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## Adaptation of a Cancer Clinical Trials Education Program for African American and Latina/o Community Members

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### Abstract

The pilot study reported in this article culturally and linguistically adapted an educational intervention to promote cancer clinical trials (CCTs) participation among Latinas/os and African Americans. The single-session slide presentation with embedded videos, originally developed through a campus–community partnership in Southern California, was chosen for adaptation because it was perceived to fit the CORRECT model of innovation (credible, observable, relevant, relatively advantageous, easy to understand, compatible, and testable) and because of the potential to customize any components not identified as core, allowing them to be revised for cultural and linguistic alignment in New York City. Most of the 143 community participants (76.2%) were female; most (54.6%) were older than 59 years. More than half (78.3%) preferred to speak English or were bilingual in English and Spanish. A large proportion (41.3%) had not completed high school. Knowledge and perceived benefits and barriers regarding CCT showed small, though statistically significant, increases. There were no statistically significant group differences for changes in mean knowledge, perceived benefits, or perceived barriers when examined by ethnicity, education level, language, or other included sociodemographic variables. However, a small, but

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#### Authors' Note

We thank all the interviewees and participants. Please contact the corresponding author to request access to instruments and data. This research took place while the first author was at Icahn School of Medicine at Mount Sinai.

#### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

statistically significant difference in perceived barriers was observed when examined by country of origin, with the foreign born score worsening 0.08 points ( $SD = 0.47$ ,  $p = .007$ ) on the 5-point Likert-type scale administered posteducation compared to preeducation. Participants' open-ended comments demonstrated the acceptability of the topic and intervention. This adaptation resulted in an intervention with the potential to educate African American and Latina/o general community members in a new geographic region about the purpose, methods, and benefits of CCTs.

### Keywords

African American; cancer prevention and screening; chronic disease management; clinical trial; community health; dissemination and implementation; health communications; health disparities; Latino; literacy

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Persistent racial/ethnic gaps in the epidemiology of cancer in the United States exist, such that higher morbidity and mortality rates are found among African American and, for some cancers, Latina/o populations, than among European American and Asian American populations (Tehranifar et al., 2009; U.S. Cancer Statistics Working Group, 2014). Cancer clinical trials (CCT), necessary for testing effective prevention and treatment methods, are slow to recruit participants, especially among ethnic minorities. While overall only 3% to 5% of cancer patients participate in CCT, a lower proportion of minorities participate; and minority participation appears to be falling even further below that of European Americans (Carpenter et al., 2012; J. G. Ford et al., 2005; Kwiatkowski, Coe, Bailar, & Swanson, 2013; Murthy, Krumholz, & Gross, 2004). Serious repercussions result from low minority participation in CCT, including less access to newer treatments, limited generalizability of data on treatment efficacy in underrepresented groups, and direct effects on research outcomes (Byrne, Tannenbaum, Glück, Hurley, & Antoni, 2014; Colon-Otero et al., 2008). Low participation in CCT among minority groups may be an early indicator, and even a cause, of racial disparities in cancer care and outcomes (Aizer, 2014).

To bridge between research settings and communities underrepresented in CCT, it has been recommended that cost-effective strategies be developed that can be integrated into the health care system (J. G. Ford et al., 2005). Research on perceptions of CCT among African American and Latina/o individuals identified themes related to three components of health literacy: scientific literacy (including fear of mistreatment), cultural/language literacy (race/ethnic matching to providers; native language), and civic literacy (lack of trust in biomedicine; Evans, Lewis, & Hudson, 2012). Findings from focus groups of African American and Latina/o participants suggest community-based education as a solution to resolve participation barriers (M. E. Ford et al., 2013). It has been recommended that strategies for increasing minority CCT participation should be tailored to specific populations, include education tools directed to underserved populations, and emphasize culturally and linguistically appropriate education (Chalela et al., 2014; Christian & Trimble, 2003; Springfield, 2010; Symonds, Lord, Mitchell, & Raghavan, 2012). This project aimed to adapt a promising, single-session intervention designed to increase knowledge and improve attitudes toward CCT participation for African Americans and Latinas/os and to test the feasibility of delivering the adaptation in the context of the adapting site.

