnership [12]. Community involvement in research has been shown to increase both the quality and relevance of research [13–15]. We used the following community-based participatory research (CBPR) techniques: acknowledging the community, facilitating a collaborative partnership in all research phases, involving partners in a cyclic and iterative process, using community engagement studios, and disseminating findings and knowledge gained to all partners [16–19]. CBPR involves building relationships with community stakeholders, listening to understand the needs of the community, and incorporating feedback from the community into the design of the study. These CBPR techniques are previously described in detail in our previous work titled “Developing a Community Academic Partnership to Reduce Healthcare Disparities in Diagnostic Imaging” [12].

Setting

Informed consent, randomization, premammography survey, educational sessions, and clinical services took place at two clinics that were affiliated with a single local FQHC (i.e.,

Matthew Walker Comprehensive Health Center). The postmammography survey data were collected via telephone interview.

Participant Recruitment and Inclusion Criteria

Our recruitment goal for this trial, based on available funding and resources, was 100 participants. We recruited participants from both the FQHC electronic health record and from the community to facilitate efficient study accrual. The inclusion criterion was women 40–64 years old who self-identified ethnicity as Hispanic/Latino. We excluded women with a personal history of breast cancer, current breast symptoms, and those who had a screening mammogram in the 2 years preceding the study or who were already scheduled for mammography at the time of recruitment. Our research team contacted participants identified from the electronic health record via telephone for recruitment purposes and to confirm eligibility.

Community recruitment efforts included outreach through community events such as health fairs, Facebook advertisements, WhatsApp advertisements, radio announcements, and flyers posted in the Hispanic/Latino community.

After recruitment, participants were assigned to go to one of the two clinic sites for their well woman screening visit depending on convenience of time and location for the participants. Approximately 10 women were scheduled for each clinic date.

Consent and Randomization

Statistics software (R, version 2017, R Foundation for Statistical Computing) was used to generate the randomization schedule. The randomization procedure used blocked randomization with a fixed block size of 3 to allocate subjects in a 1:1:1 ratio to the control arm and the two intervention arms—individual education or group education. The order of the allocation within the block varied across blocks.

Women completed written informed consent forms on arrival at the clinic and were randomized. Eligible subjects were enrolled sequentially in order of arrival and were assigned to the control arm, the individual education arm, or the group education arm according to the randomization schedule. Because randomization occurred after women arrived for the clinic visit, participants in both the control arm and intervention arms were present together during the scheduled clinic dates.

Study Procedures

Premammography survey—After randomization, participants completed a brief premammography survey using paper and pencil. The survey assessed patient demographics and health literacy using the three questions of the Brief Self-Reported Health Literacy Screen (BHLS), which is available in English and Spanish [20–22]. The premammography survey was administered in English or Spanish at the preference of the participant.

Responses to the BHLS questions were elicited on a 5-point Likert scale. A total BHLS score for each participant was calculated by summing the three BHLS item responses for that participant, with higher scores indicating higher health literacy (possible range, 5–15).

The total BHLS score was analyzed as a dichotomous variable using an established cut point from the literature: Total BHLS scores less than or equal to 9 were considered low health literacy, and BHLS scores greater than 9 were considered high health literacy [22].

Educational sessions—Women in the control arm did not receive an educational session before their well woman screening. Women randomized to the intervention arms (individual or group educational sessions) participated in a 20-minute educational session with the *promotora*. Educational sessions were delivered in English or Spanish at the preference of the participant, with most selecting Spanish language. The *promotora* delivered educational sessions with a flip book of slides containing information on breast and cervical cancer, risk factors for breast and cervical cancer, and what to expect during screening examinations. The educational materials were designed and refined by the study team. The study team trained the *promotora* in delivery of the educational materials.

Women randomized to the individual education arm participated in one-on-one educational sessions with the *promotora*. Those randomized to the group education arm participated in a group educational session consisting of two or more participants and the *promotora*. If there were not two participants randomized to the group education arm during a particular clinic, a group setting was created by including the Spanish-speaking research assistant in the educational session; this type of group setting was used for four participants.

