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“I think it is a powerful campaign and does a great job of raising awareness in young women”: Findings from Breast Cancer Awareness campaigns targeting young women in Canada

by Lorna Larsen

ABSTRACT

The purpose of this multi-year study was to replicate a successful breast cancer awareness campaign pilot, targeting young women, and evaluate the campaign effectiveness on multiple Canadian post-secondary school sites. A Canadian charity, Team Shan Breast Cancer Awareness for Young Women (Team Shan), facilitated awareness campaigns on college and university campuses across Western Canada from 2010–2016. Using a pre-post design, young women (17–29 years) on 11 targeted campus sites participated in completing pre- ($n = 880$) or post-campaign ($n = 794$) evaluation questionnaires. Questions were designed to evaluate awareness campaign activities, key take home messages, and breast cancer knowledge transfer. Team Shan was successful in developing a variety of strategies to inform young women about their risk of developing breast cancer. The campaigns made a positive impact on young women as an effective public health communication initiative. Findings support health promotion strategies to reach young women, a population at risk of developing breast cancer.

Keywords: breast cancer, awareness, young women, late diagnosis, early detection, health promotion

BACKGROUND

About 8,600 adolescents and young adults (AYA) aged 15 to 39 years are projected to be diagnosed with cancer each year in Canada (Canadian Cancer Society [CCS], 2019). AYAs with cancer face unique challenges and unmet needs that can impact their prognosis and treatment, lead to short- and long-term consequences, and impact survival (Canadian Partnership Against Cancer [CPAC], 2017). As the population of AYAs with cancer may be at higher risk for a delay in diagnosis, early detection has been identified as one of the unmet needs of this group (Rampthal, 2016). Due to physician or patient inaction, this gap in early diagnosis may lead to poorer outcomes and added distress for young adults who are diagnosed late (Miles, 2017). To help address patient inaction, the

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well AYA population has been identified as a target population for cancer awareness and symptom education (Kyle, 2012).

Breast cancer is one of the most frequently diagnosed cancers in the AYA population (15–39 years) in Canada (CPAC, 2019). The incidence of breast cancer in young women has fluctuated in Canada, but increases rapidly with age. Research has shown a rise in the number of young women (15–39 years) who present with metastatic breast cancer at diagnosis and experience adverse outcomes including lower survival rates (Johnson et al., 2018). Young women who are diagnosed may also be at greater risk of distress (Miroshnychenko, 2021).

Publications have recommended communication strategies to address breast cancer awareness needs for young women. Educating young women about their breast cancer risks, symptoms and self-detection has the potential to increase risk reduction behaviours across the age trajectory, increase earlier detection, and promote overall health and wellbeing. Tailored health promotion initiatives targeting young women are emerging to address this identified healthcare need (e.g., Bottorff et al., 2014).

Team Shan Breast Cancer Awareness for Young Women (Team Shan), a Canadian registered charity, is dedicated to educating young women about early detection, risk reduction, and prevention of breast cancer. Team Shan is named after Shanna (Shan) Larsen, a young woman misdiagnosed following multiple medical consultations and subsequently diagnosed with late-stage metastatic breast cancer. Shan was only 24 when she lost her life to breast cancer.

Early Initiatives

In 2006, Team Shan commissioned a literature review to clarify breast cancer information needs for young women and to assess health promotion strategies that address identified awareness and education gaps. The review concluded that improving early detection of breast cancer can assist in reducing breast cancer deaths in young women. However, to improve early detection rates, young women must be aware of the signs and symptoms of breast cancer to self-detect this disease. Breast cancer can be effectively treated, and an effective health education campaign can help reduce the number of deaths due to breast cancer (Suffel & Coleman, 2006).