## Method

An intervention designed to educate minority ethnicity community members about CCT, originally developed through a partnership between researchers at University of California at San Diego Moores Cancer Center, San Diego State University, and Vista Community Clinic, was adapted by staff at the Icahn School of Medicine at Mount Sinai (ISMMS), New York City (NYC). The San Diego partnership created the Breast Cancer Clinical Trials Education Program (BCCT) to educate about breast CCT among Hispanic and African American communities, and to ultimately increase diversity among research samples (Sadler et al., 2010). The BCCT drew on primary research with community focus groups in an effort to culturally adapt the National Cancer Institute (NCI) Cancer Clinical Trials Education Series (NCI, 2004a), which was viewed as ineffective in educating underrepresented populations. The San Diego partnership then worked with community groups to further revise the BCCT curriculum content and cultural alignment, integrating additional elements of NCI's Cancer Clinical Trials Education Series and Spanish-language slide programs (NCI, 2004b, 2004c) to create the Clinical Trials Education Program for Hispanic Americans (CTEP-HA). The CTEP-HA aimed to educate Latinas/os more broadly about CCT for all cancers. The program included information about (1) how CCT lead to new medical discoveries, (2) CCT procedures, (3) the benefit of diverse participation, (4) how participants or their communities might benefit from the discoveries resulting from CCT, and (5) participants' rights and protections. The CTEP-HA curriculum was designed to be delivered to individuals or groups via a slide presentation. Both of the programs developed by the San Diego partnership have been shown to be effective in increasing knowledge about and improving attitudes toward clinical trials (Riley, Merz, Malcarne, & Sadler, 2012; Sadler et al., 2014).

The ISMMS team selected the CTEP-HA intervention for adaptation both because it fit the requirements of the CORRECT model of innovation (it is credible, i.e., based on sound evidence; is able to generate observable outcomes; addresses a relevant problem; offers a relative advantage to other options; is easy to understand; is compatible with the adapting site; and is testable; Glaser, Abelson, & Garrison, 1983) and because of the compatibility of the core and customizable components (Scheirer & Dearing, 2011) with the context of the adapting site. The core components were identified as the curriculum and presentation format. The customizable components were identified as geographic setting, language and cultural elements, embedded video, the preand postsession questionnaire and method of administration, and contact and institutional brand information. In addition to the DVD-based slide presentation in English and Spanish, the San Diego team provided the ISMMS team with pre- and postprogram surveys in both languages that were designed to measure sociodemographic variables, knowledge, and perceived benefits and barriers regarding CCT.

The goal of the adaptation was to determine and implement only those modifications necessary to make the material culturally and linguistically competent for African American and Latina/o New Yorkers given demographic and environmental differences between NYC and San Diego (Castro, Barrera, & Martinez, 2004). NYC Latino populations are more diverse than those in San Diego. The adaptation also aimed to reach African Americans. In 2010, 90.4% of Latinas/os in San Diego were of Mexican origin; in NYC, Puerto Ricans were the largest Latino group (30.8%), followed by Dominicans (25.3%) and Mexicans

(14.3%; Bergad, 2011; Motel & Patten, 2012). Latinas/os represented 28.6% of the NYC population, and African Americans represented 25.5% (U.S. Census Bureau, 2014). While broad cultural similarities exist among diverse Latino groups, there are inter- and intragroup differences in histories, migration patterns, ethnicities, and socioeconomic status that are associated with variations in language preference, use, and communication styles (Durand, Massey, & Zenteno, 2001; Lipski, 2008; Peterson-Iyer, 2008; Riosmena & Massey, 2012). Attending to these variations can improve the quality of health care and health education directed toward Latinas/os. This study aimed to determine whether the intervention could successfully be adapted for use in a different geographic location, in a context where African Americans' learning needs were addressed as well as those of a more diverse Latino population.

The curricula and surveys were closely examined by the ISMMS researchers and revised to ensure a compatible adaptation while maintaining comparability. This process consisted of a detailed review of the curriculum content and language by four team members (two bilingual English-Spanish Latina health educators, one African American health educator, and one bilingual European American medical anthropologist) and a review of the embedded video segments for representativeness of NYC minority populations.

The video segments embedded in the curricula were revised such that footage of interviews filmed outdoors in San Diego was replaced with video filmed indoors in winter in NYC. Interviews with two female and one male CCT participants and a family member, whose appearance and accents were perceived to likely be Mexican-American by the NYC team, were replaced with video of two NYC trial participants (one female African American in the English version, and one male bilingual Salvadoran in both the English and Spanish versions). Video of a Latino physician explaining aspects of CCT in both languages was retained.

