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Oncology Healthcare Providers' Knowledge, Attitudes, and Practice Behaviors Regarding LGBT Health

Gina Shetty¹, Julian A. Sanchez, MD^{1,2}, Johnathan M. Lancaster, MD, PhD², Lauren E. Wilson, BS², Gwendolyn P. Quinn, PhD^{1,2}, and Matthew B. Schabath, PhD^{1,2}

¹University of South Florida, Morsani College of Medicine, 12901 Bruce B. Downs Blvd. Tampa, FL 33612

²H. Lee Moffitt Cancer Center and Research Institute, 12902 Magnolia Dr. Tampa, FL 33612

Abstract

Objective—There are limited data on lesbian, gay, bisexual, and transgender (LGBT) health and healthcare experiences. An important part of healthcare experiences are interactions with the provider. This study assessed knowledge, attitudes, and practice behaviors of oncology providers regarding LGBT health.

Methods—A 32-item web-based survey was emailed to 388 oncology providers at a single institution. The survey was divided into five sections: demographics, knowledge, attitudes, practice behaviors, and open comments.

Results—108 providers participated in the survey (28% response rate). Less than 50% answered the knowledge questions. 94% stated they were comfortable treating this population. 26% actively inquired about a patient's sexual orientation when taking a history and 28% felt they were well informed on the health needs of this population. 36% felt the need for mandatory education on LGBT cultural competency at the institution. Results from the open comments section identified key themes such as the need for increased oncology provider education and a misconception that inquiring about a patient's sexual orientation/gender identity wasn't necessary.

Conclusion—This study revealed knowledge gaps about LGBT health risks in the majority of providers surveyed. Cultural competency training may aid oncology providers to understand the need to know a patient's gender identity and sexual orientation.

Practice Implications—Health care providers who incorporate the routine collection of gender identity and sexual orientation (SOGI) in their patient history taking may improve patient care. While identifying as LGBT does not in itself increase risk for adverse health outcomes, this population tends to have increased risk behaviors. Providers who are aware of LGBT status of their patients may offer education, counseling and referrals for reduction of risk behaviors.

Corresponding Author: Gina Shetty, BS, Address: USF College of Medicine, 12902 Bruce B. Downs Blvd MDC 56 Tampa, FL 33612, Tel: 850-284-5532, gshetty@health.usf.edu.

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Keywords

LGBT; Sexual and Gender Minorities; Health; Healthcare Providers; Oncology

1. Introduction

The lesbian, gay, bisexual, transgender (LGBT) population is known by a variety of acronyms and nomenclature. Recently, the National Institutes of Health suggested use of the term sexual and gender minority (SGM)[1] as a way to be inclusive of all populations and individuals “whose sexual orientation...is not exclusively heterosexual, [or] whose gender identity differs from the sex assigned to them at birth; [or] who vary from or reject traditional cultural conceptualizations of gender in terms of male-female dichotomy.”[1] SGMs are an understudied and underserved population often disproportionately affected by mental health issues such as depression and social isolation.[2] As such, these mental health issues are correlated with behavioral risk factors such as smoking and obesity, as well as drug and alcohol use that are directly related to increased cancer risk.[2–4] As a whole, the SGM population may face worse health outcomes due to barriers to care, lack of comfort in disclosing sexual orientation and gender identity which precludes providers from offering appropriate education and counseling for reduction of risk behaviors,[5] and prior negative healthcare experiences which may prevent this population from seeking future healthcare.[6] Moreover, SGMs have potentially greater risks for several types of cancer due to their increased prevalence of risk factors and aforementioned behavior.[7] High rates of tobacco use are associated with increased risk of several types of cancer.[8] Multiple studies show higher rates of tobacco use among SGM populations compared to the general population.[8–10] Increased risk of breast cancer is linked to high rates of smoking, nulliparity, obesity, and alcohol use, all of which are more prevalent in the female SGM populations than the general population.[11, 12] Because of sexual practices such as receptive anal intercourse, men who have sex with men (MSM) are at greater risk of anal cancer as a consequence of oncogenic human papillomavirus (HPV) infection than heterosexual men.[13]

