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Keep Calm and LARC On: A theory-based long-acting reversible contraception (LARC) access campaign

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Abstract

Background: In South Carolina, almost half of all pregnancies among women in their twenties are unintended. Advocates for Youth partnered with researchers and students at a public university to design and pilot a theory-based communication campaign to increase awareness and uptake of a full range of contraceptive options among young women. The health belief model and diffusion of innovations theory served as conceptual frameworks throughout data collection, analysis and campaign development.

Methods: This community-based participatory action research project included formative audience research to assess knowledge, attitudes, and behaviors related to contraceptive methods among young women. A qualitative content analysis of the top 25 U.S. consumer magazines (83 articles) evaluated coverage of contraception and how these articles persuade women to think about contraceptive methods. Student researchers moderated three peer-to-peer focus group discussions (n = 19) among women ages 19–22. In-depth individual interviews (n = 9) with users of long-acting reversible contraception (LARC), including the intrauterine device and the implant, informed the development of video blogs.

Results: Participants favored the effectiveness of LARC methods, while reacting negatively to a 'foreign object' in their bodies. Findings suggest that physicians lack knowledge about LARC and resist prescribing these methods. These findings were used by researchers to develop campaign strategies, communication channels and messages, including 'Keep Calm and LARC On'. An anonymous web-based survey (n = 248) evaluated the campaign's effectiveness. Based on campaign messages, 19% of participants reported obtaining a LARC method.

Conclusions: This study offers practical recommendations to health communicators to develop formative research, segment audiences, and implement theory-based campaign strategies and messages.

Keywords: Contraception, Diffusion of innovations, Focus groups, Qualitative research

Introduction

In the United States, approximately 70% of young women and men will become sexually active by age 19.[1] Couples in their twenties who do not use any method of contraception have an 85% chance of experiencing a pregnancy over the course of 1 year; teens have a 90% chance.[2] Depending on their age, among teens and young adults who are at risk of unintended pregnancy, between 81 and 89% are currently using a contraceptive method. The problem is that many young women and men do not use methods correctly or consistently or they switch methods frequently, contributing to the high unintended pregnancy rate among young women in the U.S. According to Finer and Zolna,[3] 51% of all pregnancies in the U.S. are unintended.

Long-acting reversible contraceptive (LARC) methods include intrauterine devices (IUDs) and contraceptive implants. LARC methods are among the most effective ways to prevent pregnancy, as they require little effort on the part of the user. These contraceptive options are safe for almost all women, are cost effective, and because LARC methods do not require the user to adhere to a defined regimen, 'typical use' effectiveness is

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almost equal to 'ideal' effectiveness. Continuation and satisfaction rates of the more commonly used forms of contraception, including oral contraceptive pills (OCPs) and depot medroxyprogesterone acetate (DMPA), among women in the U.S. have been traditionally low[4] – studies show the 6 month continuation rate of OCPs as low as 29%,[5] and DMPA users' 6 month continuation rate is between 36 and 48%.[6] The Contraceptive CHOICE Project in Missouri analyzed the 12-month continuation and satisfaction rates of LARC and non-LARC method users among over 5000 participants, and found that 84% of participants were satisfied with their LARC method at 12 months, compared to 53% of participants using non-LARC methods.[7]

For these reasons, LARC are ideal for many women, especially young women who wish to delay or avoid pregnancy for 3–10 years. Yet, fewer than 6% of women in the United States who use contraception use an IUD and less than 1% use a contraceptive implant.[8] Among teens, only 4.5% of contraceptive users use a LARC method.[8] Emergent research suggests that widespread use of these methods among young women dramatically reduces unintended pregnancy and abortion rates.[9,10]

Although LARC methods offer a safe and effective solution to unintended pregnancy, significant obstacles to widespread use of these options still exist. Many young women are not aware of IUDs or the implant, likely because until a few years ago in the U.S. these methods were not considered by health care providers as appropriate for young and adolescent women or for women who had never had children.[11] The American College of Obstetricians and Gynecologists (ACOG) recommended the IUD and implant for all women and adolescents in 2012 and the American Academy of Pediatrics followed suit in 2014.[12,13] Those young women who do know about IUDs or the implant often have outdated or inaccurate perceptions of these devices.[14–19] Other young women are deterred by the up-front cost of LARCs, which can be significant depending on insurance coverage. Although the Affordable Care Act (ACA) should cover the costs of all contraceptives, in certain settings, implementation of ACA has been complicated or stalled. Women continue to pay for their contraceptives with certain forms of insurance in different states. Further, a lack of providers trained to insert and remove LARC methods, as well as provider misperceptions of appropriate candidacy for IUDs or implants create major barriers for young women who want to use LARCs.[20]

