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Nursing Faculty Awareness of Transgender Health and Experience: Effect of an Education Intervention

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Nursing Faculty Awareness of Transgender Health and Experience:

Effect of an Education Intervention

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of the Requirements for the Degree of
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This is to certify that I have examined this
Doctor of Nursing Practice systems change project
written by

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and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by
the final examining committee have been made.

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DEPARTMENT OF NURSING

Abstract

Purpose: To assess for a change in knowledge and attitude of nursing faculty before and after an education intervention on transgender health and experience.

Methods: Fifty-six nursing faculty completed a four hour education intervention on transgender health and experience. Participants completed a twenty-two item self-assessment prior to and following the intervention. Pre/post questionnaires were identical with the exception of eight demographic questions that were included on the pre survey.

Results: Nursing faculty recorded a statistically significant improvement in knowledge on 16 of 22 self- assessment questions. The education intervention improved nursing faculty knowledge and attitudes of transgender health and experience.

Implications for nursing education: This intervention has demonstrated that nursing faculty knowledge of transgender health and experience can be improved with an education intervention. Therefore, administration should provide training so that nursing faculty develop competence related to transgender health and experience. Hopefully, a more knowledgeable and sensitive faculty will result in better informed students, who, as nurses, will deliver quality care that transgender patients deserve.

Nurses have been trained to care for diverse populations however most nurses have had little or no training to prepare them to care for transgender patients (Makadon, Mayer, Potter, & Goldhammer, 2015). An informal survey held prior to the inception of this project suggests that many nursing educators are uncomfortable teaching critical content relative to transgender identity. Many nurses report they do not believe they have the skills needed to provide culturally sensitive and appropriate care to transgender patients. The purpose of the project was twofold; to assess faculty knowledge and attitude before and after an inter-professional education intervention that specifically taught the essentials of transgender health and experience, and to observe for a change in knowledge and attitude. It is hoped that this study will encourage other nursing programs to provide an education intervention to inform nursing faculty regarding transgender health and experience.

Background

The term "transgender" is widely accepted as an umbrella term. In its broadest meaning, transgender is a term for people whose gender identity is not consistent with their assigned sex at birth (Makadon et al., 2015). It is estimated that 0.3% of adults in the United States self- identify as transgender (Gates, 2011). This is likely an underestimation because federal data is not collected on gender identity. Also, many transgender people fear disclosure of their gender identity due to discrimination. This was confirmed by a 2011 study conducted by the National Gay and Lesbian Task Force (Erickson-Schroth, 2014; Grant et al., 2011), which found that 71% of transgender adults have hidden their gender identity due to fear of discrimination. It must also be noted that this number does not take into consideration the growing number of transgender youth and teens of which no accurate data exists (Meier & Labuski, 2013).

The letter "T" is often tacked onto the letters LGB when referring to Lesbian, Gay, Bisexual, and Transgender. However, nurse educators must understand that there is a critical differentiation between each of these terms; transgender refers to a person's gender identity, while lesbian, gay, and bisexual focus on sexual orientation. Gender identity refers to who a person is; sexual orientation refers to who a person is attracted to. A transgender person may be lesbian, gay, bisexual, or other (Erickson-Schroth, 2014). While there may be overlapping health, social, and research concerns, these are two very different constructs.

Transgender people face systemic barriers (Roberts & Fantz, 2014). These include, but are not limited to: pervasive societal heterosexism and heteronormativity (Irwin, 2007; Röndahl, Innala, & Carlsson, 2006; Röndahl, 2011), homophobia (Irwin, 2007), transphobia (Kosenko, Rintamaki, Raney, & Maness, 2013), stigma (Poteat, 2012), and negative attitudes (Dorsen, 2012). There is ample evidence to suggest minority stress is also a factor (Hendricks & Testa, 2012; Kelleher, 2009; Meyer, 1995), as well as a culture that tends to view someone not sharing identities of the dominant culture as the "other" (Canales, 2000).

