

EDUCATION

Attitudes Toward Transgender People Among Medical Students in South Korea



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ABSTRACT

Introduction: Interventions aimed at changing knowledge, attitudes, and beliefs of resident physicians and medical students have been made to incite a significant positive increase in attitudes, comfort, and knowledge toward the lesbian, gay, bisexual, and transgender (LGBT) community, as well as increased levels of competency among participants.

Aim: To use insights from the attitudes of medical students toward transgender people and demonstrate that adding lectures on transgenderism would make the medical school curricula more comprehensive and trans-inclusive by improving overall attitudes toward the LGBT community.

Methods: A total of 49 medical students completed the preintervention survey with the Genderism and Transphobia Scale and Attitudes Toward Transgendered Individuals Scale, and then took a class on transgenderism, whereas 39 individuals completed the 4-week postintervention survey following the same measures.

Main Outcome Measure: Three items of survey were demographic characteristics, the Genderism and Transphobia Scale, and the Attitude Toward Transgender Individuals Scale.

Results: Although there was no significant difference in mean score between the preintervention and postintervention surveys, those who had minority individuals as peers and those who had previous LGBT-related education showed significantly positive attitudes than those without after the lecture. As a result of analyzing all the data from the pre/postintervention surveys, being of the female gender and having minority individuals as peers positively affected attitude.

Conclusion: Although there was no significant attitude change after the lecture, those who had previous LGBT-related education showed significantly positive attitudes at pre/postintervention surveys than those without. These findings suggest that raising awareness and education should be continued for a positive attitude toward more vulnerable groups such as the LGBT. Given the lack of studies on transgenderism that involve students in the medical profession in South Korea, this study shows the necessity of curricula creation of transgenderism education. This study aims to serve as a basis for curricula creation and student guidance that will help creating more positive attitudes toward sexual and gender minorities. **Lee SR, Kim M-A, Choi MN, et al. Attitudes Toward Transgender People Among Medical Students in South Korea. Sex Med 2021;9:100278.**

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Key Words: Transgender; Attitudes; Genderism and Transphobia Scale; Attitudes Toward Transgendered Individuals Scale; Education

INTRODUCTION

Lesbian, gay, bisexual, and transgender (LGBT) individuals experience severe health disparities, which include higher rates of

substance abuse, mental illness, suicide, trauma, etc., as well as an increased risk of sexually transmitted infections and poorer cancer outcomes, caused by lack of early detection due to the

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LGBT's poor access to proper health care.^{1–3} With this, social and medical transition is associated with improvement in emotional health and well-being and is now widely viewed as an effective treatment for gender dysphoria.⁴ However, across much of the world, including South Korea, gender-affirming health care is unavailable or is difficult to access. Even when transgender people can access such health care, they often find that health care professionals provide inadequate care because of a lack of sufficient training as well as negative bias toward transgender people. For these reasons, transgender people often make use of parallel providers who often come from the transgender community, engage in self-administered hormone treatments, and choose to travel to other countries to get gender affirmative surgeries.^{5–7}

As mentioned previously, transgender individuals are considered one of the most underserved populations in the health care system, as they are faced with several barriers including lack of access to care, social stigmatization, discrimination within the health care system, financial issues, socioeconomic issues, unsupported health system frameworks, and lack of specialized education among providers.⁸ Accordingly, in a report in South Korea, along with the high cost of medical transition, prejudice and discrimination of health care professionals toward transgender individuals, the limited knowledge of health care professionals on medical transition and the lack of health care institutions that can provide transgender care are the primary factors that limit the use of transition-related health care among Korean transgender people.⁹ While aspects of health care for transgender individuals have improved significantly in the past decade, education among health care providers still lags and remains a critical barrier to care for transgender individuals.^{10–12}

The recent increase in the number of interventions aimed at changing knowledge, attitudes, and beliefs of resident physicians and medical students has led to a significant positive increase in attitudes, comfort, and knowledge toward the LGBT community as well as increased levels of competency among intervention participants.^{13–17} However, the topic of LGBT care remains excluded from medical curricula throughout Korea, and there has also been zero research on transgenderism among students in the country's medical profession. This study, therefore, aims to evaluate attitudes toward transgender people among Korean medical students and demonstrate that including lectures on transgenderism in medical school curricula would have a positive impact on students' attitudes.