In South Carolina, LARC uptake among women is limited. In this state, almost half of all pregnancies among women in their twenties are unintended. Advocates for Youth partnered with researchers and students at a public university to design and pilot a theory-based communication campaign to increase awareness and uptake of a full range of contraceptive options among young women. The health belief model (HBM) and diffusion of innovations theory served as conceptual frameworks throughout data collection, analysis, and campaign development. The purpose of this community-based participatory action research project was to develop, implement and evaluate a theory-based contraceptive access campaign for young women based on formative audience research. Our campaign aims to address personal, community, systems, and policy-level barriers that make access to LARCs complicated and sometimes untenable for women throughout the state.

The Choose Well Initiative: South Carolina

In 2014, Advocates for Youth, with support from the New Morning Foundation, launched the Choose Well initiative in South Carolina, a program designed to increase young women's access to LARC methods through systems and socio-cultural change. The initiative aims to have a significant impact on contraceptive access overall and, in turn, on preventing unintended pregnancy among women in South Carolina.

Conceptual frameworks

Health communication campaigns, including contraceptive campaigns, are proven to be more successful if they have a strong conceptual framework to guide the work.[21,22] To ensure the campaign's success, a framework was derived from two health behavior theories: the HBM and the diffusion of innovations theory.

Health belief model

The HBM is based on an individual's goals and judgments of a specific behavior. The six parts of the HBM are perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy.[22] This campaign was built on four components that relate directly to the HBM. *Susceptibility* includes the extent to which young women believe they are at risk of an unplanned pregnancy. Women who perceive that they are more susceptible to pregnancy are more likely to use more effective forms of contraception.[23] Increasing *perceived benefits* and reducing *perceived barriers* involves dispelling rumors about LARC

methods. Increasing *self-efficacy* involves offering information to women that helps them to better decide on a contraceptive method that is right for them.

Diffusion of innovations theory

Roger's diffusion of innovations theory[24] defines women who use a LARC method as 'innovators'. Peer educators, innovators, and early adopters of LARC enable young women to witness and ask about firsthand the relative advantages of LARC methods, their compatibility with young women's lives, and the fact that the methods themselves cannot be observed by others. Diffusion of innovations theory suggests that campaign products should spark conversations about contraceptives overall and LARCs in particular. As Li *et al.*[25] have shown, peer engagement in a program can be more cost-effective and last longer since users then become change agents who create sustainable change within their social networks until the behavioral norms of the community evolve. Having 'early adopters' or innovators educate their peers is an effective campaign tactic.

Methods

To understand young women's attitudes about contraception in general and LARC methods in particular, Advocates for Youth partnered with researchers and students at a public university to design, pilot, and evaluate a theory-based campaign to test messages for LARC promotion developed by young women within this target demographic. Using qualitative and quantitative research methods, the research team, including student researchers, developed and tested educational messages about the IUD and contraceptive implant.

This community-based participatory action research project included formative audience research to assess knowledge, attitudes, and behaviors related to contraceptive methods among young women. A qualitative content analysis of popular U.S. magazines (83 articles) evaluated coverage of contraception and how these articles persuade women to think about contraceptive methods. Student researchers moderated three peer-to-peer focus groups ($n = 19$) among young women. In-depth individual interviews ($n = 9$) were conducted with users of LARC methods. Conducting a content analysis, focus groups, and individual interviews offered triangulation of data.[26] An anonymous web-based survey was designed for the purpose of evaluating the health communication campaign. The HBM and diffusion of innovations theory served as conceptual frameworks throughout data collection, data analysis, and campaign development. The university's institutional review board (IRB) approved each phase of this study.