Transgender people report difficult encounters with health care professionals which are attributed to prejudice and discrimination (Roberts & Fantz, 2014). In 2010 The National Transgender Discrimination Survey (NTDS) reported 19% of transgender people had been refused care due to their gender identity, 28% had been harassed and 2% had been physically assaulted as they attempted to receive health care (Grant et al., 2010). Current research indicates transgender people face increased health and social disparities that include joblessness, homelessness, financial difficulties, mental health issues, and substance abuse (Grant et al., 2010). The NTDS reported 48% of transgender people reported delaying care due to financial stress which may be the result of the fact that 14% of transgender people are unemployed, twice

the national average. For transgender women and people of color the disparities are even worse. For example, 34% of black respondents report household income less than $10,000.00/year, 50% of black respondents who attend school expressing a gender identity or gender non-conformity faced harassment and 49% of black respondents have attempted suicide compared to 41% of all transgender people and 4.6% of the general US population (NTDS, 2011).

Nursing has been slow to recognize the unique needs of Lesbian, Gay, Bisexual, and Transgender (LGBT) people and to include LGBT content into curriculum (Eliason, Dibble, & Dejoseph, 2010). Despite the American Nurses Code of Ethics, Provision 8 (American Nurses Association, 2015) which explicitly states nursing must provide healthcare to diverse populations, nursing has failed to respond to calls for greater inclusivity and hasn't issued statements encouraging change in attitudes and competency in regard to LGBT issues (Eliason et al., 2010). Because formal content is absent from nursing curricula regarding the provision of competent care to transgender patients, nurses are often ill prepared to meet the medical and health needs of this socially and economically vulnerable population (Eliason et al., 2010; Lim, Brown, & Jones, 2013). Lack of exposure to transgender people can lead to discomfort when a nurse encounters a transgender patient in healthcare settings, often resulting in a failure to successfully and sensitively meet the healthcare needs of the patient (Zunner & Grace, 2012).

There has been minimal research into faculty knowledge and attitude of transgender health and after an exhaustive literature search it appears that there is only one recent study assessing faculty readiness for teaching LGBT content (Lim, 2015). While the literature indicates that no research has focused specifically on nurse faculty knowledge of transgender health, it is known that medical, pharmacy, social work, and nursing students exhibit a knowledge deficit of transgender people, their health, and experience (Burdge, 2007; Parkhill et al., 2014; Rondahl,

2009; Snelgrove, Jasudavisius, Rowe, Head, & Bauer, 2012). In addition, it is not surprising considering the lack of inclusion of transgender content in the nursing curricula that nursing students exhibit discomfort and bias when caring for transgender patients (Eliason et al., 2010; Rondahl, 2009). Minimal research has been funded to study transgender people (Coulter, Kenst, & Bowen, 2014). Coulter reported that from 1974-1992 only 0.1% of all projects funded by the National Institute of Health were LGBT related. Eliason et al reviewed the top 10 nursing journals from 2005-2009, and found only 0.16% or, 8 of nearly 5000 articles, focused on LGBT health (Eliason et al., 2010).

Nursing faculty are charged with the task of educating the next generation of nurses and providers, thus, it is essential to identify whether nursing faculty have a basic understanding of transgender people's health needs and provide culturally sensitive, evidence based information to these nurse educators. Nursing knowledge of transgender health and experience is lacking and faculty confirm the reality of this statement. It is incumbent upon nursing faculty to become agents of change; however this cannot happen unless faculty themselves are informed and competent teachers. Cultural competency is an expectation of nursing faculty and nurses in clinical practice (Benkert, Templin, Schim, Doorenbos, & Bell, 2011; Hanssmann, Morrison, & Russian, 2008) and cultural competency encompasses diversity in all forms including gender diversity. Education interventions with faculty have been shown to improve knowledge deficit (Bauer, McAuliffe, Nay, & Chenco, 2013; Majumdar, Browne, Roberts, & Carpio, 2004) which can then be reflected in classroom and clinical teaching. This education intervention has the potential to support nursing faculty to build culturally competent care for transgender people. Given this gap in nursing faculty knowledge I have decided to address this area as the focus of my doctoral research project.

