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Original Research Article

Transgender preventative healthcare-an exploratory study

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ABSTRACT

Background: Transgender and gender diverse (TGGD) populations experience more health disparities than the general LGB (lesbian, gay, and bisexual) and the general cis-gender heterosexual population.
Methods: A cross-sectional survey of preventative health screenings was done across the lesbian, gay, bisexual, and transgender (LGBT) population utilizing Qualtrics. Thirty-five (36%) transgender individuals and 63 (64%) cis-gender individuals were included in the analysis. Bivariate analyses were performed using Welch's t test for continuous variables and Fisher's exact or Pearson chi-square for categorical variables.
Results: Cis-women were more likely than TGGD individuals with a cervix to have received a papanicolaou smear and reported being more up to date on cervical cancer screening via papanicolaou testing. Cisgender women were more likely to have had a mammogram than transgender men pre-breast removal. Of the 35 gender-diverse individuals, 14 did not have a PCP, 7 of whom never had one. Fear of discrimination, fear of misgendering, inability to pay, lack of provider knowledge about transgender issues and incongruency with current name and gender with the most common causes for avoiding health care. For the most part, respondents report that these factors cause distress.
Conclusions: This study provides data regarding the statistically significant differences in preventative screening prevalence within TGGD clients as compared to LGB populations. Additionally, the study provides series of recommendations for preventative health screenings based upon organ set of individuals rather than gender identity.

Keywords: Transgender, Gender non-conforming, Preventative, Cancer, Affirming

INTRODUCTION

Healthcare is a fundamental human right. Everyone, regardless of gender identity, sexuality, or any other socially constructed status, is deserving of and requires access to preventative and primary health care services. Individuals who identify as transgender have unique health care requirements and needs. The term transgender is used to describe an individual whose gender identity or expression differs from their assigned sex at birth. This term is often used in comparison to cisgender individuals. The term cisgender is used to describe individuals whose gender identity or expression matches their assigned gender at birth.

More than 150,000 youth and 1.4 million adults identify as transgender within the United States.[1] TGGD individuals do not feel aligned with their sex assigned at birth.[2] Research indicates that TGGD individuals globally and in US are exposed to widespread stigma,

discrimination, harassment, and oppression.[3] Regarding health, TGGD individuals have four times the rate of HIV-infection, and 28% postpone medical care because of discrimination.[4] Some everyday experiences of discrimination include mistreatment from the medical staff, discomfort with gendered facilities and restrooms, and electronic medical records that do not accurately reflect their names/ pronouns, further traumatizing the population.[5] TGGD individuals are also less likely to be insured and have up-to-date health care records.[6]

TGGD people experience a broad range of health disparities compared to their cisgender (i.e., sex assigned at birth and gender identity match) peers.[7,8] These health disparities range from physical health issues such as higher amounts of obesity and sexually transmitted infections (STIs) to mental health issues such as anxiety and depression.[9,10] Additionally, TGGD individuals may seek different kinds of health care services including behavioral health, primary care and gender-affirming care that may require additional attention compared to general population.[7,11] Gender-affirming care gained much focus over last several years and includes puberty blockers, hormone therapy and gender-affirming surgery.[12]

To improve TGGD life expectancy, medical providers must prioritize preventative health screenings which reduce cancer burden, diagnose and treat chronic disease and promote longevity and quality of life.[13] Preventative care is often neglected in populations when access to medical care is strained and emergent care is relied upon as needed. TGGD people experiencing reduced preventive healthcare due to social and economic marginalization, fear of discrimination, lack of access to providers experienced in treating transgender people, lack of provider awareness of appropriate screening guidelines for transgender people, and lack of understanding and application of evidence-based screening guidelines from many professionals within the medical enterprise.[11,13] Systemic barriers also contribute to reduced screenings, as transgender people are more likely to experience violence, homelessness, and unemployment than cisgender people.[2,13,14] Another reason for missed preventive care is the lack of medical training on how to provide appropriate care to TGGD individuals appropriately. Lack of training in dealing with transgender clients often leads to uncomfortable visits and incorrect medical treatment.[4,5]

Additionally, much of TGGD care focuses on physical transition, including hormone therapy and surgery, overlooking non-transition-focused medical care.[4] TGGD individuals may not know the process, location, physician or service line to seek in order to access appropriate preventative care where to go for their care. Does a transman still need a gynecology exam after a hysterectomy, for example? Klein et al suggest that preventive services should be based on the patient's current anatomy, medication use, and behaviors.[4] Henceforth, primary care physicians should be well-trained and clinics and hospitals appropriately equipped to provide preventive and gender-affirming medical care to TGGD individuals.