The revisions to the survey and curriculum were intended to increase linguistic compatibility. No substantive changes were made in the English version of the curriculum. Minimal changes were made in the Spanish versions of the curriculum and survey, substituting terms used primarily by Mexican-origin speakers with terms that would be understood by the more diverse Spanish speakers in NYC. For example, the original version most often used the expressions “estudios clínicos” (clinical studies) and “investigación clínica” (clinical research) while the NYC team agreed that the terms “pruebas clínicas” (clinical tests) and “ensayos clínicos” (clinical trials) were more common in NYC. Minor changes were made to the retained items of the demographic survey. The result was two slide presentations in English and in Spanish, with embedded video segments. The duration of the single session curriculum without the questionnaire was about 45 minutes in each language.

The pretest, posttest, and demographic questions were inserted in the slide presentation, effectively bookending the curriculum, and the entire data collection was accomplished in English or Spanish via an electronic Audience Response System (ARS). ARS has been recommended to encourage community engagement of underserved communities in research to reduce health disparities (Davis et al., 2012). While participants answer anonymously, the

system can be programmed so that for predetermined items the participants can see aggregate group responses. During each delivery of the intervention, after completion of the pretest knowledge and attitudes questions via the ARS and the delivery of the curriculum, the posttest questions on attitudes and knowledge were administered. After each posttest knowledge, question was displayed, the responses to that item were submitted, the summed group responses displayed, and the educators emphasized the correct responses to reduce any remaining gaps in knowledge. Responses to the pretest, demographic, and attitude questions were not displayed. To protect participant confidentiality, no personal identifying information was collected during the survey. The revised presentation including the survey was presented to the ISMMS team's group, including bilingual and culturally competent minority ethnicity health educators and study recruiters, whose consensus was that the program was well adapted for local cultural and linguistic needs.

### **Measures and Administration**

The measurable outcomes chosen for this study were (1) change in CCT knowledge and attitudes, and (2) open-ended feedback. The knowledge and attitude items were administered before and after the educational intervention. Open-ended feedback was sought by asking participants to write comments about the program on index cards after each program.

### **Knowledge About CCTs**

Six true/false questions were used before and after the program to measure participants' change in knowledge, for example, "There are different types of clinical trials," and "Clinical trials are research studies in which people help test promising solutions to health problems."

### **Attitudes Toward Benefits and Barriers of Participation**

Items from the Barriers and Benefits to Clinical Trials Participation (Malcarne, Aldridge, Roesch, Riley, & Sadler, 2008; Sadler et al., 2012), an attitude scale divided into benefits and barriers to CCT participation, were administered to participants before and after the program. The scale consisted of 14 items measuring perceived benefits and 15 items measuring perceived barriers to participation in CCT. Items were scored on a 5-point Likert-type scale ranging from "strongly disagree" to "strongly agree." For example, items measuring benefits included "If I take part, it could help members of my community" and "It may be the only way to receive a new treatment." Items measuring barriers included "I worry they are not telling me everything I need to know" and "The results will be the same whether people from minority groups take part or not."

### **Program Acceptability and Feasibility**

The acceptability and feasibility of the program were estimated through open-ended comments submitted anonymously by participants after each program. The comments were transcribed and coded as positive, negative, and/or neutral. Each comment could receive one point for each content type, totaling up to three points per comment. Two bilingual coders independently reviewed the comments, and differences in coding decisions were resolved through discussion.

## Recruitment

This pilot study focused on adults of African American and Latino ethnicity. A recruitment goal of 120 participants was established: 40 African Americans, 40 English-speaking Latinas/os, and 40 Spanish-speaking Latinas/os. The eligibility criteria were the following: age 18 years or older, African American or Hispanic/Latino descent, and able to provide informed consent in English or Spanish. These criteria and the incentive offered, a \$25.00 gift card, were specified on the recruitment flyer, which was designed in both English and Spanish. The ISMMS Program for the Protection of Human Subjects reviewed this project and determined that it was exempt human research as defined by U.S. Department of Health and Human Services regulations 45 CFR 46.101(b)(2). To recruit host sites, flyers were distributed among community sites in NYC, and follow-up telephone calls were made to request sites to host a program. Flyers were also posted in the hospital's internal medicine clinic, which serves primarily minority patients. Five sessions each were conducted at Mount Sinai Hospital and in community sites (three in the Bronx, and two in Harlem). The community sites were an arts and education center, a social service program, two senior citizen centers, and an adult day services program. To meet the accrual levels set for ethnic and language groups, a total of 143 participants were enrolled.

