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ORIGINAL RESEARCH

Student Educational Experiences Relative to Issues Impacting LGBTQPIA+ Patient Care

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Context: Athletic trainers have expressed a lack of knowledge and a desire to learn more about the issues impacting lesbian, gay, bisexual, transgender, queer/questioning, pansexual, intersex, asexual/aromantic/agender, two-spirit, and additional community/identity (LGBTQPIA+) patients, yet little is known about how students are prepared.

Objective: The purpose of this study was to explore educational experiences relative to LGBTQPIA+ patient care in Commission on Accreditation of Athletic Training Education–accredited, master's-level professional athletic training programs.

Design: Cross-sectional study.

Setting: Web-based survey.

Participants: Students (N = 333) who were currently enrolled in the last 1 to 2 semesters of their respective programs or had recently graduated from a master's-level professional athletic training program within the last year.

Main Outcome Measure(s): The survey asked participants to characterize and evaluate the effectiveness of their learning experiences, then rank their confidence in addressing the needs of LGBTQPIA+ patients. We used additional open-ended responses to characterize effective instructional strategies. Data were analyzed using statistics of central tendency and open-ended responses were inductively coded.

Results: Participants reported that their learning experiences about LGBTQPIA+ patient needs were moderately effective for formal (38.2%), informal (42.2%), and clinical education (34.0%). Among the areas where participants reported wishing they had learned more were gender incongruence or dysphoria (39.6%), gender-affirming care (43.5%), and providing inclusive health care forms and documentation (38.4%). Participants reported about 15 ± 37 hours (range, 0–500 hours) of time dedicated to LGBTQPIA+ patient issues, although only 23.2% indicated that this was enough time. Participants indicated that they were quite confident in addressing the needs of LGBTQPIA+ patients (mode = 3 [*quite confident*], 33.0%); however, 53.7% of participants were only somewhat, slightly, or not at all confident. In the open-ended responses, participants indicated that informal and clinical education experiences providing authentic interactions with LGBTQPIA+ patients were most meaningful.

Conclusions: Professional athletic training programs should incorporate more educational experiences to better prepare students to meet the health care needs of LGBTQPIA+ patients. Participants in our study additionally indicated a strong desire to learn more about equitable patient care.

Key Words: Inclusion, social justice, gender diverse, sexual minority, gender minority

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KEY POINTS

- Our data suggest that some students are engaging in learning experiences related to LGBTQPIA+ patient care; however, those students also demonstrated a desire to learn more.
- Although students indicated they had received training on bias and patient-centered care, several reported no formal didactic education on LGBTQPIA+ patient care to prepare them for clinical practice.
- Students indicated that informal and clinical education experiences that provided authentic interactions with patients in the LGBTQPIA+ community were most meaningful; however, without formal, didactic instruction on this patient population, these experiences may unintentionally rely on members of the LGBTQPIA+ community to be responsible for teaching their providers about their health care needs.
- Professional athletic training programs should integrate intentional and multimodal learning experiences for equitable patient care across marginalized populations.

INTRODUCTION

LGBTQPIA+ stands for lesbian, gay, bisexual, transgender, queer, questioning, pansexual, intersex, asexual, two-spirit, and all within the community of queer- and trans-spectrum identities. Throughout this manuscript, you may see several abbreviations used for the LGBTQPIA+ community. When referring to any other abbreviation for the community (eg, LGBTQ), we are referencing previous research and the abbreviations used within.

In an effort to provide patient-centered care, athletic trainers (ATs) must be skilled in the facets of cultural competence and inclusive health care practices.[1] Previous research in medical professions has identified the need for a diverse workforce with training in understanding, accepting, and valuing differences between people.[2] The focus on diversity, equity, and inclusion in athletic training has spearheaded additional efforts in terms of other historically marginalized populations in sports medicine, including marginalized gender identity and sexual orientation populations. Researchers have identified the need to create a safe, welcoming environment; develop culturally competent medical personnel; and update medical training as critical but realistic actionable items to embark on immediate improvement for LGBTQPIA+ patient-centered care.[1] A clinical environment must also promote a welcoming environment by visually posting LGBTQ visual representations, such as a pride flag, safe-zone sticker, or queer triangle.[3] Clinical facilities should also consider how policies are developed with antidiscrimination and proinclusion language and promote the need for personal pronouns for all individuals receiving care rather than those who specifically identify as part of the LGBTQ community.[3]