Utilizing the literature review findings, Team Shan drafted a poster and pamphlet with breast cancer facts, symptoms, risk factors, and self-help (early detection and risk reduction) messages. The print materials also featured Shan's face and her story. The draft materials were focus tested in 2006 with 293 young women (15–29 years) in six targeted community sites in

Central Canada. Results supported the wide dissemination of promotion materials developed by Team Shan. The materials appealed to young women and addressed a serious knowledge gap. The feedback overall was very positive and indicated an interest in the topic and a desire to learn more. Most importantly, young women were able to understand that women of all ages are at risk of breast cancer (Larsen & Forchuk, 2006).

Based on the focus testing results, Team Shan developed and piloted a multi-faceted breast cancer awareness campaign in Central Canada in 2007. The short-term objectives of the pilot campaign were to: 1) implement a comprehensive breast cancer awareness campaign targeting young women, 2) evaluate the effectiveness of the campaign awareness materials/strategies targeting young women, and 3) increase the awareness/knowledge level of breast cancer in young women. The campaign's long-term goals were to: 1) increase early detection of breast cancer in young women and 2) help improve outcomes for young women diagnosed with the disease. The theme for the campaign was *Breast Cancer...not just a disease of older women*. An updated literature review was commissioned to confirm campaign messaging (Suffel & Coleman, 2007).

Campaign activities included media and marketing advertisements, print material distribution, displays, presentations, online website, and social media posts. A pre/post design was used to measure the effectiveness of the pilot campaign. Participants were a convenience sample of young women (15–29 years) who volunteered to complete pre- ($n = 293$) and post-campaign ($n = 301$) questionnaires at six targeted community sites. The majority of participants (86.0%) from all sites noticed the campaign advertisements. The most common take home message was related to understanding that breast cancer can happen at any age (57.0%). Only 3.8% of post-campaign participants indicated they had no breast cancer knowledge compared to 10.2% pre-campaign. The vast majority of campaign comments were extremely positive and generally thanked or praised the team for its work. In conclusion, the multi-faceted approach taken by Team Shan addressed breast cancer awareness information and risk awareness needs for young women. It was hoped that the success of the campaign would continue to grow and expand (Larsen & Forchuk, 2008).

PURPOSE

This paper reports the multi-year study whose purpose was to replicate the successful Team Shan breast cancer awareness campaign pilot, targeting young women, and evaluate the effectiveness of the campaign on multiple Canadian post-secondary school sites.

CAMPAIGN REACH

Team Shan breast cancer awareness campaigns were implemented at post-secondary schools across Western Canada during October and November 2010 to 2015. Young women on campus were reached directly through Team Shan campus displays and campus requests (e.g., student club presentations, Women's Centre Lunch & Learns, athletic department events). Further campaign reach was obtained through the distribution of campaign resource materials (posters, pamphlets, and bookmarks), campus partnership activities, and student sharing of

campaign information. There was also the potential to indirectly reach the maximum listening and readership audience through a variety of public marketing advertisements (e.g., public transit, transit shelters, and billboards), campus media advertisements (e.g., radio, print media, and closed-circuit television), the Team Shan website, and social media (Facebook) messaging used in the campaigns. Consistent with the pilot campaign, messaging included breast cancer facts, symptoms, risk factors and self-help (early detection and risk reduction) strategies and incorporated the theme, *Breast Cancer... not just a disease of older women*.

Over time, two literature reviews were conducted to stay current on available research and update campaign messaging. The reviews highlighted a number of recommendations, which Team Shan incorporated into the development and refinement of the campaigns (Chadder & Coleman, 2011; Symonds, Tiseo, & Coleman, 2015).

METHOD

Using a pre-post design, young women between 17–29 years from 11 targeted campus sites participated in completing pre- or post-campaign evaluation questionnaires. Questions were designed to evaluate awareness campaign activities, key take home messages, planned use of campaign information obtained, campaign information sharing, and participant self-reported breast cancer awareness and knowledge levels. As the campaign evaluation questionnaires reported on anonymous data, this study did not fall within the scope of an ethics review (Government of Canada, 2018).