Well woman screening—The study offered well woman screening at no cost to all study participants (control and intervention arms) as recommended by community partner input. For the uninsured and underinsured population in this study, well woman screening services were paid for by the Tennessee Breast and Cervical Screening Program (TBCSP), a state and federally funded program designed to serve lower-income uninsured or underinsured women that provides payment for breast and cervical cancer screening to eligible women. FQHC clinicians provided this well woman screening consisting of a brief clinic visit and well woman examination followed by Papanicolaou test and screening mammography (performed immediately after the clinic visit) for eligible women, according to the FQHC protocol for participants in the TBCSP. Screening mammography was offered within the FQHC at one clinic site and in a building immediately adjacent at the second clinic site.

Women in the control arm received this standard-of-care well woman screening immediately after the premammography survey. Women in the intervention arms received well woman screening after the educational session and had access to the *promotora* during the clinic visit. Access to the *promotora* during the clinic visit provided participants with the opportunity to ask the *promotora* questions during well woman screening.

Return of results—All participants received their mammogram results via printed, mailed letter according to FQHC protocol. Participants in the intervention arms also received a telephone call from the *promotora* approximately 3–5 days after the mailing of results to discuss the findings and schedule follow-up if necessary.

Postmammography survey—All participants were asked to complete an interviewer-administered telephone survey after confirmation that they had received their mammography results. The survey was conducted in English or Spanish, at the preference of the participant. The postmammography survey included questions from the Patient Satisfaction with Cancer Care (PSCC) measure, the Interpersonal Processes of Care (IPC) Survey, and the Patient Satisfaction with Interpersonal Relationship With Navigators (PSN-1) measure [23–25]. Women in the control arm were contacted to complete the postmammography survey approximately 3–5 business days after the mailing of results. Women in the intervention arms were contacted by the interviewer after the *promotora* had discussed the results with the participant, approximately 1 week after the results were sent in the mail.

Record review—Study personnel reviewed participants' electronic health records to abstract information on screening mammogram results. Chart abstraction was performed between 1 and 12 weeks after randomization. Information included the results of the screening mammography through diagnostic imaging and recommended follow-up testing.

Outcomes

Primary outcome: satisfaction with care—The primary outcome, satisfaction with care, was measured by the PSCC. This self-report questionnaire consists of 18 questions, shows high construct validity, and is available in English and Spanish [23, 26]. The PSCC was designed to assess satisfaction with cancer-related care in individuals of diverse socioeconomic and cultural backgrounds. The PSCC focuses broadly on cancer-related care, including diagnostic testing such as screening, rather than on narrower concepts of cancer treatment, and consists of broad questions about the health care experience. Example PSCC items include the following: “I am satisfied with the care I received” and “I knew who to contact when I had a question.”

The scale was adapted for use with minimal changes to reflect interaction with health care providers in general rather than specifically with doctors. Changes to the Spanish version were performed by a translation service and were reviewed for readability by two bilingual study personnel members. Responses were elicited on a 5-point Likert scale.

The PSCC score for each participant was calculated (possible range, 18–90) by summing all PSCC item responses for that participant. The PSCC score was analyzed as a continuous variable. Higher scores indicated higher satisfaction with care. Participant surveys with incomplete PSCC responses (2/94, 2.1%) were excluded from PSCC analysis but were retained for other analyses.

Secondary outcome: interpersonal processes of care—Interpersonal processes of care were measured by the IPC Survey, a validated, self-report questionnaire available in English and Spanish. The IPC Survey shows high internal consistency and reliability in the Hispanic/Latino population and was developed and normalized among ethnically diverse populations of low socioeconomic status [24, 27, 28]. Items from the IPC Survey originally referred to communication during the past 12 months in the outpatient clinic setting and were reworded to refer to the screening mammography clinic visit. Changes to the Spanish

version were performed by a translation service and were reviewed for readability by two bilingual study personnel members.