Study purpose

This study aims to expand upon existing knowledge of the availability and utilization of preventive care services for TGGD individuals.

Objectives or specific aims

This study aims to identify barriers and facilitators experienced by transgender individuals regarding preventive healthcare experiences.

METHODS

This cross-sectional study utilizes Qualtrics software, version 32022 of Qualtrics. Copyright © 2022 Qualtrics, Provo, UT, USA. Qualtrics leverages multiple sample sources to recruit populations that are challenging to recruit otherwise. Qualtrics also uses a quality control measure so that only surveys with sensical answers are included in the final analysis. The authors requested that Qualtrics recruit 50 participants over the age 18 in the United States who identify as TGGD and 50 sexual minorities who did not identify as TGGD. Qualtrics uses multiple platforms for recruitment, including web-based advertising. The internal review board approved this study at university hospitals Cleveland medical center (IRB # 20210096). The survey was run across the periods of October 2021 and November 2021.

Analysis

Data were analyzed using Stata® 14.2.10. Bivariate analyses were performed using Welch's t test for continuous variables and Fisher's Exact or Pearson Chi-Square for categorical variables. All p values reported are two-sided, and $p<0.05$ considered significant. Analysis was done based on individuals' organ systems rather than their sexual orientation or gender identity. Those considered transgender identified as gender non-conforming, nonbinary, transmasculine/ transman, transfeminine/ transwoman, and gender fluid. Cis-gender included those who identified as cis-male or cis-female.

RESULTS

Thirty-five (36%) transgender individuals and 63 (64%) cis-gender individuals were included in the analysis as it was challenging for Qualtrics to recruit the requested number of TGGD individuals. The majority of respondents identified as being Caucasian (60%, n=21) and non-Hispanic (89-90%, n=31) for both the TGGD and cis-gender groups (Table 1). Most respondents were between the ages of 18-39 years. There were significant differences between TGGD and cis-gender individuals regarding sexual orientation. Majority of those identified

as TGGD sexually fluid (71%, n=22) compared to those identified as cisgender (35%, n=21). Most cisgender respondents reported their sexual orientation as heterosexual (37%, n=22). There were no significant differences in the demographics by race, ethnicity or age.

Table 1: Demographics data.

Variables	Transgender (%)	Cis-gender (%)
Race		
White	21 (60)	38 (60)
Black	3 (9)	6 (10)
Other	11 (31)	19 (30)
Ethnicity		
Hispanic	4 (11)	6 (10)
Non-Hispanic	31 (89)	57 (90)
Sexual orientation†		
Asexual	3 (10)	6 (10)
Sexually fluid: Demi/ omnisexual, pansexual, polysexual, queer, bisexual	22 (71)	21 (35)
Homosexual	3 (10)	10 (16)
Heterosexual	2 (6)	22 (37)
Questioning	1 (3)	1 (2)
Age (Years)		
18-25	17 (48)	24 (38)
26-39	14 (40)	26 (41)
40-49	2 (6)	6 (10)
50-65	1 (3)	7 (11)
>65	1 (3)	0 (0)

†P<0.05.

When assessing access to medical care and the services provided (Table 2), significant differences were seen between depression screening and having had or having interest in hormone treatments and surgical transition options. Questions about access to medical care, such as insurance, access to surgery, supportive family or friends, or the importance of having surgery were not statistically significant between sexual minority groups or cis-gender groups. Most of the respondents had also been screened for depression by their providers, except for cis women.