Setting and Participants

Team Shan campaign evaluation tables were set up in high-traffic areas on campus and students were invited to participate. Verbal and written information was provided outlining the campaign evaluation activity and its volunteer nature. The pre-campaign evaluation participants were a convenience sample of young women (17–29 years) on campus who volunteered to complete hard copy pre-campaign questionnaires. A second convenience sample of young women (17–29 years), on campus during the implementation phase of the campaign, volunteered to complete hard copy post-campaign questionnaires. Completion of the self-administered questionnaires implied participant consent.

Data Collection

Evaluation activities were facilitated by a Team Shan member. Pre- and post-campaign evaluation questionnaires were developed in consultation with an independent research consultant. The tools contained questions consistent with the pilot campaign evaluation questionnaires, were adapted following review overtime, but were not formally validated. Pre-campaign questionnaires were completed prior to the campaign first semester launch and post-campaign questionnaires after the end of the campaign and year-end campus break. The pre-campaign questionnaire took about one minute to complete and the post-campaign questionnaire about five minutes to complete. The 2011–2016 post-campaign questionnaires contained both open- and closed-ended questions. See Table 1 for a complete list of questions from the Team Shan campaign evaluation tools.

Table 1*Team Shan Breast Cancer Awareness Campaign evaluation tool questions***Assessment of Campaign Activities (2010–2012 Campaigns)**

1. Have you seen or heard any of the following Team Shan media/marketing advertisements on breast cancer in young women? Please check all that apply.
 - a) campus newspaper
 - b) LRT/bus ads
 - c) LRT/bus shelter ads
 - d) billboards
 - e) radio
 - f) other – please specify:
 - g) none of the above
2. Have you seen any of the following Team Shan breast cancer awareness print materials? Please check all that apply.
 - a) pamphlet
 - b) poster
 - c) bookmark
 - d) other – please specify:
 - e) none of the above
3. Have you seen any of the following Team Shan interactive/social media? Please check all that apply.
 - a) Team Shan website
 - b) Team Shan Breast Cancer Awareness for Young Women Facebook page
 - c) other internet sites
 - d) none of the above

Assessment of Campaign Activity Effectiveness (2010–2012 Campaigns)

4. What awareness campaign strategy was the most effective for you? Please check only one.
 - a) media/marketing advertisements
 - b) awareness print materials
 - c) interactive/social media

Assessment of Campaign Activities (2013–2015 Campaigns)

5. Have you seen or heard any of the following Team Shan campaign advertisements on breast cancer in young women? Please check all that apply.
 - a) marketing (bus ads, bus shelters, billboards)
 - b) media (campus radio, newspaper)
 - c) print materials (posters, brochures, bookmarks)
 - d) interactive/social media (website, Facebook)
 - f) other – please specify:
 - g) none of the above

Assessment of Campaign Take Home Message(s) (2010–2012 Campaigns)

6. What was your take home message from the media/marketing advertisements?
7. What was your take home message from the awareness print material(s)?

Assessment of Campaign Take Home Message(s) (2013–2015 Campaigns)

8. What was your take home message from the Team Shan campaign advertisements?

Assessment of Planned Use of Campaign Information Obtained (2013–2015 Campaigns)

9. What action will you take after seeing or hearing the Team Shan campaign advertisements?

Assessment of Frequency of Campaign Information Sharing (2013–2015 Campaigns)

10. With how many people have you shared the information you saw or heard from the Team Shan campaign?
 - a) 0
 - b) 1-2
 - c) 3-5
 - d) 6-10
 - e) over 10

Assessment of Breast Cancer Knowledge Level (2010–2013 Campaigns)

11. How would you describe your knowledge of breast cancer in young women today?
 - a) no knowledge
 - b) some knowledge
 - c) well informed

Assessment of Breast Cancer Awareness Level Information (2010–2013 Campaigns)