The postmammography survey included 18 items selected from the IPC communication parent domain (three subdomains: hurried communication, elicited concerns, and explained results) and interpersonal style parent domain (two subdomains: compassionate/respectful and discrimination) most pertinent to the screening mammography process. Responses were elicited on a 5-point Likert scale (ranging from Never to Always) with higher scores indicating a more positive interpersonal experience. Reverse scoring was used for the hurried communication subdomain (in the communication parent domain) and the discrimination subdomain (in the interpersonal style parent domain), where lower scores initially indicated a more positive experience.

Participant surveys with incomplete IPC responses (1/94, 1.1%) were excluded from analysis of that particular parent domain and subdomain but were retained for other analyses. IPC subdomain scores for each participant were calculated by averaging the individual item responses within that subdomain (possible range, 1–5). IPC parent domain scores for each participant were calculated by averaging the subdomain scores within that parent domain. The IPC parent domain and subdomain scores were analyzed as continuous variables (possible range, 1–5).

In congruence with previous analyses of this measure, the IPC parent domain and subdomain scores were dichotomized to compare scores of 5 to scores of less than 5 given the tendency of score values to cluster around positive responses (i.e., positive skew) [29, 30].

Secondary outcome: satisfaction with the *promotora*—Among the participants randomized to the intervention arms, satisfaction with the *promotora* was measured by the PSN-1. This validated, self-report nine-item questionnaire was developed through an iterative process with multiple revisions on the basis of clinical research and expertise with Spanish translation available [25, 31]. The scale was designed to assess patient perception of his or her interaction with a *promotora* including communication, empathy, and reliability. Responses were elicited on a 5-point Likert scale.

The PSN-1 score for each participant was calculated (possible range, 9–45) by summing all PSN-1 item responses for that participant. The PSN-1 score was analyzed as a continuous variable. Higher scores indicated higher satisfaction with the *promotora*.

Statistical Methods

Participant characteristics were summarized using descriptive statistics, including means and SDs for continuous variables as well as percentages and frequencies for categorical variables.

For PSCC and IPC as continuous measures, multivariable linear regression models were used to examine the association of group or individual educational sessions with a *promotora* versus the standard of care. For dichotomized IPC score (5 or < 5), we used a multivariable logistic regression model to examine the association of group or individual

educational sessions with a *promotora* versus the standard of care. Dichotomized health literacy was included as a covariate in all the models. Additionally, a linear regression model was used to examine the association between PSCC scores and PSN-1 scores. Independent two-sample *t* tests were performed to compare PSN-1 scores between group and individual educational sessions.

Power analysis for the primary outcome indicates that for an intervention group of 33 subjects and a control group of 33 subjects, the study has 80% power to detect a difference in satisfaction with cancer care scores of less than -3.5 or greater than 3.5, using a SD of 5 with type I error of 0.05.

All analyses were performed using Stata software (version 14 2015, StataCorp). A two-sided $p < 0.05$ was considered statistically significant.

Funding

This study is funded by the National Center for Advancing Translational Sciences of the National Institutes of Health under award number UL1TR000445. The cost of well woman screening services was covered by the TBCSP.

Results

Enrollment

We enrolled the first participant on June 7, 2018, and the final participant on September 4, 2018. We identified 527 potentially eligible participants from the FQHC electronic health record. Of these participants, the study team attempted to contact 309 potential participants. The study accrual goal was reached through the combination of electronic health record and community recruitment, and recruitment efforts were stopped at that time. Of these 309 contact attempts, the study team was able to successfully contact and speak with 74 potential participants. Of the 74 women directly contacted, 22 were eligible for the study, 12 of whom expressed interest in study participation. Of these 12 women, 10 presented for a clinic day and completed the study. An additional 90 participants were enrolled from the community recruitment efforts.