Best practices throughout medical and health care education state the need for dedicated time in the curriculum focused on terminology, risk factors, common health conditions, access to care, and stigmatization.[4,5] In addition, the breadth of health care discussions needs to encompass mental health, primary care, and orthopaedics disparities to comprehensively care for patients. Medical schools across the United States and Canada spend only 5 hours of the curriculum on LGBT health, and 33% of institutions have reported no LGBT-related education in the curricula.[6] Moreover, undergraduate nursing programs have reported spending as little as 2 hours over the course of the entire curriculum on LGBTQIA+ content.[3,7] However, the health care needs of individuals within the LGBTQIA+ population require recognition and focused instruction, both because of the discrimination often experienced by these individuals within the health care community and because of the secondary health care burden placed on the American health care system.[1,4] Specifically, educational techniques to achieve optimal health care delivery for the LGBTQIA+ community include inviting community leaders to discuss experiences, encouraging open and respectful communication using proper terminology, engaging in safe-zone training, using telemedicine for patients who do not have access to LGBTQIA+ providers or specialists, and enhancing information on LGBTQ-specific health screenings and treatments.[1,4,7,8]

Athletic trainers are highly qualified, multiskilled health care professionals uniquely positioned to tackle the disparities faced by LGBTQPIA+ patients. However, a need has been identified to improve the comfort and competence of individuals, both credentialed ATs and students, relative to providing a patient-centered environment for LGBTQPIA+ patients.[9–12] To provide equitable care, we must begin with the training and development of the clinician in their professional program.[13] Athletic training students must have learning experiences that allow them to practice cultural competence, foster cultural humility, and demonstrate respect in patient care for patients of various identities.[14] Moreover, the learning experiences should ensure that athletic training students are exposed to contemporary nomenclature, explore health disparities and the impact of intersectionality, and analyze marginalization.[14] Finally, the student should also develop strategies to minimize bias, prejudice, and discrimination while also curating plans to care for the diverse identities of patients in sports medicine.[14]

In order to suggest best-practice strategies focused on educational techniques related to LGBTPQIA+ health care, we must first explore what is occurring and if those avenues are being deemed effective by the student. Previous research identified that 100% of athletic training students felt comfortable providing patient-centered care and 78% felt comfortable providing transgender patient care.[9] In contrast, that same study population, even with high levels of comfort,

reported limited instruction; only 54% of those same students had learned exclusively about patient-centered care and 42.5% of students had learned about both transgender and patient-centered care.[9] These previous findings demonstrate a gap in education for teaching about the gender-diverse community.[9] That said, the LGBTQPIA+ community is broader than the transgender and gender-diverse community alone, and as such, the entire community needs to be explored comprehensively and inclusively. Therefore, the purpose of this cross-sectional study is to explore LGBTQPIA+ formal, informal, and clinical education delivered as part of Commission on Accreditation of Athletic Training Education (CAATE)–accredited, master's-level professional athletic training programs. Secondly, we will explore current athletic training students' or recent graduates' perceived confidence in recognizing and addressing the needs of LGBTQPIA+ patients, as well as their perceptions of the learning environment.

METHODS

We used a cross-sectional research design with both open- and closed-ended questioning. We used the guidelines for Strengthening the Reporting of Observational Studies in Epidemiology for cross-sectional studies to direct the research process.[15] The project was deemed exempt research by the Indiana State University institutional review board.

Participants

We used criterion sampling to identify participants who were currently enrolled in the last 1 to 2 semesters of an athletic training education program or had graduated from a CAATE-accredited master's program within the last 12 months. We recruited participants via email and provided a link to the survey through the 2 recruitment paths. The Board of Certification (BOC) distributed 1 initial email, with 2 follow-up emails (each 2 weeks apart) in the fall of 2022. The BOC email reached 2945 potential participants. In addition, program administrators of CAATE-accredited master's programs (n = 446) received 1 initial email and 2 follow-up reminders (one within the same week and another 1 week after the initial email) asking them to send the recruitment email and link to the survey to their students in the last 1 to 2 semesters of their programs.

Participants opted into the survey by indicating they met the inclusion criteria and consenting. In total, between the 2 recruitment methods, 430 potential participants clicked into the survey, and 48 were ineligible. In the comparative analysis, we included all persons who shared their gender identity and sexual orientation. As such, 333 individuals started the survey including this information and 252 completed the last item on the survey (completion rate = 66.0%). Partial data were used for analysis.