Method

Design

This study was conducted using a pre-test post-test survey design. One qualitative question was asked but only quantitative research will be discussed in this paper.

Setting/Recruitment/Sample

This study took place at a private, Catholic University in the Midwestern United States with a large school of nursing. Approval was obtained from the university institutional review board on August 14, 2014. All participants provided written informed consent. Participants were recruited via an e-mail invitation sent on behalf of the Department of Nursing. A flyer was attached to the email indicating the outline of the intervention, describing the learning objectives, and explaining that original research would be obtained via a pre and post survey. 3.5 CEUs were offered by the Department of Nursing if the participants completed the four hour intervention. It was stated that faculty could attend and choose not to participate in the survey and still obtain the 3.5 CEUs if the participant completed the four hour intervention. Fifty-six participants attended, representing 53% of the entire nursing faculty. All completed the pre and post survey. In addition four staff attended but were not given surveys. Participants met the criteria of full time or adjunct nursing faculty. Faculty represented every level of nursing education ranging from Associate degree to Doctor of Nursing Practice.

Procedure

The author created a two hour intervention based upon a thorough literature review, immersion into the transgender community through three years of support group participation, consultation with several transgender activist organizations and the collaboration of the expert

panel presenters. Panel presenters crossed disciplines and represented education, psychology, marriage and family therapy, social work, public policy, library science and the arts.

The education intervention consisted of a two hour training session taught by the author followed by a two hour panel presentation. The initial two hour training content covered theoretical framework, relevant statistics, gender theory, evolving language and terminology, health disparities, standards of care and best practice guidelines, discussion of social justice, suggestions for changes to didactic and clinical practice, and resources available to nursing faculty. A short film "You Have to Know Me to Treat Me" (New York City Health and Hospital Corporation, 2010) was included in the intervention content. The final two hours were presented by a panel of five transgender experts, four of whom self-identified as transgender. The experts included a PhD, Licensed Marriage and Family Therapist (LMFT) faculty member at the local university medical school; a student working on a Master of Arts in Integrated Behavioral Health; a Research and Policy manager with a Master's Degree in Public Policy; a local transgender activist, poet, and artist; and a librarian who is the mother of a transgender teen. Each panelist was asked the question, "What is one thing you would like nursing faculty to understand about transgender people?" Each panelist was given 10-15 minutes to speak from their experience and personal epistemology. Questions were taken from the participants as the panelists spoke and in conclusion four questions were asked from a pool of anonymous questions written by participants during the break. The presentation concluded with general questions and answers from the audience to the panel.

Survey Instrument

A paper and pencil survey instrument was completed before and after the training session intervention. The survey instrument contained two sections. First, demographic and background

items were asked to provide description of the sample: education level, years of teaching nursing, years of clinical practice, age, sex assigned at birth, current gender identity, race, and sexual orientation. These demographic items, with their response options are presented in the first column of Table 1. Second, a set of self-evaluation items were included to measure the effectiveness of the training session intervention. These 22 self-evaluation items used in the survey instrument used were adapted from two sources. First, 13 questions were adapted from the Cultural Awareness and Sensitivity Tool (CAST) (Pasricha, 2012). These 13 questions were originally adapted for a different study, not yet published by Ball, E. & Iantaffi, A. (Personal Communication, July 26th 2015). Eight additional questions were used which had been developed by a scholar and members of the Minnesota Transgender Health Coalition as part of an unpublished training needs assessment conducted among physicians in Minnesota in 2009. (Iantaffi, A. Personal Communication, July 9 2015). One additional item was constructed for the purpose of this study to evaluate understanding of terminology and determine whether participants would understand the terminology and evolving language unique to transgender experience, thus 22 questions. Finally, both surveys concluded with the qualitative question: "What do you see as the top three barriers transgender people face when accessing health care?" The original Pasricha tool is a 25 item, self-administered instrument that evaluates undergraduate medical students' awareness of cross-cultural issues in healthcare and their sensitivity toward them. The CAST included various themes within cultural competence including awareness, sensitivity, skill, and behavioral interaction. The test-retest reliability of CAST is 0.93, and the internal consistency and overall reliability were moderate at 0.76 and 0.72 respectively. All items and their sources are listed in table 1 (with the exception of the final question which will be analyzed at a later date). All items are scored on a five-point Likert scale, with the following