Previous research has demonstrated there is limited SGM education in medical schools. For example, a study of 132 medical schools in the US and Canada found the median reported combined hours dedicated to LGBT content was 5 hours and 33.3% of these schools reported no required clinical hours for LGBT content.[14] Medical students with increased clinical exposure to LGBT patients had more positive attitudes towards this population and better knowledge of their healthcare concerns compared to students who had no formal training.[15]

The 2014 Association of American Medical Colleges (AAMC) report aimed to improve the LGBT healthcare [16] and suggested providers should be attentive and sensitive to patients’ needs and for physicians to understand “the whole” of a person, including sexual orientation and gender history. Furthermore, the AAMC emphasized the need for cultural competency in the care of LGBT patients with integration of this concept into the medical school curriculum.[16] Additionally, the 2011 Institute of Medicine (IOM) report identified that current research on the LGBT population was sparse.[2] Due to limited research on the

education and counseling needs of the community, clinicians may lack resources and information on how best to provide this care to SGM patients.[2] Lack of cultural competency also provides a barrier to addressing the major health concerns of SGM patients. SGM patients who receive care from a provider who is uncomfortable or lacks cultural competency may experience reduced quality of care. Key areas in need of reform, identified by the IOM, are provider attitudes and education.[2] Another limitation of studying LGBT populations is that the majority of cancer registries and medical records have not collected sexual orientation and gender identity (SOGI) demographic information in the past.[17] However, a decision made by the Department of Health and Human Services in October, 2015, will require those Electronic Health Record (EHR) systems with CEHRT certification to create a platform to begin collecting SOGI in 2016.[18]

A study among elder LGBT patients receiving non-cancer related care suggested difficulty in disclosing SOGI to their providers [19] and poorer health outcomes for patients of all ages who do not disclose sexual orientation.[20] This led us to initiate a study to inquire about the knowledge, attitudes and practice behaviors of providers at a single, National Cancer Institute-designated comprehensive cancer center regarding LGBTQI patient care. At the time of the survey we used the term LGBTQI (Lesbian, Gay, Bisexual, Transgender, Questioning, Intersex) to be as inclusive as possible; however this term may not be inclusive of all sexual and gender minority individuals and we note that intersex are not traditionally included as an LGBT population.[21] As such, throughout this article we use the term sexual and gender minority individuals (SGMs) since it is an umbrella term that encompasses LGBT populations, as well as those whose sexual orientation and/or gender identity varies and those who may not self-identify as LGBT such as Queer, Questioning, Two-Spirit, Asexual, and MSM.[22]

2. Methods

2.1 Study population and survey

The study was deemed exempt (Category 2) by the institutional review board (Liberty IRB, DeLand, FL). The study was conducted at the H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL an NCI-designated comprehensive cancer center that serves the population of the state as well as surrounding states and other countries. A link for a 32-item web-based survey was distributed to 388 oncology health care providers by email. Health care providers included all Medical Doctors (MD), Physician Assistants (PA), and Advanced Registered Nurse Practitioners (ARNP) practicing at this hospital. The survey was available from September 5, 2014 until October 17, 2014. The survey was divided into five sections: Demographics (11 questions), Knowledge (5 questions), Attitudes (5 questions), Practice Behaviors (7 questions), and Open Comments (4 questions). The questions were based on previously published surveys or published articles on SGM health.[23–29] The Dillman Method was used in which three separate emails were sent out two weeks apart (one initial email and 2 reminder emails) and the survey remained open for a total of six weeks.[30]

2.2 Survey measures

The knowledge section consisted of five statements covering avoidance of healthcare, lesbians and HPV, lesbians and breast cancer, gay/bisexual men and anal cancer, and SGM adolescents and suicide risk.

The attitudes section consisted of five statements covering comfort in treating this population, belief of unique health risks, belief in more medical education, willingness to be listed as SGM-friendly, and belief that the SGM population is more difficult to treat.