Sample

Content analysis sampling

Researchers conducted a qualitative content analysis to investigate the framing that popular women's magazines use to discuss LARC and persuade women how to think about these contraceptive methods. This type of analysis explicates concepts within a complex discourse, providing an appropriate lens to investigate women's understandings of LARC methods. The HBM and diffusion of innovations theory served as a framework to study media coverage of LARC in order to more fully appreciate the cultural conversation about these methods. Specifically, researchers asked: 'what specific types of contraception are discussed most frequently?' 'how accurate is the information included in popular women's magazines?' and 'what health beliefs about contraception are discussed?' A rigorous sampling process identified the top 25 U.S. consumer magazines by single-copy sales, which included magazines such as Cosmopolitan and Vogue.[27]

Recruitment: focus groups and individual interviews

Women between the ages of 18 and 24 living in an urban area in the Southeast region of the United States were eligible to participate in the study. Participants were recruited through social media, email, fliers, and word of mouth.

Web-based survey

From April 2014 to June 2014, new media, including email and social media platforms, were used to invite young women to evaluate the Campaign through a web-based survey. Women between the ages of 18 and 24 living in one urban area in the Southeast region of the United States were eligible to participate. A pre-defined sample size was not determined.

Data collection

Content analysis

All articles about long-acting reversible contraception (LARC) from the previous 5-year period (2008–2013) were identified. A total of 83 articles were identified and imported into a Google Drive Excel database for analysis.

Focus group discussions

Prior to moderating peer-to-peer focus groups, student researchers engaged in approximately 2 months of rigorous qualitative training, including CITI training and the ethical conduct of research. All moderators and co-moderators passed a focus group simulation exercise and completed a pilot focus group with student volunteers. Student researchers led three focus group discussions between October and November 2013, with a total of 19 participants, to assess knowledge, attitudes, and behaviors related to LARC methods among young women. Focus groups lasted approximately 2 hours and refreshments were provided to thank participants for their time. Participants provided informed consent at the start of each focus group. A semi-structured protocol was used to determine current contraceptive behaviors, knowledge and opinions of contraception, and information-seeking behaviors.[28] With participants' permission, all focus groups were recorded for accuracy. Digital sound files were transcribed in order to analyze the focus groups in detail.

Individual interviews

Due to the rarity of LARC use, researchers conducted purposive sampling to recruit young women who were currently using a LARC method. This type of theoretical sampling helped to fill in gaps of the data set related to these methods.[29] Thirty-minute interviews with nine young women currently using LARC methods provided detailed, nuanced information related to knowledge, attitudes, and behaviors related to these contraceptive methods. Participants provided informed consent at the start of each interview and agreed to allow researchers to video record and post the interview on social networking sites in the form of a video blog or vlog. In addition, participants allowed a photograph and quotes from the interview to be adapted for other campaign materials, such as posters (see Fig. 1). A semi-structured interview protocol guided the conversations. Digital sound files were transcribed in order to analyze the interviews in detail.

Web-based survey

An anonymous web-based survey was designed for the purpose of evaluating the health communication campaign. Qualtrics online survey software was used to collect data.[30] The survey assessed campaign reach and the effectiveness of strategies, messages, and communication channels. Specifically, the questionnaire investigated participants' contraceptive behaviors, knowledge and opinions of contraception, and information-seeking behaviors. To minimize multiple attempts during the duration of the data collection period, each IP address was limited to one submission. Participants provided electronic consent to proceed to the questionnaire, which took approximately 15 minutes to complete. A total of 248 surveys were completed.

Figure 1 Campaign posters highlighted personal narratives.

Data analysis

Researchers developed a codebook based on concepts from the HBM and diffusion of innovations theory to maintain consistency in coding. The articles, focus group, and individual interview transcripts were coded independently. Concepts and themes emerging from each analysis were later compared and found to be consistent in scope. Qualitative data analysis techniques included an iterative process of data reduction, data display, and conclusion drawing and verification.[31] Data reduction began with descriptive codes and evolved to include interpretive codes. Miles and Huberman[31] suggest that check-coding provides definitional clarity and improves reliability. Following this procedure, researchers coded the first 5% of each dataset separately and met to discuss inconsistencies and adapt the codebook. The research team employed Google Drive Excel as an interactive data display, presenting information systematically and providing a real-time interface where researchers could engage with each other's coding and offer comments. Approximately two-thirds of the way through each dataset, researchers employed Miles and Huberman's[31] check-coding formula on 5% of the sample.[31] Agreement between coders reached at least 90%, meeting Miles and Huberman's[31] standard for inter-coder reliability.[31] Researchers met frequently