METHODS

Participant Recruitment

After approval was obtained from the Institutional Review Board, participants were made up of second-grade medical students taking a class on medical ethics at [masked for blind review]. An email and text message were sent to 90 second-grade students as an invitation for them to participate in the study's evaluation of

attitudes toward transgenderism. To protect the rights of the participants, the study's purpose and methods, as well as their position on their privacy, voluntary consent, and possible withdrawal, were explained properly to study participants before data collection and the lecture. The participants' willingness to complete and submit the survey served as evidence of informed consent. These participants conducted a preintervention survey before and were given a lecture on "Understanding Gender and Transgenderism" on the same day. The lecture included discussions on the definition and core concepts of gender, gender dysphoria, transgenderism and related epidemiology and biology, psychiatric and social issues, health disparities, general primary care, hormone replacement therapy, and surgical options. An email and text message were sent 3 and 4 weeks after the lecture to ask them to complete participation. Responses to the postintervention survey, which is identical to the preintervention survey, were returned 4 weeks after the lecture. The medical department office sent an email and text message regarding the study to 90 second-year medical students, and the contents are as follows. The email and text message included information on the lecture topic, time and duration, and instructions on how to participate (ie, filling out the first questionnaire). 3 and 4 weeks after the lecture, the office sent a notification to students asking them to fill out the second questionnaire, which is a repeat of the first questionnaire they received. Instructions regarding confidentiality and submission were also provided. The authors collected the first and second questionnaires from the medical department office and analyzed such.

Data Collection

The survey consisted of 3 themes: demographic characteristics, the Genderism and Transphobia Scale (GTS), and the Attitude Toward Transgender Individuals Scale (ATTIS). Demographic questionnaires include information regarding their gender (male, female, or other gender), sexual orientation (heterosexual or nonheterosexual), religiosity (Christianity, Catholicism, Buddhism, Islam, other religion, or none), having sexual or gender minorities as peers (for example, in their family, relatives, friends, or close acquaintances (yes or no)) and previous LGBT-related education (for example, attended a lecture or viewed a documentary (yes or no)). The GTS is a questionnaire consisting of 32 items measuring cognitive, behavioral, and affective dimensions of genderism, transphobia, and gender-bashing. Participants rate their agreement to the statements on a 7-point Likert scale (1 = strongly agree to 7 = strongly disagree). All 32 items were summed to create a total score with a potential range between 32 and 224. Higher scores denote strong negative feelings and behaviors toward transgender individuals and lower scores, reflecting more positive attitudes toward transgender individuals.^{18,19}

On the other hand, ATTIS, consisting of 20 items, was developed to assess transgender-related stigma, separately from discrimination and violence, among members of the general population. Participants rate their agreement to the statements

on a 5-point Likert scale (1 = strongly agree to 5 = strongly disagree). All 20 items were summed to create a total score with a potential range between 20 and 100. Higher scores reflect more positive attitudes toward transgender individuals. ATTIS serves as an effective means of comparing levels of tolerance exhibited across cultures and regions as well as over time. It also assesses the impact of educational interventions for health care and social service providers who may interact with transgender individuals.²⁰

A total of 57 items (5 demographic, 32 GTS, and 20 ATTIS) were answered in the preintervention and 4-week post-intervention surveys, and no identifiable information was collected. Responses to survey questions were scored on a 7-point Likert scale for the GTS and a 5-point Likert scale for ATTIS.

Statistical Analysis

Summary statistics were used for categorical data as *n* (%) and continuous data as mean (sd) or median (IQR). Student *t*-test and a linear mixed model (LMM) were used to assess changes between preintervention and postintervention survey scores and to identify the effect of gender, having minority peers, or having previous LGBT-related education. All data analyses were performed using SPSS version 26 (IBM Corp., Armonk, NY) and Rex software (<https://rexsoft.org/>, RexSoft Inc, Seoul, Korea). Results were presented as beta (β) and 95% confidence interval (CI) and a 2-sided test significance level of 0.05 was used for all analyzes.

RESULTS

Demographic Findings

A total of 49 students of 90 completed the preintervention survey and then took a class on “Understanding Gender and Transgenderism.” Afterward, 39 students of 49 completed the

4-week postintervention survey. The demographic characteristics of this study are shown in Table 1.

Genderism and Transphobia Scale

Mean score and standard difference were 92.35 ± 24.52 and 85.69 ± 23.73 in the pre/postintervention survey responses, respectively. Mean score was significantly lower ($P = .002$) in female students than in male students in the preintervention survey, whereas in the postintervention survey, mean score was significantly lower ($P = .009$) in female students, those who had sexual or gender minority individuals in their family, relatives, friends, or close acquaintances ($P = .035$), and those who had previous LGBT-related education ($P = .044$). Medical students identified as religious did not show different attitudes in both surveys (Table 2).