12. What specific breast cancer information are you aware of today?
 - a) facts
 - b) symptoms
 - c) self-help
 - d) risk factors

Overall Campaign Comments (2010–2015 Campaigns)

13. Please provide any further comment(s) on the Team Shan breast cancer awareness campaign for young women.

Data Analysis

The campaign research consultant tabulated the results and provided analysis of the evaluation data collected. Responses to open-ended questions were analyzed and coded to identify common themes in the responses reported. Through analysis of the responses, a coding scheme was developed to categorize the common types of responses. The categories describing common responses that emerged were used to code the questionnaire responses and summarize results in tables. Frequency analysis was used to describe demographics, closed-ended questions, and categorical data. Percentages were rounded to the first decimal place.

RESULTS

Participant Demographics

Participants ($n = 1,674$) were female, between 17–29 years, representative of Canadian post-secondary school student diversity, and a cross-section of the young women on campus targeted by the campaign. Over the multi-year study, 880 participants completed pre-campaign questionnaires and 794 completed post-campaign questionnaires.

Campaign Advertisements

Consistent with the pilot campaign evaluation results, the majority (91.9%) of post-campaign participants ($n = 794$) across all study sites had noticed the Team Shan campaign advertisements. Consistently on all study campuses, the most common campaign activities either seen or heard were those related to media/marketing (87.8%), followed by print materials (63.6%), and interactive/social media (22.0%).

Participants ($n = 485$) from the 2010–2012 campaign evaluations reported media/marketing advertisements as the most effective awareness strategy (60.8%). Participants ($n = 552$) reported public transit advertisements (bus or light rail transit) were the most observed (67.4%) marketing ads followed by transit shelter ads (42.9%), and billboard displays (35.1%). Campus newspaper ads were the most commonly observed (26.3%) campaign media advertisement. The most commonly observed print material ($n = 542$) was the campaign poster (55.7%) followed by campaign pamphlet (31.7%), and bookmark (10.9%).

The most frequently viewed interactive/social media strategy ($n = 527$) was the Team Shan Facebook page (11.2%) followed by other internet sites, including university or college campaign partnership websites (3.6%) and the Team Shan website (3.0%). Details of website visits were retrieved from Google analytics. Visitors from targeted campaign locations frequently viewed Shan's Story and the Breast Aware pages on teamshan.ca. Facebook page interactions were also collected. New page 'likes' were generated during the campaigns. Campaign marketing photos were liked. Team Shan videos (e.g., Check Yourself Canada) and blog sites were also visited through Facebook links.

Take Home Message and Action Taken

Consistent with the pilot campaign evaluation results, the most common take home message reported by study participants who reported seeing the campaign messages ($n = 638$)

was related to understanding that breast cancer can happen at any age (58.3%). The importance of self-help (self-care) activities such as breast checks was the second most common take home message (20.7%). See Table 2 for a complete listing of the campaign take home message themes and findings.

The majority (93.3%) of participants ($n = 208$) from the 2013 and 2015 campaigns indicated that they had begun to take action or planned to take action based on information they received from the Team Shan campaign. The most common action response was that participants planned to personally get checked through self-checks or a doctor (41.3%). See Table 3 for complete listing of personal (70.2%), interpersonal (26.0%) and societal (16.3%) action response themes and findings. The majority (54.8%) of participants ($n = 219$) from the 2013 and 2015 campaigns reported they had not shared information from the campaign, while 45.2% reported sharing with at least one other person.

Breast Cancer Knowledge Levels

Based on responses to the 2010–2013 pre-campaign surveys, the majority (76.6%) of participants ($n = 880$) reported they had "some knowledge" of breast cancer. Responses from the post-campaign survey indicated the majority (78.4%) of participants ($n = 685$) reported they had "some knowledge." Post campaign responses showed an increase in the number of participants who saw themselves as "well informed" (+4.9%) about breast cancer and a decrease in participants who saw themselves as having "no knowledge" (-6.6%). Pre ($n = 853$) and post ($n = 663$) campaign participants consistently reported they were most aware of breast cancer facts, symptoms, and risk factors. Over time, there was a consistent increase in participants' self-reported awareness of these topics (+11.6%, +4.3%, and +8.4% respectively). Self-help (early detection and risk reduction) information was consistently reported as the topic participants felt least informed about. Over time, self-help awareness also increased (+7.5%).