Instruments

We used a survey previously validated around student experiences relative to social justice education[16,17] and modified the content areas to be about LGBTQPIA+ patient needs. Primary modifications included exchanging the specific content areas whereby the previous survey asked about whether social justice content was taught[16,17] to ask about whether LGBTQPIA+ content was taught, using the same survey structure. Content was driven by contemporary literature[9–12] and best practices.[18–21] The tool was reviewed internally (7 researchers and educators) and externally (2 researchers, educators, and advocates). Consensus on each item was reached via a nominal group process. The instrument included 7 demographic items; 1 item about their level of confidence in addressing the needs of LGBTQPIA+ patients (0 = *not confident at all*, 1 = *slightly confident*, 2 = *somewhat confident*, 3 = *quite confident*, 4 = *extremely confident*); 3 items about what LGBTQPIA+ topics were taught in formal instruction, informal instruction, and clinical education, with corresponding items (3) relative to the effectiveness of instruction in these 3 educational formats around the respective content (0 = *not effective at all*, 1 = *slightly effective*, 2 = *moderately effective,* 3 = *very effective*, 4 = *extremely effective*); 1 item about what they wished they had learned (for those who had graduated) or what they hoped they would still learn (for those still enrolled); 1 item about the approximate number of hours dedicated to this content and whether that was sufficient or not (*yes*, *no*, *unsure*); 2 open-ended items about types and effectiveness of learning experiences; and 6 perception items about educator knowledge, educators' ability to prepare them, and their ability to apply what they learned. If not previously mentioned, item language and scales are included throughout the results tables to avoid redundancy.

We conducted a pilot study of 8 individuals who met the eligibility criteria but were excluded from the final sample. We determined that the tool had strong internal consistency on the self-assessment/perceived knowledge items (Cronbach $\alpha = 0.890$) and on the perception of program instruction and resources variables (Cronbach $\alpha = 0.876$).

Procedures

Participants received an email either directly from the BOC or from their respective program administrator to participate in the survey. If eligible and willing, they clicked on the link to participate. Upon arriving at the web-hosted survey, they indicated eligibility and consent before clicking in and participating in any or all items to which they wanted to respond. The data collection window was 5 weeks in the fall 2022 semester.

Data Analysis

We used descriptive statistics to characterize the learning experiences of students and recent graduates. We aggregated data by those who identified within the LGBTQPIA+ community and those who did not, then compared these groups on the perception variables using a Mann-Whitney *U* nonparametric statistic. Significance was set at *P* less than .05 a priori. The senior member of the research team engaged in an activity to identify their own research biases before inductively coding the open-ended responses. The senior investigator followed a systematic process, including reading all responses and then separating responses into groups by those identifying and those not identifying within the LGBTQPIA+ community to determine whether the populations experienced education differently. Then, core ideas were identified and verified through external review.

Table 1. Survey Participant Demographic Characteristics (N = 333)

Characteristic	No. (%)
Gender identity	
Man	74 (22.2)
Nonbinary	1 (0.3)
Prefer to self-describe, femm male	1 (0.3)
Woman	256 (76.9)
Missing data	2 (0.0)
Sexual orientation	
Heterosexual	252 (75.4)
Lesbian or gay	32 (9.6)
Pansexual	4 (1.2)
Asexual	1 (0.3)
Bisexual	37 (11.1)
Prefer not to say	1 (0.3)
Prefer to self-describe, lesbian or gay and bisexual	1 (0.3)
Prefer to self-describe, lesbian or gay and asexual	1 (0.3)
Prefer to self-describe, pansexual and bisexual	1 (0.3)
Prefer to self-describe, fluid	1 (0.3)
Prefer to self-describe, queer	2 (0.6)
Prefer to self-describe, straight but bicurious	1 (0.3)
Cultural ethnicity	
Asian/Asian American	13 (3.9)
Asian/Asian American, Hispanic	1 (0.3)
Asian/Asian American, Black, Pacific Islander, White	1 (0.3)
Black	25 (7.5)
Black, Hispanic	1 (0.3)
Black, Indigenous, Native American	2 (0.6)
Black, White	1 (0.3)
Black, White, Indigenous/Native American	1 (0.3)
Chicano	1 (0.3)
Hispanic/Latinx	34 (10.2)
Hispanic, Indigenous/Native American	1 (0.3)
Hispanic, White	6 (1.8)
Indigenous/Native American	1 (0.3)
Middle Eastern	1 (0.3)
Pacific Islander	1 (0.3)
White	238 (71.5)
White, Indigenous/Native American	2 (0.6)
Missing data	3 (0.9)