The practice section consisted of seven statements inquiring about sexual orientation, importance of knowing sexual orientation/gender identity for care, whether belonging to an SGM population is an important risk factor to disease(s) treated, assuming a patient is heterosexual, being well informed on the needs of these patients, and the need for mandatory educational events at this hospital.

For the knowledge, attitudes, and practice sections respondents were asked to choose responses on a Likert scale. For example, in the knowledge section, respondents selected among the following choices in response to the statement “LGBTQI patients avoid accessing healthcare due to difficulty communicating with providers.”: strongly disagree, disagree, neutral/don’t know, agree, strongly agree.

The open comments section consisted of four questions allowing respondents to elaborate on personal experiences working with this population, reservations in treating this population, suggestions for improving the cancer care of this population, or any additional comments.

The demographics section collected gender, age, sexual orientation, race, religious identity, licensure, year of graduation from professional school, specialty, average number of patients seen per week, and percentage of patients who have identified themselves as LGBTQI.

2.3 Statistical analysis

Descriptive statistics (frequencies and percentages) were used to quantify the survey responses. Stratified analyses were performed to explore differences in the survey responses by demographic characteristics (age, gender, and year of graduation) using Fisher’s exact test. Qualitative analysis of the open-ended comments was performed using content analysis. Responses were categorized into key themes based on common meaning. An initial code list was developed by two independent coders. Codes were compared and discussed and a final code list was developed and applied based on commonality between the two independent lists. Each code covered a broad theme that could be applied to an open-ended response for example, lack of knowledge/desire for more education.

3. Results

3.1 Demographics

One hundred and eight healthcare providers completed the survey for a 28% response rate (Table 1). Nearly 53% of respondents were less than 44 years of age. The majority of respondents identified as non-Hispanic White/Caucasian (62.0%), heterosexual (82.4%),

Christian (51.9%), Doctor of Medicine (MD) (64.8%), and graduated from professional school between 2000 and 2009 (47.2%). Nearly 57% of respondents stated that between 1 to 5% of their patients in the past year had identified themselves as LGBTQI.

3.2 Knowledge

For the knowledge section (Table 2), all of the statements in the survey are true/correct. As such, twenty-seven percent (n=29) correctly identified that LGBTQI patients avoid accessing healthcare due to difficulty communicating with providers. Fifty-nine percent (n=64) correctly identified that HPV-associated cervical dysplasia can be found in lesbians with no history of heterosexual intercourse. Twenty-four percent (n=26) of providers correctly identified that there is a higher risk of breast cancer among lesbian women compared to heterosexual women. Fifty seven percent (n=62) correctly identified that regularly screening gay and bisexual men for anal cancer through anal Pap testing can increase life expectancy. Eighty percent (n=86) correctly identified that there is an association between being an LGBTQI adolescent and suicide. When stratifying the knowledge measures by age, respondents aged 45 and older were more likely to correctly identify that there is a higher risk of breast cancer among lesbian women compared to heterosexual women (32% vs. 18%; P-value < 0.01). Respondents aged 45 and older were more likely to correctly identify that regularly screening gay and bisexual men for anal cancer through anal Pap testing can increase life expectancy (59% vs. 56%; P-value = 0.04). Respondents aged 45 and older were also more likely to correctly identify an association between being an LGBTQI adolescent and suicide risk (93% vs. 72%; P-value = 0.04). There were no significant differences by age for the other knowledge measures. When stratifying the knowledge measures by gender (data not shown), a greater percentage of females more correctly identified that regularly screening gay and bisexual men for anal cancer through anal Pap testing can increase life expectancy (66% vs. 50%; P-value = 0.04). There were no significant differences by gender for the other knowledge measures and there were no significant differences by year of graduation or religion (data not shown).

3.3 Attitudes

Ninety-four percent (n=102) of providers said they were comfortable treating LGBTQI patients and 87% (n=94) felt that this population had unique health needs (Table 3). Seventy-eight percent (n=84) felt that there needed to be more education in health professional schools on LGBTQI health needs. Seventy percent (n=76) said that they would be willing to be listed as an LGBTQI-friendly provider. Seventeen percent (n=18) felt that this population was more difficult to treat. When stratifying the attitudes measures by age, a higher percentage of respondents aged 45 and older felt that the LGBTQI population was often more difficult to treat (73% vs. 70%; P-value = 0.02). There were no significant differences by age for the other attitudes measures; no significant differences were found when we stratified by gender, year of graduation, or religion (data not shown).