descriptors: 1 (agree), 2 (somewhat agree), 3 (neutral), 4 (somewhat disagree) and 5 (disagree). In addition, all items allowed respondents to choose "Prefer not to answer" and this response was considered to be missing for any analyses.

Survey Administration

Before the training intervention faculty were asked to read and give consent and complete a pre survey. After the training session, a post survey and evaluation form requesting feedback concerning quality of the intervention was obtained. Both pre and post surveys were identical except the pre survey asked demographic questions. Both surveys concluded with one question that asked the participants to list the "top three barriers that transgender people face when accessing health care." The surveys for individual faculty participants were matched by number both pre and post survey. Following the intervention both surveys were place in an unmarked large envelope and given to an assistant at the exit door. Evaluations were placed in a box near the exit. Consents were gathered separately. Therefore all pre, post surveys, and evaluation forms were anonymous. All surveys were kept in a locked file cabinet in the author's office following the intervention.

Statistical Analysis

Statistical analysis of survey data took place in three steps. First, descriptive statistics were computed. This included percent's and valid *n* for categorical measures, and means and standard deviations for continuous items, for each of the demographic and background items. To facilitate statistical analysis, response options for the 22 self-evaluation survey items were assigned a value from 1 to 5: ranging from 1 (Agree) to 5 (Disagree). For the 22 self-evaluation survey items, means, standard deviations, and valid *n*, were computed, both before and after the training session intervention. Responses for individual items were analyzed, and a summary

score was constructed by computing the average score across the 22 items. To construct the summary score the responses for the item “It is challenging for me to interact with individuals from a different gender identity than my own.” were reversed to match the direction of the other items.

Second, comparisons between pre and post training session intervention responses for the 22 self-evaluation survey items and the summary score across all items were computed using paired *t*-tests.

Third, Cronbach’s alphas were computed to examine the internal consistency reliability of the 22 self-evaluation survey items.

Results

Respondent Characteristics/Demographics

Of the n=56 faculty, the majority (n=54, 96.4%) responded "female" for both "What sex were you assigned at birth?" and "What is your current gender identity (check all that apply)?" The remaining two participants responded "male" for both questions. The majority of the participants were White (n=51, 91.1%), with n=1 each choosing "Asian American" or "Black or African American" and the remaining n=3 (5.4%) choosing "Other" or "Decline to answer." Age ranged from 28 to 69 (mean = 48.9, sd = 12.0). The majority of the faculty had a Master's Degree (n=43, 76.8%) while 19.7% had a doctoral or post-doctoral degree (n=8, 14.3% choosing "Doctorate Degree," and n=3, 5.4% choosing "Post Doctorate."). Only two (3.6%) chose Bachelor's Degree. Years teaching nursing ranged from 1 to 43 (mean = 9.9, sd = 9.8) with the majority teaching nursing less than ten years (66.1%), n=11 (19.6%) teaching nursing between 10-20 years, and n=8 (14.3%) teaching nursing more than twenty years. Years of clinical practice ranged from 3 to 41 (mean = 18.8, sd = 10.8), with n=12 (21.4%) practicing less than ten

years, n=22 (39.3%) practicing between 10-20 years, and n=22 (39.3%) practicing more than 20 years. The majority of faculty described their sexual orientation as "Straight (I am attracted to people of my opposite sex)," while n=2 (3.6%) chose "Bisexual (I am attracted to both people of my same sex and people of the opposite sex)" and n=1 each chose " Gay or lesbian (I am attracted to people of my same sex)" and " Pansexual (I am attracted to any person of any sex or gender identity)."

