

An Evaluation of Cancer’s Margins Training Videos and Their Impact on Medical Students’ Self-Rated Confidence in Working with Lesbian, Bisexual, and Transgender (LBT) Patients with Breast and Gynecological Cancers

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Abstract

Lesbian, bisexual, and transgender (LBT) patients with breast and gynecological cancers face unique challenges and barriers to accessing LBT-affirming health care. Physician attitudes and knowledge around working with LBT patients contribute to these challenges and barriers. Despite this, there is very limited LBT-specific education in the medical curriculum. Cancer’s Margins (<https://www.lgbtcancer.ca/>) is a national project funded by the Canadian Institutes of Health Research. Through the Cancer’s Margins project, a series of first-person videos were developed that can serve as additional training content for medical students for working with LBT patients with what has been traditionally termed “women’s cancers.” The focus is on LBT individuals specifically, rather than the broader 2SLGBTQA+ community, because of the anatomy involved with breast and gynecological cancers. This project serves to evaluate the impact of the Cancer’s Margins videos on the self-reported confidence of Dalhousie University medical students in working with these populations. Medical students were invited to participate in a two-part online survey using a 38-item survey that explored self-rated confidence before and after watching the Cancer’s Margins videos. There were four open-ended questions for feedback on the videos to help assess overall self-rated impact. Ultimately, 23 surveys were either fully or partially completed. Overall attitudes toward LBT patients were positive, but overall confidence was variable. There was an average increase of 8% in overall group self-rated confidence after watching the Cancer’s Margins videos. Incorporating training for working with LBT patients into the medical school curriculum could increase quality of care and break down barriers in access to care for LBT populations. The Cancer’s Margins training videos can be an effective resource for medical students for increasing self-reported confidence.

Introduction

Lesbian, bisexual, and transgender (LBT) patients face unique challenges and barriers when seeking health care. For example, when compared with heterosexual and cisgender peers from the same socioeconomic class, LBT patients are less likely to be able to access appropriate health care, and this barrier to access may exacerbate or create health disparities between LBT and non-LBT patients (Obedin-Maliver et al., 2011). Transgender patients in particular face additional and unique barriers to accessing safe and affirming health care (Kamen et al., 2019). Reisner et al. (2016) defined affirming health care as “health care that holistically attends to transgender people’s physical, mental, and social health needs and well-being while respectfully affirming their gender identity” (p. S238), which should be applied to all aspects of health care, not just gender-affirming therapies. Discrimination, inequality in health care quality, and poor patient-physician relationships may stem from inadequate, or complete lack of, education for physicians for working with LBT populations (Schreiber et al., 2021).

Previous research suggests that discrimination in health care plays a role in cancer screening for LBT patients. For example, a previous study found that lesbians are more likely to avoid preventative cancer screening such as mammography or cervical cancer screening due to the fear of discrimination (McKay, 2011; Sabin et al., 2015). Once diagnosed with cancer, LBT patients are left with more than just the challenge of coping with their new diagnosis—LBT patients must also decide whether, when, and how to disclose their sexual orientation and/or gender identity to their physician (Kamen et al., 2019; Katz, 2009). The risks of disclosing, or not disclosing, sexual orientation and/or gender identity may be informed by perceptions and/or actual negative health experiences of mistreatment by physicians and other health care providers (Alpert et al., 2017; Durso & Meyer, 2013; Kamen et al., 2019). These risks may be the consequence of physicians’ potential lack of knowledge or implicit and/or explicit negative

attitudes toward LBT patients. In addition, negative attitudes held by physicians may result in compromised ability to care for LBT patients, hostile patient-physician relationships, and the inability for LBT patients to safely disclose important health information (Parameshwaran et al., 2017). For patients with “women’s cancers,” such as cancer of the breast, ovaries, and/or uterus, it is especially important to have an affirming support network because of the heteronormative and cisnormative approaches that are currently used for cancer screening and treatment (Gahagan et al., 2021). For LBT patients with women’s cancers, these support networks may not look the same as those of non-LBT patients. For example, LBT patients are more likely to have support networks comprising friends and current and/or former partners, due to past rejection or non-acceptance from their biological family (Grossman et al., 2000; Kamen et al., 2019; Kamen et al., 2015). Unfortunately, there is a lack of training for oncologists that focuses on LBT-specific health care (Pratt-Chapman et al., 2021; Wheldon et al., 2018).