3.4 Practice

Twenty-six percent (n=28) of providers said that they actively inquired about a patient's sexual orientation when taking a history (Table 4). Forty-three percent (n=46) felt that it was important to know the sexual orientation of their patients to provide the best care and 59%

(n=64) felt that it was important to know the gender identity of their patients to provide the best care. Twenty-two percent (n=24) reported that upon first encounter they assume a patient is heterosexual. Twenty-eight percent (n=30) said that they were well informed on the health needs of LGBTQI patients (1% strongly agreed with this statement). Thirty-six percent (n=39) felt that there should be mandatory educational events at this hospital on LGBTQI health needs. When stratifying the practice measures by gender (data not shown), a higher percentage of females stated that among the diseases they most commonly treat, being LGBTQI was an important risk factor (25% vs 15%; P-value = 0.04). There were no significant differences by age, year of graduation, or religion for the practice measures (data not shown).

3.5 Open Comments

A variety of themes arose in the open comments section. The most consistent theme was the need for more education. In response to the question “What suggestions do you have for improving the cancer care of the LGBTQI population?” many respondents suggested increased education for providers and a few also suggested more education for LGBTQI patients. Another major theme was the idea that all patients should be treated equally. Providers stated that the sexual orientation of a patient should not affect the way they interact with their patients and that they should treat all patients the same. A few providers suggested that patient intake forms should have questions regarding gender identity/sexual orientation to help begin the conversation. However, some providers felt that patients did not like to be asked gender identity/sexual orientation and they would disclose if they wanted to.

4. Discussion and Conclusion

4.1 Discussion

This is one of the first studies to assess knowledge, attitudes, and practice behaviors of healthcare providers in an oncology setting. Overall, knowledge among providers in terms of SGM health was lacking. In half of the questions in the knowledge section less than 50% of respondents were able to identify the correct response. Only 28% said that they were well informed on the health needs of SGM patients. Most providers acknowledged that there needed to be more education on SGM health needs. Rounds et al. examined behaviors of healthcare providers that improve or impede quality of care.[31] The participants were SGM patients who had seen a healthcare provider in the past year. Focus groups were conducted to discuss positive and negative interactions with healthcare providers. The study found the main barriers to care were a lack of provider knowledge and providers lack of inquiry about patient’s preferences for care.[31] Kitts surveyed physicians regarding LGBTQ adolescent health and found gaps in the practice, knowledge and attitudes of physicians.[26] Few physicians felt that they had the skills needed to address issues of sexual orientation.[26] Another similar study surveyed obstetrician-gynecologists in Canada regarding knowledge and attitudes towards lesbian health.[29] Results showed the majority lacked knowledge of lesbian women’s health issues. Most providers stated that they did not receive relevant education in medical school and residency, but they were willing to receive such training. [29]

In our study, only 26% of providers stated they actively inquired about a patient's sexual orientation when taking a history and the majority felt it was not important to know the sexual orientation of their patients to provide the best care or were unsure if it was important. The study by Kitts et al. of LGBTQ adolescent health providers also found that the majority of physicians did not inquire about sexual orientation or gender identity.[26] Perhaps better knowledge of the disparities and unique health concerns of this population would help providers understand why SOGI information is important. For example, an individual's SOGI may also influence their social relationships and mental health.[32] Twenty-two percent of providers in our survey said that upon first encounter they assumed a patient was heterosexual. Although we did not ask if this assumption was verbalized to patients it demonstrates the potential for negative healthcare experiences through possible generalizations.