Cis-women more likely than TGGD individuals with a cervix to have received a papanicolaou smear (86% vs. 58%, p=0.027) and reported being more up to date on cervical cancer screening via papanicolau testing (71% vs. 37%, p=0.019). There were no significant differences between the age of 1st papanicolaou testing. Cisgender women were more likely to have had a mammogram than transgender men pre-breast removal (38% vs. 16%, p=0.099). Most trans-men/ trans-masculine presenting individuals had seen a health care provider for hormone treatment (85%), shown interest in medication for hormone treatment and received hormone treatment (88% and 77%, respectively). Hormone treatment and received hormone treatment (88% and 77%, respectively). For screenings not based on sex organs (Table 4) (e.g., colonoscopy), there no significant differences for trans/ cisgender individuals and general screening requirements.

Of the 35 gender-diverse individuals, 14 did not have a PCP, 7 of whom never had one (Table 5). The most common influence on one's ability or desire to access health care is the fear of discrimination by medical personnel (n=22), fear of being misgendered by medical personnel (n=18), inability to pay for treatment (n=18), the lack of provider knowledge about transgender care (n=14) and the incongruent identification with current name or gender (n=13). For the most part (n=28), respondents report that these factors cause distress.

Table 2: Access to medical care.

Variables	Transman/ transmasculine (%)	Transwoman/ transfeminine (%)	Gender fluid, non-binary, gender non-conforming (%)	Cis-man (%)	Cis-woman (%)
Has a PCP					
Yes	8 (62)	2 (100)	11 (55)	21 (81)	26 (70)
No	5 (38)	0 (0)	9 (45)	5 (19)	11 (30)
Race					
White	10 (77)	1 (50)	10 (50)	15 (58)	23 (62)
Black	0 (0)	0 (0)	3 (15)	2 (8)	4 (11)
Other	3 (23)	1 (50)	7 (35)	9 (34)	10 (27)
Depression screening†					
Yes	11 (85)	1 (50)	12 (67)	20 (77)	15 (41)
No	2 (15)	1 (50)	6 (33)	6 (23)	22 (59)
Hormone treatment†					
Yes	10 (77)	1 (50)	3 (15)	11 (42)	6 (16)
No	3 (23)	1 (50)	17 (85)	15 (58)	31 (84)
Interested in hormonal test†					
Yes	11 (84)	2 (100)	8 (40)	11 (42)	6 (16)
No	1 (8)	0 (0)	6 (30)	12 (46)	28 (76)
Don't know	1 (8)	0 (0)	6 (30)	3 (12)	3 (8)

Continued.

Variables	Transman/ transmasculine (%)	Transwoman/ transfeminine (%)	Gender fluid, non-binary, gender non-conforming (%)	Cis-man (%)	Cis-woman (%)
Physicians available for hormones					
Yes	8 (89)	1 (50)	6 (60)	13 (68)	12 (41)
No	1 (11)	1 (50)	4(40)	6 (32)	17 (59)
Don't know	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Insurance coverage?					
Yes	4 (31)	0 (0)	4 (20)	10 (38)	7 (19)
No	5 (38)	1 (50)	12 (60)	8 (31)	22 (59)
Don't know	4 (31)	1 (50)	4 (20)	8 (31)	8 (22)
Have had gender affirming surgery					p=0.085
Yes	3 (23)	0 (0)	1 (5)	9 (35)	5 (14)
No	10 (77)	2 (100)	19 (95)	17 (65)	32 (86)
Interested in†					
MTF	1 (8)	2 (100)	3 (15)	4 (16)	4 (11)
FTM	11 (84)	0 (0)	12 (60)	11 (42)	3 (8)
None	1 (8)	0 (0)	5 (25)	11 (42)	30 (81)
Interested in					
Facial feminization					
Yes (1)	0 (0)	2	3	2 (50)	1 (25)
No (0)	1 (100)	0 (0)	0 (0)	2 (50)	3 (75)
Maybe (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Facial masculinization					
Yes (1)	6 (55)	0 (0)	2 (16)	5 (45)	1 (33)
No (2)	3 (27)	0 (0)	5 (42)	2 (18)	2 (67)
Maybe (3)	2 (18)	0 (0)	5 (42)	4 (36)	0 (0)
How important is facial surgery?†					
Mod-ext imp	1 (8)	2 (100)	5 (25)	8 (31)	15 (41)
Low imp	12 (92)	0 (0)	15 (75)	18 (69)	22 (59)
Chest surgery					
Masculine					
Yes	9 (82)	0 (0)	7 (58)	10 (91)	2 (67)
No	2 (18)	0 (0)	1 (8)	1 (9)	0 (0)
Maybe	0 (0)	0 (0)	4 (34)	0 (0)	1 (33)
Feminine					
Yes (1)	1 (100)	2 (100)	3 (100)	2 (50)	2 (50)
No (2)	0	0 (0)	0 (0)	2 (50)	1 (25)
Maybe (3)	0	0 (0)	0 (0)	0 (0)	1 (25)
Vaginoplasty					
Yes	1 (100)	2 (100)	2 (67)	3 (75)	3 (75)
No	0 (0)	0 (0)	1 (33)	1 (25)	1 (25)
Maybe	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Phalloplasty†					
Yes	4 (36)	0 (0)	0 (0)	6 (55)	2 (67)
No	2 (18)	0 (0)	8 (67)	3 (27)	0 (0)
Maybe	5 (46)	0 (0)	4 (33)	2 (18)	1 (33)
Hysterectomy					
Yes (1)	6 (75)	0 (0)	5 (46)	3 (50)	0 (0)
No (2)	1 (12.5)	0 (0)	3 (27)	1 (17)	2 (100)
Maybe (3)	1 (12.5)	0 (0)	3 (27)	2 (33)	0 (0)
How important for internal organs					
Very-ex imp	5 (83)	0 (0)	1 (17)	2 (67)	0 (0)
Mod-low imp	1 (17)	0 (0)	5 (83)	1 (33)	0 (0)
How important is genital surgery					
Very-ex imp	10 (77)	2 (100)	5 (25)	8 (31)	10 (27)
Mod-low imp	3 (23)	0 (0)	15 (75)	18 (69)	27 (73)