Compared to heterosexual women, lesbian, bisexual, and queer women are at increased risk for breast and cervical cancers due to decreased screening rates resulting from a poor patient-physician relationship or increased patient discomfort (Quinn et al., 2015). In addition, they may be regarded as being less at risk for the human papillomavirus infection that most often causes cervical cancer, due to higher rates of nulliparity among this population (Institute of Medicine, 2011; Quinn et al., 2015; Zaritsky & Dibble, 2010). The research on transgender cancer risk is lacking, but transgender patients are more likely to experience discrimination, stigma, and lack of access to safe and affirming health care, which may lead to avoidance of screening tests (Bauer et al., 2009) and potentially increase their risk of delayed diagnosis of cancer.

The negative impact on LBT populations caused by lack of specific physician education and training is clear. However, what is less clear is why medical education is still lacking an adequate focus on LBT health. Despite the

Association of American Medical Colleges recommending that medical school education include training on providing exceptional care to LBT patients, addressing needs specific to LBT patients, and improving communication skills regarding sexual orientation and gender identity, the median reported hours dedicated to LBT education in medical schools in Canada and the United States was only five hours throughout the entire medical education program (Obedin-Maliver et al., 2011). Sanchez et al. (2006) found that third- and fourth-year medical students with more exposure to LBT patients had more positive attitudes toward sexual minority patients, were more likely to take a sexual history, were more likely to screen for sexual orientation, and were more likely to demonstrate greater overall knowledge of LBT health. This suggests that introducing medical students to LBT patients and related curriculum during their training may improve the implicit and explicit biases that are currently detrimental to LBT patients' health care access and quality. Education for physicians and student physicians is crucial, because a lack of training on the needs of LBT patients places the onus on the LBT patients to teach their physicians to care for them and puts them at risk for experiencing suboptimal care and discrimination (Poteat et al., 2013; Pratt-Chapman et al., 2021).

McLeroy et al. (1988) expanded on an ecological model for health promotion, focusing on five levels that influence health behaviour: intrapersonal factors, interpersonal processes and primary groups, institutional factors, community factors, and public policy. Ecological models assume that there are multiple levels of influence to behaviour, and that these levels interact with and reinforce one another; this suggests the potential for intervention strategies at each of these five levels of influence (Golden & Earp, 2012). Incorporation of specific LBT training into medical school curriculum with the goal of improving health outcomes for the LBT population would be an intrapersonal level of intervention because it is aiming to change the knowledge, beliefs, and skills of

individuals, with the individuals in this case being future physicians (Golden & Earp, 2012).

Cancer's Margins is a national research project funded by the Canadian Institutes of Health Research that has developed a series of first-person videos that explore sexual and gender diversity and experiences with cancer within the LBT population (<https://www.lgbtcancer.ca/>). The Cancer's Margins videos can serve as additional training content for medical students to supplement the limited content that they receive throughout their curriculum. However, the videos on the Cancer's Margins website have not yet been evaluated for their impact on health care professionals in relation to their self-rated confidence when working with LBT patients in general, or when working with LBT patients with breast and gynecological cancers. The goal of this project is to evaluate the impact of the Cancer's Margins training videos on medical students' self-rated confidence around working with LBT patients.