Table 2

Themes for Key Take Home Message (2010–2015 Campaigns)

Themes	All Sites ($n = 638$)
Breast cancer can happen at any age (young and older women, anyone)	372 (58.3%)
Self-care messages (get checked, early detection)	132 (20.7%)
Breast cancer awareness (serious disease)	113 (17.7%)
Help the cause (support a cure, donate)	44 (6.9%)
Shan's Story (tragic loss)	37 (5.8%)
Positive campaign (effective, informative)	33 (5.2%)
Incidence (prevalence)	6 (.9%)

*Some participants reported more than one take home message. All answers were included.

Table 3

Themes for Action Taken or To Be Taken (2013–2015 Campaigns)

Themes	All Sites (n = 208)
Personal Action	
Get Checked (self-checks, doctor)	86 (41.3%)
Increase awareness of breast cancer (risk factors, symptoms)	34 (16.3%)
Learn more about Team Shan campaign	17 (8.2%)
Take care of self (healthy choices)	9 (4.3%)
Interpersonal Action	
Spread awareness to family and friends	45 (21.6%)
Encourage checks	9 (4.3%)
Societal Action	
Support the Cause	34 (16.3%)
Not Sure of Action	8 (3.8%)
No Action	6 (2.9%)

*Some participants reported more than one action. All answers were included.

Campaign Feedback

Consistent with the pilot campaign evaluation, the study responses ($n = 250$) to open-ended questions inviting young women to provide comments on the campaigns were incredibly positive and acknowledged the importance of the campaign (e.g., “It’s a great thing you are doing to bring awareness that Breast Cancer can affect women of all ages^②”). Participants repeatedly thanked Team Shan volunteers for being on campus and not forgetting them in breast cancer messaging (e.g., “Thank you for this important information, keep up the great work!”). Participants responded well to the use of Shan’s story to bring awareness to young women (e.g., “Amazing campaign. It is great to use a real situation with a real young, beautiful woman to make the situation more real and to further awareness.”). Some participants provided feedback for campaign strategies they would like to see in the future and suggested where these may be effective. Other comments focused on the knowledge participants had gained from the campaigns (e.g., “Makes young girls like myself aware that we are at risk too!”). No negative impacts from the campaigns were reported and young women repeatedly asked for more awareness and education (e.g., “Keep up the good work raising awareness.”).

DISCUSSION

The Team Shan breast cancer awareness campaigns were successful in implementing a variety of strategies to inform young women about their risk of developing breast cancer. The vast majority of young women reported seeing the

campaigns and had positive reactions to it. This demonstrated the campaigns were effective in reaching the target population. Marketing ads trended as the most commonly viewed advertisements. Print materials were another effective strategy. Despite recommendations from young women to have an active social media presence, the number of participants viewing social media during the campaigns remained low. These low numbers may have to do with the fact that viewing interactive/social media is an intentional decision, while other advertisements are seen in passing on or around campus. There were likely people viewing information on social media beyond those surveyed, and increasing usage overtime, so continuing this approach was still recommended. Overall, the results were promising and indicated that young women noticed a variety of Team Shan campaign advertisements.

The understanding that breast cancer can affect women of any age was the most common take-home message among campus participants, as well as a major message Team Shan hoped to communicate. Post-campaign action intention results indicated that young women planned to act on a variety of personal, interpersonal and societal levels. While the results indicated that a substantial portion of participants had not shared campaign information with others, many participants intended to spread awareness and information. These participants may not have yet had the opportunity to do so prior to the post-campaign evaluation, but shared their intention for the future (e.g., “I think this is a very important campaign and I will be sure to spread the word ^③”). Results were encouraging, as they showed participants began sharing information quickly while others planned actions to take in the future.