Findings

All survey data were transferred to and analyzed using Statistical Package for the Social Sciences (SPSS) 22.0. Surveys were examined for completeness of responses to the 22 self-evaluation items. At pre, 54 of 56 (96.4%) surveys were complete with responses to all 22 self-evaluation items, 1 (1.8%) had 3 items with “Prefer not to answer” option chosen, and 1 (1.8%) had 7 items “Prefer not to answer.” At post all 56 (100%) had responses to all 22 items.

Descriptive analysis

Descriptive statistics, consisting of means, standard deviations, and valid *n*, were computed to describe the 22 self-evaluation items and the summary score, pre and post and appear in Table 2. At pre, the two items that showed the highest level of “agree” responses were “People from different cultures/with different identities may define the concept of ‘healthcare’ in different ways” and “Understanding a patient’s gender identity and expression will help me provide better care as a clinician” each with mean = 1.18. The two items that showed the lowest level of “agree” responses were “I am familiar with the World Professional Association for Transgender Health (WPATH)” and “I am familiar with the World Professional Association for Transgender Health (WPATH) Standards of Care” with means = 4.55 and 4.70, respectively.

Comparison of pre and post analysis.

Comparisons between pre and post were computed using paired *t*-tests for each of the 22 self-evaluation items and the summary score. These results are given in Table 2 along with computed effect sizes (Lakens, D. (2013). The majority (16 of 22, 72.7%) of paired *t*-tests computed on the individual self-evaluation items showed significantly lower (toward "agree") scores at post compared to pre ($p \leq .001$) with effect sizes ranging from 0.46 to 2.79, with 13 of 16 (81.3%) effect sizes larger than 0.85. The summary score findings, presented in Figure 1, showed a significant difference from pre to post ($p<.001$) with effect size 2.35.

Cronbach's alpha was calculated to measure internal consistency reliability of the 22 self-evaluation items at pre. The overall alpha at was .89. Of note, the item "For a health care provider, a patient's gender identity/expression is secondary to other issues in the provision of good quality care" had a negative item to total correlation with the other 21 items (r=-0.19) and when it was removed, Cronbach's alpha increased to 0.91.

Discussion

This study demonstrates that a four hour interdisciplinary education intervention on transgender health and experience improved knowledge and changed attitudes of nursing faculty. Sixteen out of twenty-two self-evaluation questions had statistically significant results pre vs post survey. Nine of the 22 questions assessed knowledge and all nine were statistically significant. The remaining thirteen questions assessed attitude and 7 of 13 showed a statistical difference pre vs post survey. Four of six questions measuring a change in attitude indicated a high level of pre-test agreement and therefore it was not surprising that post-test changes in attitude were not statistically significant. One item was worded ambiguously and it is believed that participants were unsure how to respond so in total, only one question allowed room to shift attitude and that mean stayed nearly the same. It can be hypothesized that the participants

attended the intervention with attitudes that favored openness and willingness to engage with transgender people thus there was not a significant change in attitude. Interesting observations included: knowledge questions displayed the greatest statistical change; faculty appeared to enter the intervention unsure of their level of knowledge and indicated that they had greater knowledge on the post survey. For example: knowledge Question 1: *"I am familiar with the range of terms that transgender people may use to refer to their identities."* involved terminology. It was not assumed that faculty would understand evolving terminology and language used by a specific cultural group. The statistics imply this was a significant moment of learning. All nine knowledge questions followed this pattern. Regarding attitude, Questions 11: *"People from different cultures/with different identities may define the concept of "healthcare" in different ways."* and Question 12*: "Understanding a patient's gender identity and expression will help me provide better care as a clinician."*; these questions were not statistically significant and indicated no significant change post intervention: faculty was already at a high level of agreement and it would not be possible to move participants if they already agreed with the statement. It is theorized that in general, nurse educators at this institution believe they have a solid understanding of culture and identity. It should also be noted that this institution has a strong mission of social justice and it is likely that the educators surveyed also had strong values related to social justice. Exploring this question with faculty of a more conservative or public university may yield different findings. Question 15, *"Learning about the experiences of transgender individuals is interesting for me."* had a high level of agreement both pre and post and the researcher wonders if this indicates faculty interest in the topic and would this level of agreement be as high if this training had been mandatory? Perhaps the faculty most interested in the topic choose to attend the intervention. Similar responses were seen on question 17, "*It is*