Methods

An anonymous online two-part survey was created using the Opinio survey platform. Part One of the survey consisted of five demographic questions, nine specially devised questions, and six questions adapted from Parameshwaran et al. (2017). Ten of these questions ask students to rate their confidence in a variety of scenarios on a five-point Likert scale from "very unconfident" to "very confident" (1-5). For example, "How confident would you feel performing a physical examination on an LBT patient?" The remaining five questions ask students to rate how much they agree with a given statement on a five-point Likert scale from "strongly disagree" to "strongly agree" (1-5). For example, "If given the choice, I would prefer not to work with LBT patients." Part Two of the survey consisted of four questions regarding which of the Cancer's Margins videos were watched and the students' opinions of them, along with 14 of the same questions asked in Part One of the survey.

The invitation to participate in the survey was distributed via email in June 2021 to

medical students in all four years at Dalhousie Medical School. The survey was open for four weeks. Students completed Part One of the survey, which included a demographic survey and 15 questions that collected information on self-rated baseline confidence for working with LBT patients. The participants were then invited to the Cancer's Margins website to watch videos in one or more content areas of their choosing, such as "Healthcare Provider Communication" or "Sexuality and Cancer." Participants then returned to complete Part Two of the survey. Completion of Part One of the survey, watching the Cancer's Margins videos, and completion of Part Two of the survey were all completed in one sitting.

Data analysis was conducted on the 11 fully completed surveys. Data analysis included only the calculation of descriptive statistics (mean, median, and mode) for each question on Part One and Part Two of the survey. The descriptive statistics were used to compare responses to questions that were on both parts of the survey to see if there was a difference between how participants responded to the survey questions before and after watching the Cancer's Margins videos. Open-ended questions were collected to assess whether participants found the Cancer's Margins videos to be a useful resource, which videos were the most impactful, and whether there was a desire to learn more. Minor qualitative analysis was conducted on the open responses to identify common themes in the responses.

Results

Of the 469 medical students who were invited to participate in the study, 23 students responded to the survey (4.9% uptake), and 11 of those students fully completed the survey. Most participants who partially completed the survey stopped after Part One of the survey. Data analysis was conducted on the 11 fully completed surveys that included only descriptive statistics and, where available, open-ended responses. The majority of participants had just completed their first year of medical school (n=7), and the remainder had just completed their second year of medical school

(n=4). There were no participants from third or fourth year. Well over half (63.6%) of participants were between the ages of 20 and 24, 81.8% self-identified as female, and 63.6% self-identified as heterosexual (Table 1).

As indicated in the survey data responses, participants were neither confident nor unconfident about clarifying unfamiliar sexual or gender terms used by patients (Table 2). Participants reported being confident in their ability to take a social history from an LBT patient but reported being neither confident nor unconfident taking a sexual history from an LBT patient. Participants were overall unconfident in deciding which ward a transgender patient should be admitted to and were unconfident about knowing where to find LBT-specific health services in their area. Participants were similarly neither confident nor unconfident in talking to patients about their breast or gynecological cancer regardless of whether the patients were cisgender, heterosexual, lesbian or bisexual, or transgender or nonbinary. However, 90.9% of participants reported feeling confident in asking for a patient's preferred pronouns during a medical history.

Overall, 63.6% of participants agreed that they had received specific training on LBT health issues, and 100% agreed that LBT patients may have different experiences with breast and gynecological cancers than their non-LBT counterparts (see Table 2). The majority of participants (72.7%) strongly disagreed that they would prefer not to work with LBT patients, and strongly agreed that they would like to receive specific training for working with the LBT population (72.7%). Participants either agreed (45.5%) or strongly agreed (54.5%) that specific training for working with LBT patients is required in order to effectively serve these patients.

On the Cancer's Margins website, participants had the option to watch videos in one or more content areas of their choosing. The two most frequently watched content areas were "Trans*, Gender and Cancer" (n=7) and "Healthcare Provider Communication" (n=7).