RESULTS

Participants were 24 ± 2 years old; the majority identified as white, cisgender women (Table 1) and 24.6% identified as a member of the LGBTQPIA+ community. Participants reported having a wide variety of learning experiences in formal, informal, and clinical education environments (Table 2), but also described a desire to learn more in all areas (Table 3). Areas lacking instruction, regardless of type, include gender incongruence or dysphoria, gender-affirming care, houselessness among LGBTQPIA+ youth, and smoking and smoking cessation (Table 3). Topics recent graduates indicated they wished they had learned more about included gender-affirming care and gender incongruence or dysphoria (Table 3). Similarly, current students indicated a desire to learn more about gender-affirming care, gender incongruence or dysphoria, and mental health care needs of the LGBTQPIA+ population (Table 3).

Participants indicated they were quite confident in addressing the needs of LGBTQPIA+ patients, 2.3 ± 1.1 (mode = 3 [*quite confident*], 33.0% [107 of 324]). However, a majority (53.7%, 174 of 324) of the population were only somewhat, slightly, or not at all confident. Participants indicated, regardless of educational format, that their experiences were moderately effective (formal instruction = 1.9 ± 1.1, mode = 2 [*moderately effective*], 38.2% [115 of 301]; informal instruction = 1.9 ± 1.0, mode = 2 [*moderately effective*], 42.2% [115 of 271]; and clinical education (1.9 ± 1.2, mode = 2 [*moderately effective*], 34.0% [89 of 262]). Participants reported about 15 hours of time dedicated to LGBTQPIA+ patient care, although variability was substantial (range, 0–500, hours; SD = 37 hours). Only 23.2% of participants (63 of 272) indicated this was a sufficient amount of time, whereas many participants were unsure (34.6%, 94 of 272) and others indicated it was insufficient (42.3%, 115 of 272).

Participants' perceptions relative to the knowledge of their professors and preceptors were variable; however, the mean indicated neither agreement nor disagreement (Table 4). In addition, the majority of participants strongly disagreed, disagreed, or were neutral on whether the program prepared them to address the needs of LGBTQPIA+ patients (Table 4). That said, participants mostly agreed that they were able to recognize and address the health care needs of LGBTQPIA+ patients (Table 4). A slight majority (54.0%, 136) of participants agreed or strongly agreed that they were able to apply the concepts of the LGBTQPIA+ health care education they learned in their professional programs (Table 4). Upon comparison, members of the LGBTQPIA+ community reported statistically greater confidence (Mann-Whitney $U = 5554$, $Z = -6.081$, $P < .001$) in addressing the needs of LGBTQPIA+ patients within their practice than their cisgender, heterosexual peers. None of the other perception variables, including perceived instructional effectiveness, were statistically different.

The inductive coding revealed that students and graduates had received some training on bias and patient-centered care; however, several reported no formal didactic education on LGBTQPIA+ patient care to prepare them for clinical practice. For instance, one participant indicated, "I think it was just brought up in certain situation[s], but not a whole lecture." Another indicated, "I never really had any experiences, just passing moments in conversations with professors or classmates." Participants also stated that informal and clinical education experiences that provided authentic interactions with patients in the LGBTQPIA+ community were most meaningful. One participant indicated,

> *The most effective learning experiences I had were learning through clinical, real-life experiences, rather than in-class lecture[s]. I enjoy learning from others within the LGBTQ [PIA+] community.*

Those within the LGBTQPIA+ community may not have had an enhanced experience through their formal education. For instance, one participant stated,