The majority of all 2011–2014 post-campaign participants reported “some knowledge” of breast cancer. The proportion of young women who felt they had “no knowledge” of breast cancer decreased while that of young women who felt they were “well informed” increased after the campaigns were implemented and is considered a success for the campaigns. Compared with pre-campaign responses, there were consistently higher levels of self-reported awareness of breast cancer facts, symptoms, and risk factors at post-campaign. Overall, self-help awareness also increased, but findings indicated a need for continued and expanded self-help (self-care) information in future campaigns.

The use of a real person (Shanna) appealed to the target population and made a difference in communicating messages to young women. Shan’s story was memorable and resonated with participants as an indication that breast cancer can occur in young women (e.g., “The campaign touched me because I am the same age as Shan.”). The value of drawing on Shan’s story and the perspectives of young women in shaping initiatives to enhance breast cancer awareness were demonstrated with Team Shan. Young women provided useful suggestions for ways they would like to receive information for future campaigns and Team Shan responded by tailoring campaign activities and messaging to meet these needs. Further, including both self-help and prevention strategies in advertisements and directing young women to review Team Shan resources promoted an opportunity for empowerment and

direction for young women (e.g., “Outside ads lead to website. It [campaign] worked for me;” “Great campaign, important for young women to be aware. I don’t know a lot about it, going to look up more;” and “Because I kept seeing the posters/billboards, I downloaded an app that reminds me to check for breast cancer.”)

Overall, the campaign feedback was extremely positive and demonstrated that participants valued the campaign and the information provided. The participants consistently asked for more awareness and education. Through feedback from young women on campus and updated literature reviews, the strategies that were effective in increasing awareness evolved slightly over time. Overall, results from the multi-year campaigns were consistent with the results from the pilot campaign.

Study Limitations

The study had no comparison group and only a consecutive, single convenience sample design was used for the campaign evaluations. Further study is needed to assess breast cancer risk reduction and self-detection behaviour change in young women over time. Future research on the impact of social media messaging based on participants age or student status may be of value.

Recommendations

It was recommended to continue implementing the effective Team Shan health promotion strategies for reaching young women on campus; incorporating suggestions from young women in future campaigns; updating campaign information to ensure evidence-based content; and expanding reach as opportunities present on campus, in communities, and online.

Nursing Implications

Multiple nursing administration, practice and research opportunities exist to help meet awareness and education needs for the well AYA population in Canada. Nursing practice programming is available to facilitate health promotion strategies to reach adolescents and young adults with vital cancer information through existing public health programs (e.g., sexual health, family health, school health and chronic disease prevention), post- secondary school student health services, community health clinics, and oncology clinical services.

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- Successful study awareness strategies including marketing advertisements (e.g., public transit ads), print materials (e.g., posters) and online post and video messaging can assist this work. Story-telling campaign messaging can also be shared to help raise awareness and inform early detection needs for young women.
- Sample Team Shan campaign presentations and resources can support professional nursing education opportunities about AYA cancer and help inform nursing students. Nursing researchers and oncology nurses in acute care are well positioned to support further research on the impact of AYA delays in diagnosis. It is important to remember that AYA with cancer who are not yet diagnosed are part of the AYA cancer continuum.

CONCLUSION

Young women, a population at risk of developing breast cancer, need information about breast cancer and their susceptibility to the disease. Knowledge of breast cancer symptoms and self-care strategies provide young women with the opportunity for self-detection and earlier medical diagnosis. Team Shan was successful in developing an effective health promotion strategy to reach thousands of young women on multiple post-secondary school campuses in Canada. Study findings support the expansion of health promotion strategies to reach young women with their breast cancer risk and breast health information.

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