A 2015 book on Cancer and the LGBT Community[33] addressed the fact that there is sparse literature on healthcare professionals' education about LGBT issues and LGBT patients' experiences with healthcare. The authors discussed how LGBT cancer patients are often forced to deal with providers who are uninformed about the terminology, partner/family issues, or health care concerns of LGBT individuals. These patients are faced with a frightening and stressful experience in the context of a potentially insensitive and culturally inappropriate setting. While most patients do not experience overt negative treatment, they may experience subtle discrimination and invalidations. Thus the oncology provider has a unique role in the setting of a cancer diagnosis in an SGM patient.

Any patient receiving a cancer diagnosis is likely experiencing fear and in need of psychosocial support. It is not only the SGM patient who benefits from disclosure but also the oncologists. Studies suggest that creating a safe environment for disclosure and having the oncologist provide tailored support based on disclosure (e.g., Who do you have who can support you? Do you want your partner present?) improves patient-physician rapport,[16] satisfaction,[34] and reduction in medico-legal cases.[20] Multiple studies suggest SGM patients have unique social support networks and acknowledgment of these supports yields improved health outcomes.[35–37]

One theme identified in the comments section of the survey was providers feeling they should treat all patients the same. A recent study on minimizing health disparities among LGBT patients also identified this issue.[38] A member of the AAMC's Group on Diversity and Inclusion is quoted as saying, "many providers still do not believe that they need to know SOGI"; however, he states that it matters a great deal because it is an important element of health history and the patient's self-identity.[38] Treating everyone with presumed sameness is in direct conflict with the AAMC guidelines, which emphasizes the importance of patient-centered care. The guidelines emphasize this population is diverse and thus cultural competency is important to address the unique health needs faced by each individual patient.[16] SGM patients are unique, complex, and deserve respect and comprehensive, sensitive healthcare.[16]

Despite the gaps in knowledge, the majority of respondents stated they were comfortable treating this population and understood this group had unique health needs. The study by

Abdessamad et al. of obstetrics and gynecology providers also found that the majority had positive attitudes towards lesbian and bisexual women.[29] Among respondents in the current study, 70% were willing to be listed as LGBT-friendly providers in a future directory. At the same time, the willingness to be included in a directory and their lack of knowledge about SGM needs shows a discord. Rounds et al. also identified discrepancies between provider's stating that they are SGM-friendly and their actual level of competency. [31] This discrepancy reinforces the need for improved education and training for providers. While providers may feel comfortable treating SGM patients they may be unable to provide the optimal education and counseling needs without accurate knowledge of this community. Provider training focusing on eliciting patient SOGI may also improve care.

The AAMC has emphasized the need for training students to provide high-quality, patient-centered care and has laid out a framework for implementing this education.[16] However, this is not likely to benefit providers who have completed their training. There is a great need for providers who are comfortable, knowledgeable, and competent in caring for SGM patients.[31] Oncology healthcare providers need opportunities for continuing education and sophisticated training to better care for the SGM population.[31]

This study had several limitations. The study was conducted at a single institution and results may not be generalizable to other oncology care settings. The response rate was less than 50% and although our response rate was higher than that seen in other physician surveys,[39–41] it cannot be assumed to represent the entire institution. Additionally, this was an anonymous survey and as such we are unable to assess potential differences between responders and non-responders. We acknowledge that some of the differences in the stratified analyses were marginally statistically significant ($P = 0.04$), and as such these findings need to be validated in additional and larger studies. We used the term LGBTQI in the survey; however we did not ask questions specific to the Intersex population and have since identified that the use of the term SGM is likely more inclusive and acceptable. The respondents' selection of "don't know" may have reflected knowledge of the lack of definitive data related to the knowledge questions as opposed to their own actual knowledge. Finally, there may have been a response bias in that health care providers selected what was perceived as a socially desirable response (response acquiescence). Despite these limitations, this represents a unique snapshot of the knowledge, attitudes, and practice behaviors of oncologists regarding SGM patients.