A total of 100 participants provided consent, were enrolled, and were randomized. One was found to be ineligible after enrollment because she had undergone mammography the previous year and was withdrawn from the study. Of the remaining 99 enrolled participants, 94 completed the clinic day and completed or partially completed the postmammography survey (Fig. 1). Two participants only partially completed the PSCC and were excluded from PSCC analysis but were retained for other analyses. A single participant only partially completed the IPC Survey and was excluded from IPC analysis but was retained for other analyses.

Demographics

The demographic characteristics of study participants are presented in Table 1. Participants were similar in age and other demographic characteristics.

Primary Outcome: Satisfaction With Care

Distribution of PSCC scores by study arm are shown in Figure 2, and the results of the linear regression model analysis of PSCC score by study arms are shown in Table 2. The mean PSCC score of participants receiving group educational sessions with the *promotora*, 78.1, was significantly higher than the mean PSCC scores of participants receiving standard of care, 74.9 ($p < 0.05$). The mean PSCC score of participants receiving individual educational sessions with the *promotora*, 78.8, was also significantly higher than the mean PSCC score of participants receiving standard of care, 74.9 ($p < 0.05$). The mean PSCC scores of participants receiving group educational sessions and individual educational sessions did not differ.

Secondary Outcome: Interpersonal Processes of Care

Mean IPC scores (domain and subdomain) by study arm and results of the linear and logistic regression models of IPC scores by study arms are shown in Table 3. The odds of high compassionate care in the women receiving educational sessions was increased and was particularly strong for those receiving individual educational sessions compared with standard of care (odds ratio, 4.78 [95% CI, 1.51–15.13]). We also found suggestion of increased odds of improved communication, elicited concerns, explained results, and interpersonal style for individual education sessions versus those receiving standard of care, although none of these differences reached statistical significance.

Subgroup Analysis

In the subgroup analysis of participants in the intervention arms (both group educational and individual educational sessions), PSCC score was significantly related to PSN-1 score ($\beta = 0.95$, $p < 0.001$) (Fig. 3). The mean PSN-1 score among women receiving individual educational sessions (42.2) was similar to that among women receiving group educational sessions (40.3; $p = 0.09$).

Clinical Outcomes

Of the 99 participants in the study, 10 had abnormal mammograms (one in the control arm, five in the individual education arm, and four in the group education arm). Given the small numbers of participants in each study arm, we did not include mammographic findings in our statistical modeling.

Discussion

Hispanic/Latina women with access to a *promotora* providing educational sessions in either the group or individual setting reported higher satisfaction with care than those receiving the standard of care. Trends toward more positive interpersonal experiences were seen for those in the individual education arm when compared with the standard of care. We further examined the intervention arms to determine whether satisfaction with the *promotora* differed between women receiving group educational sessions and those receiving individual educational sessions. Although increased satisfaction with the *promotora* was significantly associated with increased satisfaction with care, group versus individual educational sessions did not significantly impact satisfaction with the *promotora*.

Previous studies have found that patients in underrepresented minority populations receiving navigation report higher satisfaction with medical care and are more likely to understand what is expected at follow-up visits than those without navigators [11, 32–35]. Furthermore, patients with better-rated navigators report higher satisfaction with care [36]. Our study expands on this existing literature by evaluating the interpersonal interaction between the *promotora* and the women—specifically, different types of educational settings provided by the *promotora*. Our findings support that increased satisfaction with the *promotora* is associated with increased satisfaction with care. More importantly, we found that both group and individual educational sessions improved satisfaction with care in a similar fashion and that providing education in a group setting in this population did not impact the satisfaction with the *promotora* when compared with education provided in the individual setting.