challenging for me to interact with individuals from a different gender identity than my own." Participants indicated disagreement but not strong disagreement. It can also be hypothesized that participants may have some sense of answering in a socially desirable direction on this question. It is hypothesized that educators may shift closer to strongly disagree over time; following this intervention faculty may reflect upon the concepts, language, and access resources which may indicate greater change if surveyed at a later date.

Question 18 was problematic and may need to be re-worded, changed to reflect two questions, or eliminated, *"For a health care provider, a patient's gender identity/expression is secondary to other issues in the provision of good quality care.* It is believed that nursing faculty was unsure how to answer this question due to ambiguous wording. Question No. 19: *"Cultural groups differ in the ways in which they interact with members of their own culture versus other cultures."* This question indicated a high level of agreement and it is thought that because this university places a high value on the concept of social justice faculty would be in high agreement.

Limitations

The limitations with this study include a small sample size, context of the setting (private, church affiliated institution), and predominately white, older, female respondents. The training was not mandatory thus it is possible that the faculty that chose to attend may have greater interest and appreciation for the topic. However the possibility of bias exists because the faculty is affiliated with a religious organization. On the other hand, this university affirms a strong social justice component which may offset any bias. The survey tool was an adapted version and more research will be needed to validate it and determine its usefulness with other faculty,

institutions, and clinicians. This is a small formative study and further research is needed to corroborate any initial trends that have been identified.

Conclusions

This study indicates that nursing educators displayed a significant improvement in knowledge regarding transgender health after completing a four hour education intervention. This is an intervention that could be replicated in other schools of nursing to help improve faculty knowledge. Bound by the American Nurses Association Code of Ethics (American Nurses Association, 2015), nurses are expected adhere to provisions that speak to human rights and social justice for all patients. Nurses are uniquely positioned to affect change, provide culturally sensitive care, and work to reduce health disparities. Nurse leaders and educators must move beyond the rhetoric and call for more training for nursing faculty, incorporate transgender related content into nursing curricula, and support more research to improve the lives of transgender people.

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Table 1. Demographic and background variables for sample

	N	Range	Mean±SD
Age	56	28 - 69	48.9 ± 12.0
Years of teaching nursing	56	1 - 43	9.9 ± 9.8
Years of clinical experience	56	3 - 41	18.8 ± 10.8
	N	Percentage*	
Education Level			
Bachelor's Degree	2	3.6%	
Master's Degree	43	76.8%	
Doctorate Degree	8	14.3%	
Post Doctorate	3	5.4%	
What sex were you assigned at birth			
Male	2	3.6%	
Female	54	96.4%	
Intersex	0	0.0%	
What is your current gender identity (check all that apply)			
Male	2	3.6%	
Female	54	96.4%	
Trans-masculine (Female to Male or FtM)	0	0.0%	
Trans-feminine (Male to Female or MtF)	0	0.0%	

Woman of transgender history	0	0.0%
Man of transgender history	0	0.0%
Genderqueer/gender fluid	0	0.0%
Two Spirit	0	0.0%
Other (please specify)	0	0.0%
Race		
American Indian or Alaska Native American	0	0.0%
Asian American	1	1.8%
Black or African American	1	1.8%
Native Hawaiian or other Pacific Islander	0	0.0%
White	51	91.1%
Other (please specify)	2	3.6%
Decline to answer	1	1.8%
How do you best describe your sexual orientation		
Straight (I am attracted to people of my opposite sex)	50	89.3%
Gay or lesbian (I am attracted to people of my same sex)	1	1.8%
Bisexual (I am attracted to both people of my same sex and people of the opposite sex)	2	3.6%
Pansexual (I am attracted to any person of any sex or gender identity)	1	1.8%
Queer (I identify as neither man nor woman, I am between or beyond genders, or some combination)	0	0.0%

Asexual (I am not attracted to any person)	0	0.0%
Unsure/questioning	1	1.8%
Other	0	0.0%
Decline to answer	1	1.8%

*Note: percentages may not sum to 100 due to rounding

Table 2. Descriptive statistics for the 22 self-evaluation items.