4.2 Conclusion

The results of this study demonstrated that the majority of oncology healthcare providers surveyed lacked knowledge of SGM health needs and do not inquire about their patients' sexual orientation or gender identity. In addition, many providers in our survey stated that they felt the need to treat all patients the same and that it was not important to know this information. Large, nationwide surveys will be needed to determine if the knowledge, attitudes and practice behaviors identified in this study are unique or are representative of healthcare providers in the United States. Moreover, a large representative nationwide sample will be important to test hypotheses and ultimately develop training and curriculum

to address potential gaps in knowledge, attitudes and practice behaviors of healthcare providers.

Practice Implications: Steps can be taken to create a more welcoming environment for patients so that they are more likely to disclose SOGI information, which will ultimately improve the quality of care they receive. For example, more inclusive questions on medical intake forms to encompass all sexual orientations and gender identities creates an SGM friendly environment. Our results also highlight the need for continuing education for oncology providers. Health care providers who incorporate the routine collection of SOGI data in their patient history taking may improve patient care. While identifying as LGBT does not in itself increase risk for adverse health outcomes, this population tends to have increased risk behaviors. Providers who are aware of LGBT status of their patients may offer education, counseling and referrals for reduction of risk behaviors.

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Table 1

Characteristics of the surveyed healthcare providers (N = 108)

Characteristic	N (%)
Age group	
44	57 (52.8)
45 to 54	27 (25.0)
55	14 (12.9)
Missing	10 (9.3)
Gender	
Female	50 (46.3)
Male	46 (42.6)
Transgender (Female to Male or Male to Female)	0 (0.0)
Other	2 (1.9)
Missing	10 (9.3)
Race/ethnicity	
White or Caucasian (non-Hispanic)	67 (62.0)
Asian, American Indian, Alaska Native	10 (9.2)
Black or African American (non-Hispanic)	3 (2.8)
Multiracial	2 (1.9)
Hispanic or Latino	12 (11.1)
Other	4 (3.7)
Missing	10 (9.3)
Sexual Orientation	
Heterosexual	89 (82.4)
Bisexual	1 (0.9)
Lesbian	2 (1.9)
Gay	2 (1.9)
Not Sure or Other	1 (0.9)
Missing	13 (12.0)
Religious Identity	
Atheist/Agnostic	8 (7.4)
Buddhist	5 (4.6)
Christian	56 (51.9)
Hindu	3 (2.8)
Jewish	9 (8.3)
Muslim	5 (4.6)
Other	9 (8.3)
Missing	13 (12.0)
Religion plays a role in clinical practice and/or treatment of patients	
Strongly Disagree	28 (25.9)
Disagree	37 (34.3)

Characteristic	N (%)
Neutral/Don't Know	16 (14.8)
Agree	14 (12.9)
Strongly Agree	3 (2.8)
Missing	10 (9.3)
Licensure	
MD	70 (64.8)
DO	0 (0.0)
PA	9 (8.3)
ARNP	17 (15.7)
Other	3 (2.8)
Missing	9 (8.3)
Year of graduation from professional school	
2010 to 2014	4 (3.7)
2000 to 2009	51 (47.2)
1990 to 1999	30 (27.8)
Prior to 1989	13 (12.0)
Missing	10 (9.3)
Specialty/clinic	
Pathology (Anatomic, Hematopathology)	5 (4.6)
Anesthesiology	8 (7.4)
Hematology (Malignant, Blood & Marrow Transplantation)	7 (6.5)
Women's oncology (Breast, Gynecologic)	10 (9.3)
Cutaneous Oncology and Sarcoma	7 (6.5)
Diagnostic Imaging and Interventional Radiology	3 (2.8)
Gastrointestinal Oncology	15 (13.9)
Head & Neck and Endocrine Oncology	4 (3.7)
Medical specialties (Infectious Diseases, Internal and Hospital Medicine, Senior Adult Oncology, Supportive Care Medicine)	12 (11.1)
Neuro-Oncology	4 (3.7)
Radiation Oncology	5 (4.6)
Thoracic Oncology	7 (6.5)
Other and Missing	21 (19.4)
Average number of patients seen per week	
0–50	80 (74.1)
51–100	16 (14.8)
>100	0 (0.0)
Missing	12 (11.1)
Percentage of your patients in the past year who have identified themselves as LGBTQI	
None	8 (7.4)
1 to 5%	61 (56.5)
6 to 10%	22 (20.4)
11	5 (4.6)
Missing	12 (11.1)