Continued.

Variables	Transman/ transmasculine (%)	Transwoman/ transfeminine (%)	Gender fluid, non-binary, gender non-conforming (%)	Cis-man (%)	Cis-woman (%)
Surgeon available					
Yes	2 (25)	0 (0)	6 (43)	8 (44)	9 (32)
No	6 (75)	1 (100)	8 (57)	10 (56)	19 (68)
I don't know	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Worry about insurance for surgery†					
Yes	8 (62)	2 (100)	10 (50)	12 (46)	5 (14)
No	2 (15)	0 (0)	7 (35)	12 (46)	28 (76)
Maybe	3 (23)	0 (0)	3 (15)	2 (8)	4 (10)
Family/friends supportive†					
Yes	10 (77)	1 (50)	11 (55)	15 (58)	11 (30)
No	3 (23)	1 (50)	9 (45)	11 (42)	26 (70)

†p<0.05.

Table 3: Gender-specific screenings.

Born with a cervix	Trans man + gender diverse (fluid/ non-binary) (%)	Cis women (%)
Had a pap smear†		
Yes	11 (58)	25 (86)
No	8 (42)	4 (14)
Age at first pap	20.3 (16.4-24.1)	22.9 (20.3-25.4)
Result normal		P=0.074
Yes	13 (68)	25 (89)
No	6 (32)	3 (11)
Missed paps		
Yes	12 (63)	11 (39)
No	7 (37)	17 (61)
Up to date on paps†		
Yes	7 (37)	20 (71)
No	12 (63)	8 (29)
#On testosterone?		
Yes	0 (0)	0 (0)
No	2 (100)	0 (0)
Mammogram ever?		
Yes	3 (16)	11 (38)
No	16 (84)	18 (62)
In the last 2 years		
Yes	2 (11)	8 (28)
No	17 (89)	21 (72)
H/o mastectomy		
Yes	2 (12)	0 (0)
No	15 (88)	0 (0)
H/o BRCA Q32=1		p=0.867
Yes (1)	7 (37)	10 (34)
No (2)	12 (63)	19 (66)
>If yes, risk-reducing	No positive responses	

† p<0.05.

Table 4: Persons aged 50+/ general screening.

Variables	Trans people (%)	Cis people (%)
Prescribed aspirin		
Yes	1 (50)	1 (14)
No	1 (50)	6 (86)
Variables	**Trans people**	**Cis people**
Ever had a colonoscopy		
Yes	1 (20)	0 (0)
No	4 (80)	6 (100)

Continued.