throughout the data analysis process to resolve inconsistencies or disagreements in coding. Researchers conducted conclusion drawing and verification and identified outliers and rival explanations to increase the credibility of findings. According to Miles and Huberman,[31] purposively seeking outliers and rival explanations strengthens qualitative findings by building improved explanations and protecting against self-selecting biases.[31]

Web-based survey

Descriptive statistics were utilized to analyze participant characteristics and item responses.

Results

Twenty-eight women participated in this study; a total of 19 individuals participated in three focus groups and nine individuals completed interviews. Participants ranged in age from 18 to 24 years, with a median age of 21. The majority of participants (64%; $n = 18$) identified as white/Caucasian, 21% ($n = 6$) identified as Black/African American, and 14% ($n = 4$) identified as Hispanic/Latina. The OCP was the most common method ever used by participants (89%; $n = 25$) followed by the IUD (36%; $n = 10$). Five participants had used the implant and three participants had used the vaginal ring. Six participants reported ever using condoms as their primary method of birth control. In addition, 13 participants (46%) reported ever using emergency contraception (EC) as their primary method of birth control.

Content analysis findings

The content analysis revealed that the IUD was discussed more frequently than the implant. Although articles described increased popularity and use of these methods, the historical context of the IUD emerged as an explanation for low uptake rates. An article in Cosmopolitan (April 2013), quoted Dr Abbey Berenson, 'Today's IUDs are not the same as the ones that existed decades ago and are undeserving of the outdated stigma they carry'.[32] An article in Prevention (December 2011) advised women to try the IUD because 'contrary to popular wisdom, [the IUD] doesn't cause infertility'.[33] A majority of articles addressed myths and rumors surrounding LARC methods, often describing the IUD as 'the perfect low-maintenance birth control'. An article in Cosmopolitan (April 2013) stated 'modern IUDs are safe, cost-effective and provide years of worry-free birth control'.[32]

Statistics concerning effectiveness of the methods were used to dispel false beliefs about LARC methods. A Women's Health article (November 2012) presented studies showing the IUD is 99% effective, adding 'This stat is superior to other methods of birth control like the Pill, which, in practice, has about 92 percent efficacy'.[34] Articles emphasized the increased effectiveness of LARC methods and showed that women overestimate the effectiveness of the pill. An article headline in Glamour (April 2012) suggested, 'Scary News: A Lot of Women Think Condoms and Birth Control Pills Work WAY Better Than They Do'.[35] Finally, recent articles described the impact of the Affordable Care Act on access to LARC methods. According to an article in Glamour (September 2013), 'The law requires that insurance companies cover all of the FDA-approved birth control methods without a co-pay, including pills, rings, implants, and IUDs.'[36]

Focus group and individual interview findings

Several themes emerged regarding the target audience's perceptions of LARC methods. According to participants, doctors, family, and the Internet played an important role in their decision making about contraceptive methods.

The importance of effectiveness

Effectiveness emerged as the most important aspect of choosing a method of birth control. Participants valued the effectiveness of a contraceptive method in preventing pregnancy above other factors, such as cost, convenience, access, or side effects, among others. Most participants believed that the OCP was the most effective method, often incorrectly citing 99 or 100% effectiveness. Participants described being 'shocked' to learn that the OCP is 91% effective with typical use. Participants described a general awareness of long-acting reversible contraceptive methods, however, they were unaware of more specific facts about the effectiveness, mechanisms of preventing pregnancy, side effects, or cost. Many participants believed, 'I'd have to research it more'. Participants who used a LARC method often revealed increased knowledge of contraception, acknowledging their method as the 'most effective form of birth control' and cited effectiveness as one of their favorite aspects of the method.