Survey Question	Source	Pretest M	Pretest SD	Posttest M	Posttest SD	n	Effect size d	Paired t	df	p
1. I am familiar with the range of terms that transgender people may use to refer to their identities.	Author	3.05	1.38	1.29	0.46	56	1.29	9.62	55	<.001
2. I can distinguish between gender non-conformity and the gender dysphoria associated with identifying as transgender.	Iantaffi	4.16	1.23	1.93	0.88	55	1.73	12.85	54	<.001
3. I understand the differences between gender, sex, sexuality, and sexual orientation.	Iantaffi	2.18	1.25	1.13	0.33	56	0.87	6.50	55	<.001
4. I can identify and name at least three barriers for transgender individuals when accessing health care.	Iantaffi	2.54	1.39	1.11	0.31	56	1.08	8.10	55	<.001
5. I am familiar with the World Professional Association for Transgender Health (WPATH).	Iantaffi	4.55	1.09	1.57	0.53	56	2.79	20.85	55	<.001
6. I am familiar with the World Professional Association for Transgender Health (WPATH) Standards of Care.	Iantaffi	4.70	0.89	2.02	0.77	56	2.56	19.16	55	<.001
7. I feel comfortable teaching about providing care for transgender men.	CAST	3.82	1.29	2.16	0.89	56	1.28	9.58	55	<.001
8. I feel comfortable teaching about providing care for transgender women.	CAST	3.79	1.29	2.11	0.89	56	1.33	9.92	55	<.001
9. I feel comfortable teaching about providing care for genderqueer and	CAST	3.84	1.40	2.13	0.82	55	1.38	10.20	54	<.001

gender non-conforming patients.										
10. I feel comfortable teaching about providing care for transgender and /or gender non-conforming children and young people.	CAST	3.95	1.34	2.13	0.86	55	1.46	10.80	54	<.001
11. People from different cultures/with different identities may define the concept of "healthcare" in different ways.	CAST	1.18	0.39	1.15	0.36	55	0.11	0.81	54	.419
12. Understanding a patient's gender identity and expression will help me provide better care as a clinician.	CAST	1.18	0.61	1.11	0.41	56	0.10	0.73	55	.470
13. I feel comfortable evaluating situations from different cultural perspectives.	CAST	2.00	0.81	1.50	0.60	56	0.56	4.18	55	<.001
14. I feel comfortable discussing transition related care with transgender patients.	CAST	3.69	1.32	2.55	1.21	55	0.86	6.41	54	<.001
15. Learning about the experiences of transgender individuals is interesting for me.	CAST	1.46	0.79	1.21	0.49	56	0.46	3.42	55	.001
16. Knowing about the range of gender identities and expressions improves my ability to interact with transgender people.	CAST	1.25	0.55	1.14	0.44	56	0.22	1.63	55	.109
17. It is challenging for me to interact with individuals from a different gender identity than my own.	CAST	4.00	1.18	4.00	1.33	56	0.00	0.00	55	1.000
18. For a health care provider, a patient's gender identity/expression is secondary to other issues in the provision of good	CAST	3.40	1.41	2.93	1.68	55	0.26	1.93	54	.059

quality care.