Table 2Knowledge of LGBTQI health among surveyed healthcare providers¹

	N (%)			P-value ³
	Overall	By age, dichotomized ²		
		44	45	
LGBTQI patients avoid accessing healthcare due to difficulty communicating with providers.				
Strongly Disagree	11 (10.2)	5 (8.8)	5 (12.2)	
Disagree	24 (22.2)	14 (24.6)	7 (17.1)	
Don't Know	44 (40.7)	28 (49.1)	13 (31.7)	
Agree	25 (23.2)	9 (15.8)	13 (31.7)	
Strongly Agree	4 (3.7)	1 (1.8)	3 (7.3)	0.13
Missing	0 (0.0)	–	–	
HPV-associated cervical dysplasia can be found in lesbians with no history of heterosexual intercourse.				
Strongly Disagree	1 (0.9)	0 (0.0)	1 (2.4)	
Disagree	7 (6.5)	5 (8.8)	2 (4.9)	
Don't Know	36 (33.3)	14 (24.6)	16 (39.0)	
Agree	51 (47.2)	31 (54.4)	18 (43.9)	
Strongly Agree	13 (12.0)	7 (12.3)	4 (9.8)	0.40
Missing	0 (0.0)	–	–	
There is a higher risk of breast cancer among lesbian women compared to heterosexual women.				
Strongly Disagree	10 (9.3)	5 (8.8)	2 (4.9)	
Disagree	28 (25.9)	21 (36.8)	4 (9.8)	
Don't Know	44 (40.7)	21 (36.8)	22 (53.7)	
Agree	24 (22.2)	10 (17.5)	11 (26.8)	
Strongly Agree	2 (1.9)	0 (0.0)	2 (4.9)	< 0.01
Missing	0 (0.0)	–	–	
Regularly screening gay and bisexual men for anal cancer through anal Pap testing can increase life expectancy.				
Strongly Disagree	0 (0.0)	0 (0.0)	0 (0.0)	
Disagree	6 (5.6)	4 (7.0)	2 (4.9)	
Don't Know	40 (37.0)	21 (36.8)	15 (36.6)	
Agree	49 (45.4)	21 (36.8)	23 (56.1)	
Strongly Agree	13 (12.0)	11 (19.3)	1 (2.4)	0.04
Missing	0 (0.0)	–	–	
There is an association between being an LGBTQI adolescent and suicide.				
Strongly Disagree	2 (1.9)	2 (3.5)	0 (0.0)	
Disagree	0 (0.0)	0 (0.0)	0 (0.0)	
Don't Know	18 (16.7)	14 (24.6)	3 (7.5)	
Agree	59 (54.6)	26 (45.6)	28 (70.0)	
Strongly Agree	27 (25.0)	15 (26.3)	9 (22.5)	0.04
Missing	2 (1.9)	–	–	

Bold P-values are statistically significant.

¹All of the knowledge questions are true/correct

²Totals do not equal 108 due to missing data

³P-values were calculated using Fisher's exact test. Missing responses were not included in the stratified analyses.