This pilot study has many strengths, including its CBPR design, the provision of well woman care to all participants who were not up-to-date on their care, and the use of standard measures to evaluate domains of satisfaction and interpersonal care. Exposure to only a single *promotora* further strengthened the study design by limiting the potential for bias that could be introduced with multiple *promotoras*. We also note some limitations. Participants in the study were from a single regional area of one state and had exposure to only one *promotora* at one FQHC, limiting generalizability. Additionally, the control and intervention arms attended the clinic at the same time, and this common clinic day may have inadvertently led to contamination of the study arms. The small population size and potential for unmeasured confounders are also limitations. Because both of the intervention arms in this study received education in addition to follow-up with the *promotora*, we are limited in distinguishing whether the education or the interaction with the *promotora* resulted in the desired effect of increased satisfaction with care. However, our study is able to distinguish the impact of group versus individual education on satisfaction with care between the intervention arms. The use of two recruitment methods also has the potential to introduce bias. Given the small number of participants enrolled through search of the electronic health record and the randomized study design, we did not include the method of recruitment in our statistical modeling.

However, the findings from this pilot randomized trial of *promotora* educational settings are important for developing future studies including more women and spanning a larger geographic area. To our knowledge, this study is the first comparison of group versus individual educational sessions with a *promotora* in the well woman screening setting.

Conclusion

Our study findings have important implications as patient navigators and shared decision making become integral to cancer screening. Group educational sessions may offer a method to decrease the time and expense of providing educational services in the cancer screening setting. However, the overall more positive interpersonal experiences suggested in the individual setting suggest that a larger study is warranted to better understand differences between group and individual educational settings.

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Fig. 1—.
Flowchart shows participant accrual and disposition. PSCC = Patient Satisfaction with Cancer Care, IPC = Interpersonal Processes of Care.

Fig. 2—.
Boxplot shows satisfaction with care as measured by Patient Satisfaction with Cancer Care (PSCC) score. Median scores and interquartile ranges (*whiskers*) in control arm, group education arm, and individual education arm are shown.

Fig. 3—

Scatterplot shows relationship of satisfaction with care, as measured by Patient Satisfaction with Cancer Care (PSCC) score (possible range, 18–90), versus satisfaction with *promotora*, as measured by Patient Satisfaction with Interpersonal Relationship With Navigators (PSN-1) score (possible range, 9–45). Linear regression shows statistical significance ($\beta = 0.95$, $R^2 = 0.34$, $p < 0.001$).

TABLE 1:

Demographic Characteristics and Health Literacy at Baseline

Characteristic	Control (<i>n</i> = 32)	Individual Education (<i>n</i> = 32)	Group Education (<i>n</i> = 30)	<i>a</i> <i>p</i>
Age (y), mean (SD)	47.7 (6.8)	48.2 (7.3)	47.3 (5.6)	0.88
Race				0.99
Hispanic/Latina	30 (93.8)	30 (93.8)	28 (93.3)	
Hispanic/Latina plus other	2 (6.3)	2 (6.3)	2 (6.7)	
Preferred language of Spanish	31 (96.9)	32 (100)	29 (96.7)	0.59
Marital status				0.74
Married or domestic partnership	17 (53.1)	15 (46.9)	17 (56.7)	
Divorced, widowed, or single	15 (46.9)	17 (53.1)	13 (43.3)	
Insurance				0.65
No insurance	29 (90.6)	31 (96.9)	29 (96.7)	
Insurance	2 (6.3)	1 (3.1)	1 (3.3)	
Unknown	1 (3.1)	0 (0)	0 (0)	
Previous mammogram (yes)	18 (56.3)	20 (62.5)	14 (46.7)	0.45
Education				0.78
< 8th grade	11 (34.4)	11 (34.4)	11 (36.7)	
Some high school	8 (25.0)	9 (28.1)	8 (26.7)	
High school graduate	6 (18.8)	4 (12.5)	5 (16.7)	
Some college	5 (15.6)	2 (6.3)	4 (13.3)	
College graduate	2 (6.3)	6 (18.8)	2 (6.7)	
Work				0.91
No work for pay	16 (51.6) ^b	15 (48.4) ^b	12 (41.4) ^c	
Part-time	7 (22.6) ^b	9 (29.0) ^b	8 (27.6) ^c	
Full-time	8 (25.8) ^b	7 (22.6) ^b	9 (31.0) ^c	
Monthly income (\$)				0.20
< 1499	19 (59.4)	24 (77.4) ^b	19 (63.3)	
1500–2500	7 (21.9)	6 (19.4) ^b	9 (30.0)	