Variables	Trans people (%)	Cis people (%)
Any other colon cancer screening Q 44=1		
Yes (1)	No observations	
No (2)		
Advice on fall prevention Q 47=1	No observations	
Specific risks: H/o smoking and AAA US + age 65		P=0.067
Yes	1 (7)	8 (33)
No	13 (93)	16 (67)
Overweight and DM screening		
Yes	6 (46)	16 (59)
No	7 (54)	11 (41)

†p<0.05.

Table 5: Influences on access to healthcare.

Those identified as transgender	N
Lack of provider knowledge about transgender care or other issues related thereof	14
Lack of cultural competency by providers	7
Fear of being misgendered by medical personnel?	18
Fear of discrimination by medical personnel?	22
Fear of being outed by medical personnel?	6
Fear of harm or abuse by medical personnel?	10
Insurance coverage or discrimination	15
Income, inability to pay for treatment	18
Health systems barriers (inappropriate electronic records, forms, lab references, clinic facilities (ex: trans man going to ob/gyn office	11
Socioeconomic barriers (Housing, transportation, mental health, etc.)	11
Information on identification/ insurance cards (ex: legal name and gender) incongruent with current name/ gender?	13
Provider refusals	7
Family or friends discouraging you from seeking care?	6
Do these factors cause you distress?	
Yes, all	22
Yes,	6
None	7

Table 6: Suggested sex-organ cancer screening for transgender people.

Testing	Population	Additional notes
HPV screening	-For anyone with a cervix, testing should begin at age 21 and continue at intervals per ASCCP guidelines -If receptive anal intercourse, can consider an anal swab for HPV	-If possible, offer prior to initiating testosterone due to potential vaginal atrophy -Use smallest speculum possible -Everyone should be offered HPV vaccination and cervical cancer risk reduction
Mammography	-Anyone with native breasts should have a mammogram every 1-2 years per USPTF guidelines 15 -Transgender women 50 years of age or older and having been on feminizing hormone therapy for 5 years or greater should be considered for mammograms every 1-2 years per the UCSF transgender guidelines. -Transgender men who not undergone bilateral mastectomy/ only undergone breast reduction, should undergo screening according to current guidelines for non-transgender women. For those who undergone top surgery, since most/ nearly all breast tissue may have been removed, mammography for evaluation of palpable lesion may not be technically feasible and alternatives such as USG/MRI may be necessary.	Estrogen therapy may falsely decrease PSA values.

Continued.

Testing	Population	Additional notes
Prostate screening	-Use USPSTF guidelines-Grade C recommendation for PSA aged 55-69 based on individual discussion -For trans women on hormone therapy, consider a PSA of >1 ng/ml to be abnormal -Transgender women who have undergone vaginoplasty have a prostate anterior to the vaginal wall. A digital neovaginal prostate exam may allow for a more effective exam per the UCSF transgender guidelines. -Prostate exam should also be done if symptomatic for hyperplasia (urinary frequency or urinary dribbling, etc.)	

The barriers TGGD individuals experience in accessing preventative healthcare are multiple and exist at all levels of the society. Some of the prominent reasons for reduced preventive health for transgender individuals are social and economic marginalization, fear of and actual discrimination from healthcare providers (including doctors, surgeons, nurses along with front office staff and hospital administration), lack of understanding and training of providers in transgender-specific healthcare issues, and lack of provider experience in treating transgender populations. Micro and macro aggressions including dead-naming, misgendering and inappropriate management of personal information leads to the development.

Additional reasons for these health disparities include a lack of appropriate screening guidelines for transgender people-including separate policies for transgender individuals within different stages of their medical gender transition and a lack of attention towards this issue at the highest level of our society. Transphobia within employment and housing has led to transgender individuals, including youth experiencing higher rates of violence, homelessness, and unemployment than cisgender people. These conditions lead to an increased potential for worse health outcomes and less access to healthcare.