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Table 3

Attitudes towards LGBTQI health among surveyed healthcare providers

	N (%)			P-value ²
	Overall	By age, dichotomized ¹		
		44	45	
I am comfortable treating LGBTQI patients.				
Strongly Disagree	0 (0.0)	0 (0.0)	0 (0.0)	
Disagree	2 (1.9)	2 (3.6)	0 (0.0)	
Don't Know	2 (1.9)	1 (1.8)	1 (2.4)	
Agree	39 (36.1)	17 (30.4)	20 (48.8)	
Strongly Agree	63 (58.3)	36 (64.3)	20 (48.8)	0.16
Missing	2 (1.9)	–	–	
The LGBTQI population has unique health risks and needs.				
Strongly Disagree	0 (0.0)	0 (0.0)	0 (0.0)	
Disagree	3 (2.8)	2 (3.6)	0 (0.0)	
Don't Know	8 (7.4)	4 (7.1)	3 (7.5)	
Agree	62 (57.4)	32 (57.1)	26 (65.0)	
Strongly Agree	32 (29.6)	18 (32.1)	11 (27.5)	0.74
Missing	3 (2.8)	–	–	
There should be more education in health professional schools on LGBTQI health needs.				
Strongly Disagree	1 (0.9)	1 (1.8)	0 (0.0)	
Disagree	5 (4.6)	2 (3.6)	2 (4.9)	
Don't Know	16 (14.8)	6 (10.7)	8 (19.5)	
Agree	56 (51.9)	29 (51.8)	25 (60.9)	
Strongly Agree	28 (25.9)	18 (32.1)	6 (14.6)	0.20
Missing	2 (1.9)	–	–	
I would be willing to be listed as an LGBTQI-friendly provider.				
Strongly Disagree	0 (0.0)	0 (0.0)	0 (0.0)	
Disagree	3 (2.8)	3 (5.4)	0 (0.0)	
Don't Know	26 (24.1)	14 (25.0)	11 (27.5)	
Agree	40 (37.0)	15 (26.8)	21 (52.5)	
Strongly Agree	36 (33.3)	24 (42.9)	8 (20.0)	0.02
Missing	3 (2.8)	–	–	
The LGBTQI population is often more difficult to treat.				
Strongly Disagree	12 (11.1)	10 (17.9)	1 (2.5)	
Disagree	53 (49.1)	24 (42.9)	22 (55.0)	
Don't Know	23 (21.3)	12 (21.4)	10 (25.0)	
Agree	15 (13.9)	9 (16.1)	5 (12.6)	
Strongly Agree	3 (2.8)	1 (1.8)	2 (5.0)	0.13
Missing	2 (1.9)	–	–	

Bold P-values are statistically significant.

¹Totals do not equal 108 due to missing data

²P-values were calculated using Fisher's exact test. Missing responses were not included in the stratified analyses.

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Table 4

Practice of LGBTQI health among surveyed healthcare providers

	N (%)
I actively inquire about a patient's sexual orientation when taking a history.	
Strongly Disagree	12 (11.1)
Disagree	45 (41.7)
Don't Know	18 (16.7)
Agree	23 (21.3)
Strongly Agree	5 (4.6)
Missing	5 (4.6)
It is important to know the sexual orientation of my patients to provide the best care.	
Strongly Disagree	4 (3.7)
Disagree	35 (32.4)
Don't Know	18 (16.7)
Agree	41 (37.9)
Strongly Agree	5 (4.6)
Missing	5 (4.6)
It is important to know the gender identity of my patients to provide the best care.	
Strongly Disagree	4 (3.7)
Disagree	13 (12.0)
Don't Know	21 (19.4)
Agree	53 (49.1)
Strongly Agree	11 (10.2)
Missing	6 (5.6)
Among the diseases I most commonly treat, being LGBTQI is an important risk factor.	
Strongly Disagree	21 (19.4)
Disagree	43 (39.8)
Don't Know	18 (16.7)
Agree	15 (13.9)
Strongly Agree	5 (4.6)
Missing	6 (5.6)
Upon first encounter I assume a patient is heterosexual.	
Strongly Disagree	16 (14.8)
Disagree	42 (38.9)
Don't Know	20 (18.5)
Agree	23 (21.3)
Strongly Agree	1 (0.9)
Missing	6 (5.6)
I am well informed on the health needs of LGBTQI patients.	
Strongly Disagree	5 (4.6)
Disagree	33 (30.6)
Don't Know	34 (31.5)

	N (%)
Agree	29 (26.9)
Strongly Agree	1 (0.9)
Missing	6 (5.6)
There should be mandatory educational events at Moffitt on LGBTQI health needs.	
Strongly Disagree	6 (5.6)
Disagree	22 (20.4)
Don't Know	35 (32.4)
Agree	30 (27.9)
Strongly Agree	9 (8.3)
Missing	6 (5.6)

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