Characteristic	Control (<i>n</i> = 32)	Individual Education (<i>n</i> = 32)	Group Education (<i>n</i> = 30)	<i>p</i> ^a
> 2500	6 (18.8)	1 (3.2) ^b	2 (6.7)	
High health literacy	18 (56.3)	23 (71.9)	22 (73.3)	0.28

Note—Unless indicated otherwise, results are reported as number (%) of participants.

^aContinuous variable *p* values obtained using one-way ANOVA. Categorical variable *p* values obtained using Pearson chi-square test.

^bThirty-one of 32 women answered this survey question, so the percentages are calculated with 31 as the denominator.

^cTwenty-nine of 30 women answered this survey question, so the percentages are calculated with 29 as the denominator.

TABLE 2:

Effect of Education Type on Patient Satisfaction With Care

Education Type	PSCC Score, Mean (SD)	Linear Model Evaluating Education Type Effect β	p
Study arms			
Control	74.9 (6.6)	Reference	
Group	78.1 (8.6)	3.56	0.049 ^a
Individual	78.8 (5.3)	4.20	0.019 ^a
Intervention arms			
Individual	78.8 (5.3)	Reference	
Group	78.1 (8.6)	-0.63	0.729

Note—PSCC = Patient Satisfaction with Cancer Care.

^aStatistically significant at $p < 0.05$.

TABLE 3:

Effect of Education Type on Interpersonal Processes of Care

Parent Domain and Subdomain	Education Type	IPC Survey Score, Mean (SD)	Linear Model		Logistic Model, OR (95% CI)
			β	<i>p</i>	
Communication	Control	4.28 (0.76)	Reference		1.00 (Reference)
	Group	4.44 (0.68)	0.14	0.436	0.92 (0.27–3.12)
	Individual	4.53 (0.71)	0.23	0.201	2.48 (0.81–7.60)
Hurried	Control	4.71 (0.36)	Reference		1.00 (Reference)
	Group	4.65 (0.41)	−0.07	0.529	0.64 (0.22–1.84)
	Individual	4.64 (0.54)	−0.09	0.443	1.30 (0.47–3.57)
Elicited concerns	Control	4.45 (0.96)	Reference		1.00 (Reference)
	Group	4.52 (0.86)	0.08	0.742	1.01 (0.36–2.88)
	Individual	4.56 (0.94)	0.12	0.613	1.77 (0.60–5.21)
Explained results	Control	3.69 (1.69)	Reference		1.00 (Reference)
	Group	4.13 (1.50)	0.43	0.280	1.54 (0.54–4.38)
	Individual	4.38 (1.36)	0.67	0.086	2.75 (0.92–8.28)
Interpersonal style	Control	4.62 (0.45)	Reference		1.00 (Reference)
	Group	4.59 (0.46)	−0.03	0.768	1.01 (0.37–2.79)
	Individual	4.71 (0.40)	0.08	0.469	1.83 (0.66–5.05)
Compassionate/respectful	Control	4.57 (0.64)	Reference		1.00 (Reference)
	Group	4.69 (0.57)	0.12	0.416	2.58 (0.88–7.53)
	Individual	4.79 (0.53)	0.22	0.136	4.78 (1.51–15.13) ^a
Discrimination	Control	4.68 (0.67)	Reference		1.00 (Reference)
	Group	4.49 (0.78)	−0.19	0.298	0.47 (0.15–1.46)
	Individual	4.63 (0.65)	−0.05	0.770	0.66 (0.21–2.11)

Note—IPC = Interpersonal Processes of Care, OR = odds ratio.

^a Statistically significant at $p < 0.05$.