The 'ick' factor

Participants reacted negatively to the idea of a 'foreign object', such as an IUD or implant in their bodies to prevent pregnancy. The 'ick' factor caused many participants to initially reject the idea of adopting a LARC method. One participant noted, 'I don't really like the idea of a foreign object floating around'. Another young woman said 'I don't like the idea of plastic all up in my uterus, just thinking of that makes me hurt'. According to participants who used a LARC method, the main complaint was pain, specifically of IUD insertion and ParaGard monthly cramps. Interviewees likened the feeling of IUD insertion to 'the worst period cramps ever', and 'it felt like my insides were bleeding', but amended these statements with comments about the lack of longevity of the pain.

Physician resistance

Participants perceived that their physicians lacked knowledge about LARC and/or resisted prescribing long-acting reversible contraception (LARC). According to one participant:

> I wanted to change from the pill and asked [my doctor] for the IUD and she literally gave me a stack of information on everything I could possible change to and then set up another appointment in a month and was like, we will talk about it in a month. Great.

Another participant described her experience, "I got the idea [of the arm implant] from my sister, who is a nurse…My doctor just said, "it would probably be better for you to go on the pill." I was like ok, fine'. The majority of our focus group participants talked about trusting their doctor with their sexual health more than any other source of information.

The paradox of inertia

Although participants described major disadvantages of the pill (including forgetting to take it on time), as well as identified the benefits of LARC, even acknowledging LARC as a better option, they resisted switching to a long-acting reversible contraceptive method. According to one participant: 'People always take pills, it just seems so much more normal than having something put inside you'. When asked if they would consider using a LARC method, participants said, 'I just prefer what I do. I don't want to change it,' and 'I think I'm like set, at least for now.'

Participants who used a LARC method were satisfied with their choice of birth control, citing ease of use as one of the best parts of a LARC method. They often compared the ease of use of their method with that of the pill, stating, 'I don't have to remember to take a pill at the same time every day,' and 'I don't even have to think about it.'

Media representations of LARC

Participants described the role of media in shaping their perceptions about LARC methods. Participants reported hearing about LARC in various forms of traditional media, including television and magazines. However, participants described using online resources from general, broad sites such as WebMD to more specifically tailored sites such as bedsider.org to find out information about contraception. Social media emerged as a particularly appropriate platform to reach the audience. Participants were open to receiving contraceptive information through social media platforms, such as Twitter.

Communication campaign: Keep Calm and LARC On

Findings were used to develop campaign strategies, communication channels, and messages. Pilot campaign implementation occurred between January 2014 and May 2014. The campaign used traditional and social media platforms to reach young adults, including YouTube, Twitter, Facebook, and Instagram.

Keep Calm and LARC On references the motivational poster, Keep Calm and Carry On, which was developed by the British government to raise morale during World War II, but was never publicly displayed.[37] The message gained popularity in 2000 and has been re-appropriated by many companies and campaigns. Our campaign adapted this well-known message to raise awareness of the comparative effectiveness of contraceptive methods. This message aimed to overcome the paradox of inertia by highlighting perceived benefits and increasing self-efficacy among the target audience. This message also served as a grassroots effort to begin conversations about LARC, highlighting the relative advantage of these methods. A secondary message, $I < 3$ My LARC, emphasized the personal narratives of early adopters increasing observability of these methods and addressing the 'ick' factor.

New media

Throughout the pilot campaign period, researchers created and managed new media platforms to engage with the target audience. The research team engaged with publics through social media

platforms including YouTube, Twitter, Instagram, and Facebook. Twitter, Instagram, and Facebook were updated multiple times each day based on an editorial calendar designed to recruit followers and generate dialog. Unique hashtags, such as #LARCon created a conversation about these methods in order to overcome the paradox of inertia by addressing the concerns of the target audience, such as effectiveness and the 'ick' factor.

A central component of the new media strategy included the creation and dissemination of 9 vlogs or YouTube video blogs that showcased the personal stories of young women using LARC methods. These young women described why they loved their LARC in order to overcome the 'ick' factor by normalizing these methods. Infographics present new knowledge or information in a visual manner that is easy to comprehend and is socially shareable. The research team created and shared infographics to provide facts and statistics, such as effectiveness, satisfaction, and benefits of the IUD and the implant. These campaign messages compared the typical use effectiveness of the OCP (91%) with the IUD and implant (over 99%).