19. Cultural groups differ in the ways in which they interact with members of their own culture versus other cultures.	CAST	1.65	0.82	1.45	0.66	55	0.24	1.80	54	.078
20. I understand the alternatives, benefits, and risks of various medical interventions available to the transgender individuals.	Iantaffi	3.78	1.33	2.95	1.37	55	0.64	4.71	54	<.001
21. I am familiar with the current literature related to transgender health.	Iantaffi	4.33	1.09	2.62	1.15	55	1.34	9.97	54	<.001
22. I am familiar with resources about other services available to transgender individuals both locally and nationally (e.g. literature, websites, and pamphlets).	Iantaffi	4.25	1.16	1.87	0.55	55	1.97	14.61	54	<.001
Summary score (average across all items)		3.03	0.61	1.82	0.39	56	2.35	17.58	55	<.001

Figure 1. Pre vs Post for Summary Score (Average of all items)

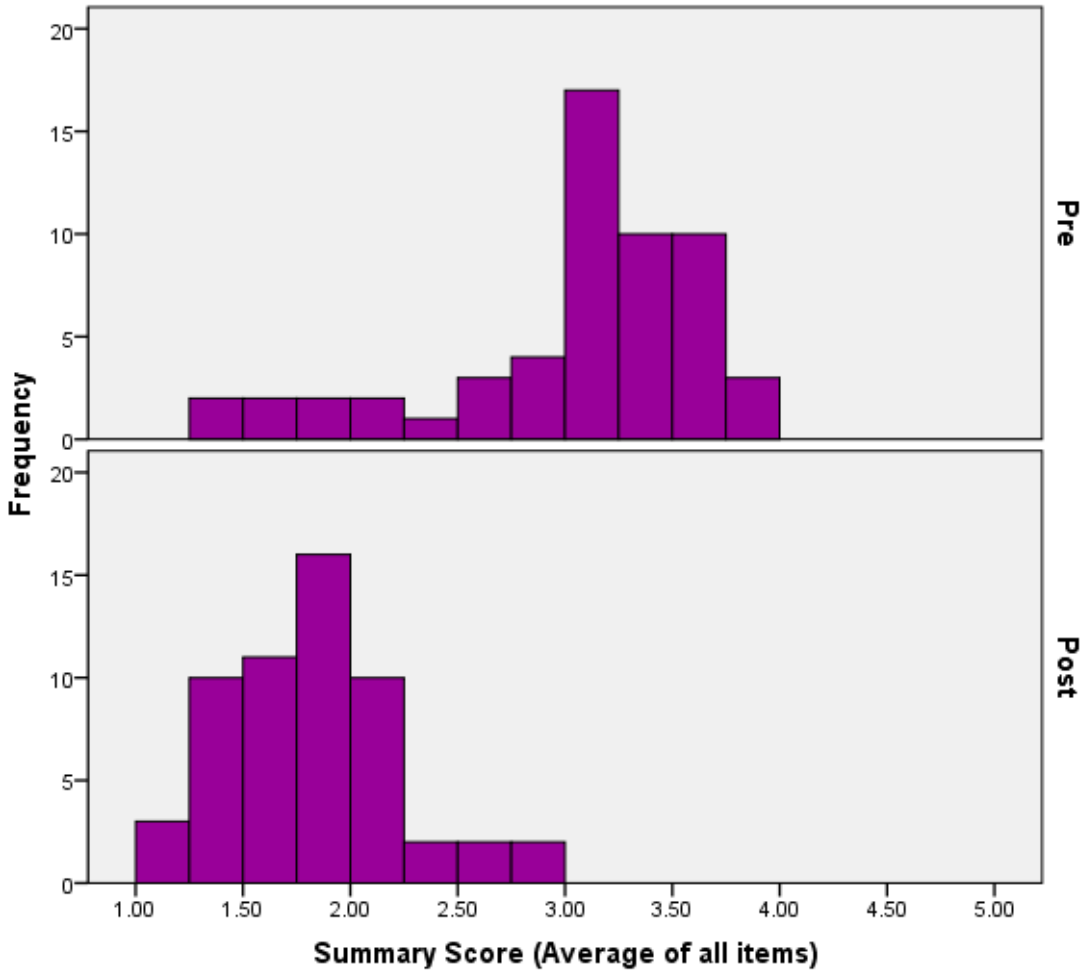

Figure 1. Pre vs Post for Summary Score (Average of all items)