Table 2. Frequency of Education Types and Topics for LGBTQPIA+ Patients

Topic	Frequency, No. (%)[a]		
	Formal	Informal	Clinical
Access or lack of access to health care	177 (53.2)	124 (37.2)	92 (27.6)
Body dysmorphia and eating disorders	199 (59.8)	136 (40.8)	106 (31.8)
Creating an inclusive health care facility	197 (59.2)	136 (40.8)	136 (40.8)
Discrimination and inequality	192 (57.7)	159 (47.7)	87 (26.1)
Gender-affirming care	78 (23.4)	87 (26.1)	37 (11.1)
Gender identity	130 (39.0)	143 (42.9)	78 (23.4)
Gender incongruence or dysphoria	42 (12.6)	46 (13.8)	20 (6.0)
Health care screenings and prevention	142 (42.6)	91 (27.3)	104 (31.2)
Houselessness among LGBTQPIA+ youth	30 (9.0)	35 (10.5)	11 (3.3)
Inclusive terminology	146 (43.8)	152 (45.6)	105 (31.5)
Mental health care needs	220 (66.1)	165 (49.5)	169 (50.8)
Minority stress	95 (28.5)	102 (30.6)	73 (21.9)
Providing inclusive health care forms and documentation	99 (29.7)	86 (25.8)	66 (19.8)
Sexual orientation	133 (39.9)	132 (39.6)	69 (20.7)
Sexually transmitted infections and safe sex protections	144 (42.0)	114 (34.2)	56 (16.8)
Smoking and smoking cessation	78 (23.4)	85 (25.5)	45 (13.5)
Substance use disorders	147 (44.1)	102 (30.6)	65 (19.5)
Violence and sexual violence	103 (30.9)	101 (30.3)	50 (15.0)

Abbreviation: LGBTQPIA+, lesbian, gay, bisexual, transgender, queer/questioning, pansexual, intersex, asexual/aromantic/agender, two-spirit, and additional communities/identities.

[a] Formal instruction was defined as learning that takes place in a typical classroom setting designed with objectives and goals defined by the instructor or institution. Informal instruction usually occurs outside the classroom, and was defined as learning that takes place outside of the formal setting. Athletic training clinical experiences are direct patient care guided by a preceptor who is an athletic trainer or physician.

We have not had any formal training specific to those who identify in the LGBTQPIA+ community. I think, for myself, being a part of the community, I have a better understanding when it comes to these topics, but that has not been enhanced by my classroom or clinical education.

DISCUSSION

Although societal attitudes toward LGBTQPIA+ people appear to have become more favorable and accepting in recent years,[22] it is critical to remember that there are still notable

Table 3. Frequency of Educational Topics for LGBTQPIA+ Patients Participants Wished They Had Learned or Hoped to Learn More About

Topic	Frequency, No. (%)	
	Graduates (n = 158)	Students[a] (n = 175)
Access or lack of access to health care	50 (31.6)	56 (32.0)
Body dysmorphia and eating disorders	43 (27.2)	69 (39.4)
Creating an inclusive health care facility	45 (28.4)	73 (41.7)
Discrimination and inequality	36 (22.8)	63 (36.0)
Gender-affirming care	61 (38.6)	84 (48.0)
Gender identity	47 (29.7)	58 (33.1)
Gender incongruence or dysphoria	63 (39.9)	69 (39.4)
Health care screenings and prevention	47 (29.7)	70 (40.0)
Houselessness among LGBTQPIA+ youth	57 (36.1)	63 (36.0)
Inclusive terminology	49 (31.0)	71 (40.6)
Mental health care needs	53 (33.5)	85 (48.6)
Minority stress	48 (30.4)	62 (35.4)
Providing inclusive health care forms and documentation	58 (36.7)	70 (40.0)
Sexual orientation	36 (22.8)	53 (30.3)
Sexually transmitted infections and safe sex protections	44 (27.8)	55 (31.4)
Smoking and smoking cessation	41 (25.9)	53 (30.3)
Substance use disorders	44 (27.8)	71 (40.6)
Violence and sexual violence	46 (29.1)	77 (44.0)

Abbreviation: LGBTQPIA+, lesbian, gay, bisexual, transgender, queer/questioning, pansexual, intersex, asexual/aromantic/agender, two-spirit, and additional communities/identities.

[a] Fifteen students indicated they were in their last semester, and 160 students indicated they had 2 semesters remaining (including the one they were currently enrolled in).