Campaign evaluation included traditional social media analytics, such as number of posts, likes, shares, followers, etc. In addition, researchers tracked the Klout Score for the campaign period. Klout uses social media analytics to provide a numerical value between 1 and 100 of online social influence. The Klout score increased by 37 points during the campaign period indicating substantial reach and influence of the campaign messages.

Traditional media

Traditional outreach and promotion included developing community relationships, creating and disseminating materials, and hosting a Better Contraceptive Rally event. Researchers developed a media kit, including a press release, brochure, feature release, posters, buttons and a health education presentation for college students (see Figs. 1 and 2). These materials were distributed to media outlets, local health care providers, and area businesses. The campaign addressed the target audience's perceptions of physician resistance to LARC methods by reaching out to local health care providers and compiling a list of nearby providers who supported the use of LARC methods by young women. Over 1500 'Keep Calm and LARC On' buttons (see Fig. 2) have been distributed to young women and men, health educators, and health care providers statewide.

Traditional media was promoted online by the University's Media Relations Team and News at the University, as well as numerous social media handles. Earned media included publication of the feature release on HerCampus: 'A Collegiette's Guide to Life',™ an online and offline community for college women. HerCampus.com features national content supplemented by local content from 230 + campus chapters nationwide and in seven countries. In addition to hosting a successful Better Contraceptive Rally event, student researchers participated in several on-campus events, including a 'Singing for Sex' event and a Body Image Rally to distribute buttons and spread awareness.

Figure 2 Over 1500 'Keep Calm and LARC On' buttons were distributed to start conversations about LARC.

Campaign evaluation: web-based survey

An anonymous web-based survey was designed for the purpose of evaluating the health communication campaign. Overall, 248 completed surveys were collected. Of the respondents, 94% were female and ages ranged from 18 to 60 years old with an average age of 24.8. The majority of participants self-identified as white (90%) and 8% as black. Almost all of the participants (97%) had heard of contraception or birth control.

Respondents primarily heard about long-acting reversible contraception from friends and relatives (55%), television or radio (42%), health care providers (36%), the Internet (33%), and social networking sites (27%). Among participants who had heard about contraception, 99% reported hearing about the OCP while only 81% knew about the IUD and 62% knew about the arm implant. The OCP was the most widely used method of birth control among participants (71%) followed by male condoms (65%). Almost 25% of the sample had used withdrawal as a method of birth control.

Other methods included the IUD (17%), the vaginal ring (16%), emergency contraception (15%), the implant (6%), the patch (6%), and the shot (5%).

Of the respondents, 51% had heard of Keep Calm and LARC On or *I* < 3 My LARC. Respondents primarily saw these campaign messages on Instagram (62%), Facebook (49%), and Twitter (46%). Based on campaign messages, almost half of participants (49%; $n = 122$) indicated that they gave some thought to using the IUD or implant, 40% ($n = 99$) discussed the IUD or implant with friends or family members, and 19% ($n = 48$) reported obtaining and IUD or implant.

Discussion and conclusion

Unintended pregnancy continues to be a significant health and social problem in the United States. LARC methods are highly effective in preventing pregnancy however, to-date, only 1–6% of women throughout the country are using the implant or an IUD. This study expanded existing research showing that the most important barriers to LARC adoption are misinformation, lack of information and negative perceptions related to contraceptives in general and LARCs in particular among young women.[15–19,38] The Choose Well campaign aims to address these barriers through a range of peer-based actions that were informed by community-based and formative research carried out by researchers and students in an urban area in the Southeast region of the United States.

Participants described physician resistance to prescribing LARC methods. Findings build on research showing providers may not regularly recommend these methods due to a lack of knowledge or skill to insert and remove LARCs, as well as misperceptions of recommendations for use of IUDS and implants.[16,20,39] ACOG[40] recently addressed the role of obstetrician–gynecologists in adopting best practices for insertion and increasing access to LARC methods. In the updated Committee Opinion, providers are urged to encourage patients to consider the use of IUDS and implants, including young women and adolescents. This study expands extant research recommending health care providers promote highly effective methods to best serve women's needs.[41,42]