Table 1

Demographic Characteristics of Participants (n=11)

| | |
|---|---|
| Training Completed | Year 1 = 7 Year 2 = 4 Year 3 = 0 Year 4 = 0 |
| Sex | Male = 2 Female = 9 |
| Sexuality | Straight = 7 Lesbian = 0 Gay = 0 Bisexual = 2 Queer = 1 Questioning = 0 Something else = 1 Prefer not to say = 0 |
| Age | 20–24 = 7 25–29 = 2 30–34 = 1 35–39 = 1 |
| Highest Level of Education Prior to Starting Medical School | Bachelor of Science = 7 Bachelor of Arts = 0 Masters = 1 PhD = 1 Other Bachelor’s Degree = 2 |

The least watched content area was “Feeling Cancer” (n=1), followed by “Cancer Support Networks” (n=2) and “Cancer, Survivorship and Mortality” (n=2). Most of the participants (81.8%) watched videos in more than one content area. The mean number of content areas watched by participants was 3.3, and the mode was two.

Across all of the average self-reported confidence scores for the group (n=11) on a scale from one to five, there was an average increase of 8% after watching the Cancer’s Margins training videos (Table 2). The greatest increase in self-reported confidence was for finding information about LBT-specific health services in the participant’s area, with the average self-reported confidence score for the group on a scale from one to five increasing by

0.77 (15.4%) from 2.63 to 3.4. There was also an increase in participants’ self-rated agreement that LBT patients may have a different experience with breast and gynecological cancer of 0.36 (7.2%) after watching the Cancer’s Margins training videos. There was no change in participants’ desires to work with LBT patients after watching the videos, with participants strongly disagreeing with the statement “If given the choice, I would prefer not to work with LBT patients.” There was, however, a change in participants’ self-rated interest in receiving specific training in relation to working with LBT patients, decreasing by 0.19 (3.8%). After watching the videos, there was a slight increase of 0.09 (1.8%) for participants’ self-reported agreement that specific training for working with LBT patients is required to effectively serve these patients.

Most participants (90.9%) agreed that they had learned something about LBT experiences with cancer from watching the Cancer’s Margins videos, while one participant neither agreed nor disagreed. Most of the participants (81.8%) agreed that the Cancer’s Margins training videos changed the way they think about LBT patients, while two participants disagreed and one participant neither agreed nor disagreed. All the participants either agreed (45.5%) or strongly agreed (54.5%) that the videos on the Cancer’s Margins website are a valuable resource.

In addition to the five-point Likert scales, participants were asked four open-ended questions designed to assess the specific impact of the Cancer’s Margins training videos. When asked which of the videos impacted them the most in terms of their professional development, some participants (n=3) stated that they were impacted the most by the video titled “The Neither Story,” because it showed the importance of being sensitive and accepting to patients, and because it showed that cancer treatment has the potential to be gender affirming (i.e., using necessary cancer surgeries to obtain desired bodily characteristics without the typical associated monetary cost; in this case

Table 2

Survey Data (n=11)