Table 4. Participant Level of Agreement About Programmatic Knowledge and Their Preparedness to Apply What They Had Learned

Item	No. Responding	Mean ± SD	% (No.)				
			Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
My professors are/were knowledgeable on the needs of LGBTQPIA+ patients.	254	3.6 ± 1.1	3.5 (9)	11.0 (28)	29.1 (74)	31.5 (80)[a]	24.8 (63)
My preceptors are/were knowledgeable on the needs of LGBTQPIA+ patients.	254	3.6 ± 0.9	2.8 (7)	7.9 (20)	34.6 (88)	39.4 (100)[a]	15.4 (39)
My professional athletic training program prepared me to address the needs of LGBTQPIA+ patients in my clinical practice.	254	3.3 ± 1.1	6.3 (16)	19.7 (50)	29.1 (74)	29.9 (76)[a]	15.0 (38)
In my clinical practices or during my clinical experiences, I am able to adequately recognize the health care needs of LGBTQPIA+ patients.	252	3.6 ± 0.9	2.0 (5)	12.7 (32)	18.7 (47)	52.8 (133)[a]	13.9 (35)
In my clinical practice or during my clinical experiences, I am able to adequately address the health care needs of LGBTQPIA+ patients.	252	3.5 ± 0.9	2.0 (5)	14.3 (36)	26.6 (67)	45.2 (114)[a]	11.9 (30)
In my clinical practice or during my clinical experiences, I am able to apply concepts of LGBTQPIA+ health care education that I learned through my professional athletic training program.	252	3.4 ± 1.0	4.4 (11)	12.7 (32)	29.0 (73)	42.9 (108)[a]	11.1 (28)

Abbreviation: LGBTQPIA+, lesbian, gay, bisexual, transgender, queer/questioning, pansexual, intersex, asexual/aromantic/agender, two-spirit, and additional communities/identities.

[a] Indicates the mode.

health care disparities between LGBTQPIA+ people and the general population, including increased rates of sexually transmitted infections, substance abuse, behavioral health concerns, obesity, eating disorders, and certain forms of cancer.[23,24] These disparities are exacerbated by a lack of medical providers who are thoroughly educated and competent in providing care for LGBTQPIA+ people, which in turn may lead to these patients avoiding or distrusting medical providers.[25]

To combat these disparities, and to provide equitable, patient-centered care to LGBTQPIA+ patients, medical providers must be thoroughly educated on the needs of this patient population. However, various recent studies have indicated that providers across the medical field are inadequately educated, if educated at all, on the needs of LGBTQPIA+ patients.[9–12,26–28] This study is no different in that regard, noting that participants reported an average of only 15 hours of time dedicated to LGBTQPIA+ issues, with some reporting none at all and only roughly a quarter indicating that a sufficient amount of time was spent on the topic. Considering that many participants in this study indicated that they were only somewhat, slightly, or not at all confident in their ability to adequately address the needs of LGBTQPIA+ patients, it is reasonable to conclude that the quantity of education being provided is not sufficient to appropriately educate ATs. In addition to more robust education in professional preparation, providers of all types should continue their education relative to the needs of LGBTQPIA+ patients throughout their careers.

When asked about the efficacy of formal instruction, informal instruction, and clinical education, participants indicated these modes were moderately effective at educating them about the needs of LGBTQPIA+ patients. This indicates that a multimodal approach, using multiple instructional settings, may be necessary to best fill the existing knowledge gap. This correlates with previous research indicating that multimodal educational interventions better prepare nurses to care for LGBTQPIA+ patients.[5] This is a necessary change that must be implemented within athletic training education, as most participants in this study indicated that they are not confident in addressing the needs of LGBTQPIA+ patients.

When participants were asked specifically about what topics related to LGBTQPIA+ patient care they were educated on, they indicated that 2 of the least covered topics were gender-affirming care and gender incongruence or dysphoria. When asked open-ended questions, participants largely indicated that direct exposure and informal instruction from members of the LGBTQPIA+ community offered the most meaningful educational experiences. This is consistent with previous reports, as transgender patients have stated that their medical providers are not adequately educated on transgender health care, and thus they have needed to teach their providers about their needs.[28,29] Previous researchers[10] also found that practicing ATs reported needing further education on gender-affirming care in order to competently treat transgender patients. Although the LGBTQPIA+ community does not, nor should it, bear the onus of responsibility to educate the general population on the health care needs of the population, the benefit that experiences with members of the LGBTQPIA+ population provide when it comes to preparedness and competency of ATs cannot be overstated.