## Analysis

Analyses were conducted to examine the sociodemographic predictors of change in knowledge and attitudes and to categorize the content of the qualitative comments. All statistical analyses were conducted using SPSS 19.0. Overall, the program delivery went well. Technical difficulties resulted in one participant having several missing responses. Data for that individual were eliminated from the sample. Eleven (7.7%) participants selected "Other" ethnicity rather than one of the four Latin or African American origin choices. Because the program was designed for African American and Latina/o participants, those 11 participants were not included in the analysis of knowledge and attitudes, leaving a total of 131 participants in the sample analyzed for demographic predictors of changes in knowledge and attitudes.

## Results

### Sociodemographic Characteristics

The recruitment efforts used were successful in attracting a sample of highly diversified African American and Latina/o participants (Table 1). The majority were female (77.1%) and older (40.5% age 65 years or older). For purposes of statistical analysis, participants who self-identified as Afro-Latina/o were grouped with those identifying as Latina/o, and those who self-identified as Afro-Caribbean were grouped with those identifying as African American. Most participants were Latina/o or Afro-Latina/o (64.1%), while the remainder were African American or Afro-Caribbean (35.9%). About equal proportions had not completed high school (41.2%) or had at least some secondary education (39.7%). Most were not living with a partner (85.5%). More than two thirds of participants (69.5%) participated in a program delivered in English and preferred to speak English or were bilingual. About equal proportions of participants were born in Puerto Rico (36.6%) or on

the mainland (35.9%). Most had been living on the mainland for 20 years or more (49.6%) or all their lives (35.9%).

### Change in Knowledge Related to CCT

A total percentage of correct responses score was calculated for the pre- and postprogram knowledge questions. Mean knowledge was relatively high at the pretest at 73.16%, and it increased to 76.84% at the posttest. The difference between the means was 3.69%. This difference was statistically significant based on the paired *t* test ( $t = -1.14$ ;  $p = .034$ ;  $CI = -7.10, -0.28$ ). Cohen's effect size ( $d = .19$ ) indicated low practical significance (Table 2). There were no statistically significant differences when examined by gender, age, ethnicity, education level, marital status, program language, preferred language, origin, or length of stay (for immigrant participants). See Table 1.

### Change in Attitudes Toward CCT

*T* tests were used to compare perceptions of benefits and barriers to CCTs before and after the intervention. Perceived benefits improved 0.11 points, from 2.40 to 2.29, on a 5-point scale ( $SD = 0.53$ ). This difference was statistically significant based on the paired *t* test ( $t = 2.38$ ;  $p = .019$ ;  $CI = 0.02, 0.20$ ; see Table 2). Cohen's effect size ( $d = .21$ ) was small, indicating minimal practical significance. Perceived barriers improved 0.102 points (from 2.95 to 2.85;  $SD = 0.460$ ). This difference was statistically significant based on the paired *t* test ( $t = 2.53$ ;  $p = .013$ ;  $CI = 0.02, 0.18$ ). Cohen's effect size ( $d = .22$ ) was small, indicating minimal practical significance. The alpha for benefits was .76 and .83 pre and post, respectively. For barriers, they were .71 and .85. There were no statistically significant differences in change in perceived benefits or barriers when examined by the measured sociodemographic factors, except for perceived barriers when examined by origin. The foreign born score worsened 0.08 points ( $SD = 0.47$ ,  $p = .007$ ) on the posttest (Table 1).

### Program Acceptability and Feasibility

All 143 cards distributed were returned with hand-written comments. The only identifying data recorded were the session date, therefore, those with "other" ethnicity or missing data were not excluded. The majority ( $N = 133$  or 93.0%) included positive comments indicating the acceptability of the intervention, feasibility of the program format, and the interest in the topic. For example, participants wrote, "I love it very much, I would like to know more about it, I have lupus. Thank you," and "Good, I liked it because I learned about the websites where I can look for studies and trials to help the community and my family, thanks." Negative comments ( $N = 22$ ; 15.4%) were rare, while 16 comments (11.2%) included both positive and negative content, and one comment was neutral. These were largely driven by technical difficulties resulting in frequent pauses during one session.