| Please rate your level of confidence from “very unconfident” to “very confident” | Part One: Mean, Median (Q1-Q3), and Mode | Part Two: Mean, Median (Q1-Q3), and Mode |
|---|---|---|
| How confident do you feel clarifying unfamiliar sexual or gender terms used by patients? | Mean = 3.27 Median (Q1-Q3) = 3 (3-4) Mode = 3 | 3.63 4 (3-4) 4 |
| How confident do you feel taking a social history from an LBT patient? | 3.54 4 (3-4) 4 | 3.72 4 (3-4) 4 |
| How confident do you feel taking a sexual history from an LBT patient? | 3.09 3 (3-3) 3 | 3.63 4 (3-4) 4 |
| How confident do you feel deciding in which ward (i.e., male ward/female ward) a transgender patient should be admitted? | 3.09 3 (2-4) 2 | 3.45 4 (3-4) 4 |
| How confident do you feel knowing where to look in order to find information about LBT-specific health services in your area? | 2.63 2 (2-4) 2, 4 | 3.4 4 (3-4) 4 |
| How confident would you feel performing a physical examination on an LBT patient? | 3.27 3 (3-4) 3 | 3.45 4 (3-4) 4 |
| How confident would you feel speaking with a heterosexual cisgender female patient about her breast or gynecological cancer? | 3.27 3 (2-4) 4 | 3.72 4 (3-4) 3 |
| How confident would you feel speaking with a lesbian or bisexual female patient about their breast or gynecological cancer? | 3.36 3 (3-4) 3, 4 | 3.72 4 (3-4) 3 |
| How confident would you feel speaking with a transmasculine or nonbinary patient about their breast or gynecological cancer? | 2.91 3 (2-4) 2, 3 | 3.36 3 (3-4) 3, 4 |
| How confident would you feel asking for a patient’s preferred pronouns during a medical history? | 4.1 4 (4-4) 4 | 4.36 4 (4-5) 4, 5 |

| Please rate your level of agreement from “strongly disagree” to “strongly agree” | Part One: Mean, Median (Q1-Q3), and Mode | Part Two: Mean, Median (Q1-Q3), and Mode |
|---|---|---|
| I have received specific training on LBT health issues. | Mean = 3.45 Median (Q1-Q3) = 4 (3-4) Mode = 4 | N/A, this question was only asked in Part One of the survey |
| LBT patients may have a different experience with breast and gynecological cancers. | 4.27 4 (4-5) 4 | 4.63 5 (4-5) 5 |
| If given the choice, I would prefer not to work with LBT patients. | 1.27 1 (1-2) 1 | 1.27 1 (1-2) 1 |
| I would like to receive specific training for working with LBT patients. | 4.73 5 (4-5) 5 | 4.54 5 (4-5) 5 |
| Specific training for working with LBT patients is required in order to effectively serve these patients. | 4.54 5 (4-5) 5 | 4.63 5 (4-5) 5 |

it was “free bottom surgery”). Two participants stated that they were positively impacted by hearing stories of cancer and cancer treatment being told through an LBT lens in general, and two participants wrote about the importance of considering the whole patient, including the sexuality aspect. One participant said, “patients’ sex lives are important to them and we are not truly achieving patient-centered care if we are not addressing this as well, especially in situations where treatment can impact one’s sexuality.”

When asked what further information they would like to know that wasn’t included in the Cancer’s Margins videos, two participants stated a need for hands-on or clinical experience, and two participants expressed a desire to learn more about transgender health specifically. All participants that answered the open-ended question about the usefulness of the training videos (n=7) stated that they think the videos are very useful because of the importance of hearing the voices of LBT patients. Some participants stated that the LBT community is underrepresented in medical school education, and that hearing first-person stories about LBT experiences with cancer and other conditions may help students recognize their own

cisgender and heteronormative biases when working with LBT patients. When asked for feedback on the Cancer’s Margins videos, some participants expressed the need for closed captioning in both English and French so that every video can be watched by both English and French speakers.

Discussion

Similar to other recent research related to LBT-specific training (Arthur et al., 2021; Lee et al., 2020; Parameshwaran et al., 2017; Wahlen et al., 2020), we found that medical students overall had a baseline positive attitude toward LBT patients. At baseline, participants in this study either disagreed (27.3%) or strongly disagreed (72.7%) with the statement “If given the choice, I would prefer not to work with LBT patients” and showed a desire to receive specific training for working with LBT patients (27.3% agreed, 72.7% strongly agreed). It is uncertain whether this baseline acceptance and positive attitudes among medical students are due to previous education on LBT health or if it is societal. Although the attitudes were overall positive, the self-reported confidence for working with LBT patients was variable. There was no obvious difference between participants in different years of study.