The above results indicate that the TGGD population needs further attention, especially in preventative healthcare. TGGD preventive care can be improved by having patients' checklist protocols based on their organs. The medical community must clarify and disseminate standards for preventative care regarding surgically or hormonally augmented body parts such as primary and secondary sexual organs and other organs with hormone receptors. Care providers must diligently pursue care for all parts of the patient's body, including preventative evaluation. The patient's respect and dignity must be foremost in the healthcare provider's mind. Patients should never be misgendered, dead named, or discriminated against. It is critical to incorporate preventative screening based on existing organs as much as possible during in-person visits

Financial barriers to preventative care must be decreased by decreasing insurance co-pays and making them more inclusive. For example, mammograms must be included for transwomen via insurance. Information regarding routine preventative care for TGGD populations should be compiled and disseminated across the population. TGGD care must be sensitive to explaining the purpose of the screening exam or procedure, and effort should be made to decrease physical and emotional discomfort. For example, during a new patient visit, the individual should be allowed to stay fully dressed and be given an explanation of any need for a physical exam. When a papinicoloau exam is appropriate, we recommend using the smallest speculum possible (even pediatric if possible). If possible, offer that a pap be done before initiating testosterone therapy as vaginal atrophy due to testosterone may cause the exam to be even more uncomfortable in the future.

DISCUSSION

The analysis in this paper took into account the organ systems individuals possess and are by no means used to minimize their gender identities and expressions. The authors fully recognize and acknowledge gender identity and its distinction from the sex assigned at birth. To holistically serve transgender patients, all their organs must be cared for, including those they were born or were augmented via surgery. Sexually active transgender women may continue having risks similar to cisgender men (regardless of sexual orientation) for acquiring the human papilloma virus (HPV), hepatitis infection, and human immunodeficiency virus (HIV). The current standards do not include whether those with receptive anal intercourse should also be screened for anal HPV. Additionally, the current standards do not provide clear standards of care of whether augmented breasts (within trans or cis women) need to be tested periodically for breast cancer. Similarly, transmen with uteri and ovaries still have the potential for acquiring cervical cancer or ovarian cancer.

We currently have insufficient knowledge of the role of hormone therapy on long-term cancer risks and other medical conditions where screening guidelines could be useful. While this study focused on the USPSTF guidelines, further studies should be done to understand the long-term risks of various forms of gender-affirming care on patients' health. For instance, it must be explored whether mastectomy in transmen significantly affects their chances for future breast cancer or if there is a

difference in osteoporosis risk for transmen on testosterone long-term, and if there is an increased risk of cardiovascular events for transwomen on estrogen. These, among many other medical concerns, could be mitigated through appropriate screening.

The results of this study indicate that there are no major differences in preventative screening for non-sex-based organs between sexual minorities and gender minorities. Research has demonstrated that the difference in pap smears counts and being up to date can be explained by multiple factors. Providers might not be considering papinicoloau smears for cervix-bearing transgender men or gender non-conforming individuals. Routine checks might not be included in standard care practices for the TGGD community compared to cis women.[15]

There are several limitations to this study. Due to the small sample size, the analysis is likely underpowered and does not provide the full details of the differences in preventative screening amongst TGGD and cis groups. In addition, some nuances amongst the gender-fluid, nonbinary, and gender non-conforming populations could be lost. All of the identities mentioned above were analyzed as one. Additionally, the sample did not include enough Black transwomen (n=2) or non-white gender-fluid individuals. This sample did not capture the breadth of the TGGD community. The small sample also limited the power to make statistical conclusions, as in the likely explanation of the mammography results appearing disparate but not statistically significant. The results may not be generalizable due to the nature of data collection and the sample demographic distribution. Selection bias may have also played an important role in the information collected. Future studies must focus on acquiring larger sample sizes and ensuring that racial minorities are appropriately represented as part of the sample. Location-based surveys are recommended due to the vast differences in gender-affirming care across rural and urban areas.

CONCLUSION

This study highlights the importance of focusing on preventative healthcare for TGGD clients. It provides data regarding the statistically significant differences in preventative screening prevalence within TGGD clients as compared to LGB populations who are also marginalized. Additionally, the study provides a series of recommendations for preventative health screenings based upon the organ set of individuals rather than their gender identity. This study furthers the fields understand of holistic TGGD care and invites further discussion towards establishing TGGD preventative health standards.

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