## Discussion

Published research related to efforts to increase minority ethnicity participation in CCT includes cross-sectional studies among healthy community participants (Langford, Resnicow, & An, 2010; Trauth et al., 2005), diagnosed patients (Byrne et al., 2014), clinical providers (Michaels, Blakeney, Langford, & Ford, 2014; Ramirez et al., 2013), and

biorepository facilities (Simon et al., 2014), as well as interventions among cancer patients (Fracasso et al., 2013; Quinn et al., 2013; Vicini et al., 2011), ethnic media audiences (Alexander, Kwon, Strecher, & Bartholomew, 2013), and community leaders, providers, and researchers (Michaels et al., 2011). We are aware of only one other report on a single-session intervention designed to educate ethnic minority, healthy populations about CCT, which focused on Chinese Americans (Ma et al., 2014). In many settings, single-session interventions may be the most sustainable and feasible to educate a population that does not experience the cue to action of a cancer diagnosis.

This adaptation resulted in an intervention that was able to minimally increase knowledge and improve perceptions of benefits and barriers to participation in CCT, at statistically significant levels, among African American and Latina/o adult general community members in a new geographic region. In addition, the positive changes associated with the intervention did not significantly differ by sociodemographic characteristics. Few studies (Fracasso et al., 2013; Ma et al., 2014) have examined knowledge and attitudes toward CCT among healthy minority participants using a pretest/posttest design. Unlike previous research (Ma et al., 2014; Quinn et al., 2013; Trauth et al., 2005), we found that baseline knowledge about clinical trials was relatively high, possibly because the items measuring knowledge were written too simply, and/or participants were more knowledgeable than expected. Other projects (Langford et al., 2010; Wallington et al., 2012) are difficult to compare because they use a single item to measure awareness of clinical trials. While some recent research (Ma et al., 2014; Quinn et al., 2013) with general community members did not examine attitudes toward CCTs, M. E. Ford et al. (2012) found that a 7-item measure of attitudes improved among African Americans with poor baseline perceptions after a 30-minute segment of a 3.5-hour cancer education program. Trauth et al.'s (2005) project found that female African American joiners of a cancer screening trial were more likely than non-joiners to profess positive beliefs about the benefits of CCTs. In this study, we found no significant change in attitudes between participants broken out by sociodemographic category except for an increase in perceived barriers among the foreign born.

### Limitations

There are several limitations to the project. This article only describes the analysis of the adaptation, not that of the original intervention. In the adaptation, the Barriers and Benefits scales did not disaggregate reliably into subscales, as expected; thus, total scores were used. We did not measure willingness to participate in CCT. While the program appeared to be uniformly minimally beneficial across all socioeconomic conditions, supported by the small effect sizes among the Benefits and Barriers scales, the outcome of slightly worsened perception of barriers among the foreign born should be explored further. Future research might include comparing these results with those of the original intervention, reviewing and revising the knowledge items, refining the Benefits and Barriers scales to differentiate them into reliable subscales, adding items on willingness to participate that distinguish between observational and treatment research, testing the intervention in a randomized controlled trial, and measuring behavior change by inviting participants to participate in observational or prevention studies.



## Implications for Research and Practice

The goal of increasing ethnic diversity in CCTs should be addressed via strategies that address multiple components of the systems of cancer prevention and care—including reaching providers, community leaders, cancer patients, and the general public—as well as inequities within the health care system in general (J. G. Ford et al., 2005; Michaels et al., 2014). Educating healthy community members about CCT aims to change community perceptions and norms and aspires, in the long term, to lead to increased acceptability and inquiry from patients regarding both general clinical trials and CCTs. To be effective, such educational efforts must be culturally relevant, have measurable outcomes that are broader than solely clinical trial accrual, and be sustainable. A complete creation of an intervention may not be necessary if those performing the adaptation are familiar with the educational and linguistic needs and literacy level of the audience. Because the tested intervention takes less than an hour and is delivered via a slide presentation, it has the potential to be delivered to groups in community sites or clinic waiting rooms at low cost, increasing its sustainability, and can easily be branded by the institution offering the program.

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**Table 1**  
Sociodemographic Covariates and Changes in Mean Knowledge and Perception of Benefits and Barriers.