A multimodal educational intervention, in which students receive formal education about LGBTQPIA+ health care followed by informal education in the form of experiences with members of the LGBTQPIA+ community, would be beneficial for bridging an educational gap. Giving students an opportunity to then clinically work with LGBTQPIA+ patients, both in simulation and in clinical practice, would put students in a position to be able to hone the skills and knowledge that they have gained through education, and would better prepare them for their future patient encounters.[9,30] Inclusive health care curricula for sexual health and gender minorities, including those that use standardized patient experiences, have positively impacted knowledge about, attitudes toward, and comfort with working with gender minorities and screening for sexual health.[30] Educational interventions that use LGBTQ+ people as trainers (for simulation) and interprofessional collaboration have been effective at improving nursing students' knowledge, attitudes, comfort, confidence, and cultural competence.[5]

Only a slight majority of participants in this study indicated that their professors and preceptors were knowledgeable on the needs of LGBTQPIA+ patients. It is clear that further education is necessary across the continuum of learning in athletic training, especially for those educating students, in both a classroom and clinical setting. Although a majority of participants either agree or strongly agree that they are able to adequately recognize (66.7%, 168) and address (57.1%, 144) the needs of LGBTQPIA+ patients, that still leaves large groups of participants (33.3%, 84, and 42.9%, 108, respectively) who do not believe that they are prepared to treat this patient population. Between 30% and 50% of participants in this study indicated that they wished they had learned or that they hoped to learn (dependent on whether they were recent graduates or current students) more about nearly every topic related to LGBTQPIA+ health care they were asked about (Table 3). Clearly there is a desire to learn more and be better prepared to treat this patient population, but that desire simply is not being met appropriately. If improved training is not provided to those who are educating athletic training students, it is unlikely that future students will be any better prepared.

For clinicians practicing patient-centered care, the patient's individual health needs and desired health outcomes should be the driving forces behind all care decisions.[31] Recognizing those needs and working to eliminate disparities is critical to providing quality patient care. Although LGBTQPIA+ individuals are often grouped together into one large category, it is important to remember that each group has its own disparities and needs.[32] In order to effectively treat the entire population, it is necessary to educate ATs on the different, intersecting dimensions of identity and how they contribute to overall health.[32] This can only be done through improved education, both in athletic training education programs and in continuing education programs for ATs who instruct students, in either a classroom or clinical setting.

Limitations and Future Research

We used a multipronged strategy to recruit participants for this study, resulting in an inability to calculate traditional measures of responsiveness. However, it is reasonable to conclude that the participants included in this study represent 10% or more of the total eligible sample, based on the typical number of graduates from CAATE-accredited programs and candidates for the BOC examination. There is a likelihood of self-selection bias due to sociocultural perceptions of the LGBTQPIA+ community, which may have impacted who chose to complete the survey. In addition, a high percentage of those who chose to participate identified as women. This may be another incidence of self-selection but could also characterize the changing landscape of gender identity in athletic training.

In interpreting the results of this study, it is also important not to directly conclude a causal relationship between educational experiences within CAATE-accredited, master's-level professional athletic training programs and confidence addressing the needs of LGBTQPIA+ patients. Such a conclusion would disregard any educational experiences (eg, secondary school, undergraduate, and work-related experiences), influences (eg, friends, family members, and peers who identify as LGBTQPIA+), and lived experiences (eg, participants who identify as LGBTQPIA+ themselves) that may have developed confidence outside of a professional program.

Given that only about half of participants perceived that their preceptors and professors were knowledgeable on the needs of LGBTQPIA+ patients, which parallels findings on transgender patient perceptions,[28] future research might include a cross-sectional assessment of perceptions, knowledge, skills, and abilities as well as interventions that address performance gaps in offering patient-centered inclusive care among educator populations.

CONCLUSIONS

The findings of this study indicate that athletic training students perceive a lack of sufficient educational experience to provide patient care responsive to the specific needs of LGBTQPIA+ individuals. This includes both total time and breadth of topics. To address this, athletic training educators should consider a multimodal educational approach when enhancing both the quantity and quality of educational experiences regarding LGBTQPIA+ topics within the curriculum. Intentional scaffolding of formal educational experiences providing foundational knowledge, coupled with experiential and community-based learning opportunities that encourage informal learning through real-life experiences with LGBTQPIA+ patients and individuals, will likely result in the best outcomes.

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