The HBM and diffusion of innovations theory were used to guide data collection, analysis, and campaign development. Specifically, campaign messages aimed to increase perceived benefits (e.g., increased effectiveness), reduce perceived barriers (e.g., the paradox of inertia), and dispel rumors and misinformation about LARC methods (e.g., the 'ick' factor). Carpenter[43] showed that benefits and barriers provide the most robust prediction of behavior change in health communication campaigns based on the HBM. In line with this research, campaign messages aimed to overcome the paradox of inertia by highlighting perceived benefits and increasing self-efficacy among the target audience. Findings build on extant research indicating that women who perceive that they are susceptible to pregnancy are more likely to use highly effective forms of contraception.[23]

A key component of this initiative involved peer educators, including innovators and early adopters of LARC methods, who emphasized the relative advantages, compatibility, and observability of LARC methods through vlogs, posters, and social media. This strategy reflects existing research showing that women make decisions about contraceptive use based in part on the methods used by other members of their social networks.[44] This approach also supports research showing peer engagement is a cost-effective and long-lasting way to create sustainable change through social networks.[25] Findings expand research identifying peer-to-peer messages as an appropriate and successful strategy to promote prevention among adolescents.[45]

While limited in terms of size and duration, the findings from the research and overall campaign offer several important insights for broader-based campaigns to inform young people about LARC methods in the United States. Among the most important lessons is that social media is an effective, cost-effective and culturally appropriate way to reach at least one particular demographic of young women with LARC-related messages. This finding builds on extant research showing the incredible potential of new media and social networks to increase the reach and effectiveness of health communication campaigns.[46–48] Through the campaign's brief intervention, almost one-half of all respondents to a web-based survey who had heard about Keep Calm and LARC On noted that they had given some thought to using an IUD or implant. Although the total number of respondents ($n = 248$) was relatively small and homogenous, the results indicate the potential of social media outreach for initiating conversations about LARCs and encouraging young women to think about these methods as positive options for their lives. Future work should focus on the reach and appropriateness of social media for a more culturally diverse range of young women.

Another significant lesson is the importance of creating phrases that are brief, appealing and intriguing, such as Keep Calm and LARC On, to draw in people's attention and to make them comfortable with asking 'what's a LARC'? Following this, those using buttons, t-shirts or other means of displaying the phrase must be prepared to openly discuss LARCs in an informed manner. This finding supports research indicating that awareness and education about highly effective contraceptive options, including the increased effectiveness of LARC methods, may increase the adoption of IUDs and implants.[14,18]

Currently, the larger Choose Well initiative has four social media outlets – Facebook, Instagram, Twitter, and Tumblr – that were initiated in August 2014 after the findings from the campaign were collated. Use of these sites has been increasing over time, whose content is informed by campaign results. Content consistently focuses on the effectiveness of LARCs, most often using quotes, videos and 'testimonies' of a range of young women who have used IUDs or implants and want to talk about their experiences. Thus, 'peers' use virtual spaces to reach other women and young people in general to offer accurate information as well as life-based reflections on LARCs. The Choose Well Initiative also made extensive use of the Keep Calm LARC On buttons and messaging developed by the campaign. To-date, over 1500 buttons have been distributed to young people, especially students, as well as health care providers and administrators throughout South Carolina. The response has been overwhelmingly positive and enthusiastic and anecdotal evidence suggests that the message is effective for initiating conversations about LARCs, given that people read it and ask 'what is a LARC'?

Future research and evaluation should test how effective the Keep Calm and LARC On message, as well as different forms of social media are for (1) diffusing LARC as an innovation in family planning in South Carolina and for (2) increasing young women's perceived benefits, reducing perceived barriers and increasing their own self-efficacy related to LARC use for those who become interested in using these methods. Lastly, the findings from this campaign should be used to develop larger initiatives across the country that speak directly to and meet the needs and concerns of young people in relation to contraception. Such initiatives must also address the need for healthcare provider education, awareness-raising and behavior/practice change so that together, health systems and young women can break the 'paradox of inertia' that keeps them from being able to make informed choices and take actions that result in better health.

Disclaimer statements

Contributors The first author supervised the research study, including data collection, analyses, and interpreting findings. All authors participated equally in conceptualizing the study, as well as drafting and editing the article. All authors have read and approved the final article.

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