Sociodemographic Covariates	N	%	Knowledge <sup>a</sup>			Benefits <sup>b</sup>			Barriers <sup>b</sup>		
			Mean Change	SD	p	Mean Change	SD	p	Mean Change	SD	p
Gender <sup>c</sup>											
Female	101	77.1	0.03	0.20	.266	-0.09	0.51	.310	-0.09	0.47	.716
Male	30	22.9	0.07	0.18		-0.20	0.62		-0.13	0.42	
Age <sup>d</sup> (years)											
18-49	23	17.6	0.03	0.24	.768	0.01	0.60	.507	-0.20	0.51	.322
50-59	32	24.4	0.02	0.20		-0.17	0.56		-0.15	0.41	
60-64	23	17.6	0.07	0.17		-0.20	0.34		-0.14	0.35	
65 and older	53	40.5	0.04	0.19		-0.09	0.56		-0.01	0.51	
Ethnicity <sup>c</sup>											
Latino and Afro-Latino	84	64.1	0.03	0.20	.692	-0.17	0.49	.110	-0.10	0.46	.971
African American and Afro-Caribbean	47	35.9	0.05	0.120		-0.01	0.59		-0.10	0.46	
Education <sup>d</sup>											
<8th-11th grade	54	41.2	0.01	0.20	.282	-0.16	0.50	.184	0.00	0.47	.066
High school or GED	25	19.1	0.04	0.17		0.07	0.49		-0.23	0.32	
At least some postsecondary	52	39.7	0.07	0.20		-0.15	0.58		-0.15	0.49	
Marital status <sup>c</sup>											
Not living with a partner	112	85.5	0.04	0.20	.802	-0.14	0.55	.203	-0.08	0.46	.201
Living with a partner	19	14.5	0.03	0.16		0.03	0.43		-0.23	0.45	
Program language <sup>c</sup>											
English	91	69.5	0.05	0.19	.351	-0.13	0.58	.407	-0.13	0.47	.297
Spanish	40	30.5	0.01	0.20		-0.06	0.40		-0.04	0.43	
Preferred language <sup>c</sup>											
English or bilingual	91	69.5	0.05	0.18	.351	-0.14	0.50	.343	-0.13	0.46	.387
Spanish or other	40	30.5	0.01	0.22		-0.04	0.60		-0.05	0.47	
Origin <sup>d</sup>											

Sociodemographic Covariates	N	%	Knowledge <sup>a</sup>			Benefits <sup>b</sup>			Barriers <sup>b</sup>			p
			Mean Change	SD	p	Mean Change	SD	p	Mean Change	SD	p	
U.S. mainland	47	35.9	0.06	0.19	.690	-0.04	0.61	.483	-0.24	0.44	.007*	
Puerto Rico	48	36.6	0.03	0.20		-0.17	0.53		-0.10	0.44		
Foreign born	36	27.5	0.02	0.21		-0.13	0.42		0.08	0.47		
Length of stay <sup>d</sup>												
<1 year to 19 years	19	14.5	-0.02	0.25	.352	0.01	0.65	.579	-0.01	0.50	.286	
20 years	65	49.6	0.04	0.19		-0.13	0.43		-0.07	0.46		
All my life	47	35.9	0.06	0.19		-0.13	0.61		-0.18	0.45		

<sup>a</sup>Knowledge is coded such that an increase indicates improvement.

<sup>b</sup>Benefits and Barriers items are coded such that a decrease indicates improvement.

<sup>c</sup>Significance was calculated using *t* tests.

<sup>d</sup>Significance was calculated using one-way analyses of variance.

**Table 2**Changes in Mean Knowledge and Perception of Benefits and Barriers ( $n = 131$ ).

Measure	Score (SD)	Change (SD)	CI	<i>t</i>	<i>p</i> <sup>a</sup>	Effect Size <sup>b</sup>
Knowledge						
Pre	73.16% (16.48)	3.69 (19.75)	-7.10, -0.28	-1.14	.034	0.19
Post	76.84% (19.56)					
Benefits <sup>c</sup>						
Pre	2.40 (0.60)	0.11 (0.53)	0.02, 0.20	2.38	.019	0.21
Post	2.29 (0.64)					
Barriers <sup>c</sup>						
Pre	2.95 (0.60)	0.10 (0.46)	0.02, 0.18	2.53	.013	0.22
Post <sup>c</sup>	2.85 (0.67)					

<sup>a</sup>Significance was calculated using the *t* test.<sup>b</sup>Effect size was calculated using Cohen's *d*.<sup>c</sup>Benefits and barriers are coded such that a decrease indicates improvement.