Other recent studies (Arthur et al., 2021; Lee et al., 2020; Obedin-Maliver et al., 2011; Parameshwaran et al., 2017) have found that LBT training was lacking in the medical curricula, but 63.6% of participants in this study agreed that they had received specific training in LBT health issues. There was no assessment in this project of whether the participants felt that the LBT-specific training they received was adequate, or whether it was through the medical education curricula or from previous degrees or other sources.

The highest level of baseline confidence across participants was related to asking for preferred pronouns, and the lowest level of baseline confidence across participants was related to knowing where to look to find information about LBT-specific health services. The average low level of confidence in knowing where to find LBT-specific health services is consistent with the results from the same question in the studies conducted by Arthur et al. (2021) and Parameshwaran et al. (2017). The high level of confidence in asking for preferred pronouns is promising when considering the suggestion made by Kamen et al. (2019) that cancer care providers, and ultimately providers in general, “ask about and use patients’ correct names and pronouns” (p. 2530).

When asked about which of the videos impacted them the most, 27.3% of participants named “The Neither Story” with reference to the fact that some cancer treatments have the potential to be gender affirming—for example, with chest surgery after breast cancer or “bottom surgery” after ovarian, uterine, or cervical cancer. One of the suggestions by Kamen et al. (2019) for cancer care providers was to “provide transition-related surgeries and hormone therapy when relevant and possible in the context of cancer care” (p. 2528). Introducing medical students to first-person stories like “The Neither Story” may start the conversation that is necessary to making gender-affirming surgery and therapies a normal part of cancer treatment for LBT patients with breast and gynecological cancers who desire such therapies/surgeries.

There are a number of limitations to this study. The first and most significant limitation is the small sample size. Because only 11 surveys were fully completed and included in data analysis, which amounts to only 2.3% of medical students at Dalhousie, the data is not representative of the population at this medical school. Second, all participants are from a single university, so the results are not representative of students at other medical schools across Canada. Third, all participants who fully completed the survey had just finished their first or second year, so there is no data included from students in their clinical years. It is likely that students further along in their medical training have more confidence with clinical encounters in general, and it is more likely that they have had exposure to working with LBT patients simply because they have more exposure to working with patients. It is possible that students who chose to participate in this study already have more positive attitudes about LBT individuals than those who did not participate. The research was conducted by one of their peers, so although the survey was anonymous there is a possibility that responses were skewed. The majority of participants who partially completed the survey stopped before Part Two, which is at the point that they were invited to watch the videos on the Cancer’s Margins website. There are several potential reasons for this, with some possibilities being the following: time commitment too great, videos not interesting to the student, or issues with returning to the survey after completing watching the videos. Another limitation is that the demographic survey did not include race or ethnicity. Sex, not gender, was on the demographic survey, which may have discouraged individuals who do not identify as male or female from participating despite the option to opt out of self-identifying as male or female.

It is clear from the literature that physician attitudes and knowledge are a barrier for LBT patients to access the quality health care that they deserve. The data from this study suggests that medical students want to learn more about LBT-specific health care so that they

can make patients feel safe and heard and provide them with the care that they need. More investigation should be done into the amount and quality of LBT-specific education being received by medical students across Canada, based on the students' opinions and perspectives. The response to the Cancer's Margins videos' quality and usefulness as a source of education were overall positive. It could be beneficial for medical students to be exposed to the Cancer's Margins training videos during their education, in addition to hands-on clinical encounters with members of the LBT community.

Conclusion

Variation in confidence for working with LBT patients was identified, with deficits seen in a few key areas. Despite the variation in self-reported confidence, participants had positive attitudes about working with LBT patients and had a desire to learn more about how to better serve this population. Incorporating LBT-specific training during the medical school curriculum could serve to break down the barriers for this population to access quality health care, and based on the responses from this survey the Cancer's Margins training videos would be a welcome and effective resource for medical students. Particular attention should be directed toward teaching students about transgender health care and how to locate LBT-specific health services.

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