Attitudes Toward Transgendered Individuals Scale

Mean score and standard difference were 70.65 ± 12.35 and 73.36 ± 11.36 in the preintervention and postintervention survey responses, respectively. The mean score was significantly higher in female students ($P = .004$) and those who had exposure to sexual or gender minorities in their family, relatives, friends, or close acquaintances ($P = .028$) in the preintervention survey. In the postintervention survey, mean score was significantly higher in female students ($P = .033$), those who had sexual or gender minority individuals as peers ($P = .032$), and those who had previous LGBT-related education ($P = .032$). Medical students identified as religious did not show different attitudes in both surveys (Table 2).

Linear Mixed Model Analysis

In the LMM analysis, the mean score between the pre-intervention and postintervention surveys did not represent a

Table 1. Demographic characteristics of participants

Characteristics	Categories	Preintervention no. (%)	4-week postintervention no. (%)
Gender	Male	29 (59.2)	24 (61.5)
	Female	20 (40.8)	15 (38.5)
	Other gender	0 (0.0)	0 (0.0)
Sexual orientation	Heterosexual	47 (95.9)	38 (97.4)
	Nonheterosexual	2 (4.1)	1 (2.6)
Religion	Christianity	12 (24.5)	7 (18.0)
	Catholicism	1 (2.0)	4 (10.3)
	Buddhism	2 (4.1)	2 (5.1)
	Islam	0 (0.0)	0 (0.0)
	Other religion	1 (2.0)	0 (0.0)
	None	33 (67.4)	26 (66.7)
Having minority peers	Yes	13 (26.5)	10 (25.6)
	No	36 (73.5)	29 (74.4)
Previous LGBT-related education	Yes	24 (49)	21 (53.8)
	No	25 (51)	18 (46.2)

LGBT = lesbian, gay, bisexual, and transgender.

Table 2. Total score for GTS and ATTI scale

Characteristics	Categories	Preintervention mean \pm SD*	P value [†]	Postintervention mean \pm SD*	P value [†]
GTS					
Gender	Male	101.38 \pm 21.32	0.002 [‡]	93.29 \pm 22.48	0.009 [‡]
	Female	79.25 \pm 23.32		73.53 \pm 21.0	
Religion	Yes	81.69 \pm 27.73	0.78	87.31 \pm 27.26	0.784
	No	96.19 \pm 22.44		84.88 \pm 22.3	
Having minority peers	Yes	77.78 \pm 24.53	0.107	72.7 \pm 19.86	0.035 [‡]
	No	93.51 \pm 23.32		90.17 \pm 23.58	
Educational experience on the topic	Yes	86.33 \pm 23.32	0.092	78.43 \pm 18.77	0.044 [‡]
	No	98.12 \pm 24.7		94.17 \pm 26.51	
ATTI scale					
Gender	Male	66.41 \pm 10.98	0.004 [‡]	70.17 \pm 9.96	0.033 [‡]
	Female	76.8 \pm 11.85		78.47 \pm 11.91	
Religion	Yes	67.06 \pm 14.92	0.214	73.31 \pm 13.36	0.986
	No	72.39 \pm 10.72		73.38 \pm 10.52	
Having minority peers	Yes	77.0 \pm 13.64	0.055	79.8 \pm 9.77	0.032 [‡]
	No	68.36 \pm 11.18		71.14 \pm 11.16	
Previous LGBT-related education	Yes	74.58 \pm 12.56	0.028 [‡]	74.81 \pm 10.58	0.032 [‡]
	No	66.88 \pm 11.12		71.67 \pm 12.3	

ATTIS = Attitudes Toward Transgendered Individuals Scale; GTS = Genderism and Transphobia Scale; LGBT = lesbian, gay, bisexual, and transgender.

*A lower value at GTS means more positive attitudes and a higher value at ATTI scale means more positive attitudes.

[†]P value by student t-test.

[‡]Statistical significance at $P < .05$.

significant difference (*ATTI scale*: $\beta = 2.821$ (95% CI -1.6 to 7.298, $P = .214$); *GTS*: $\beta = -6.783$ (95% CI -15.236 to 1.670, $P = .116$)). However, it was found that those who identify as of the male gender had significantly negative attitudes compared with females (*ATTI scale*: $\beta = -8.118$ (95% CI -12.741 to -3.495, $P = .001$); *GTS*: $\beta = 18.917$ (95% CI 10.195 to 27.638, $P < .001$)) and that having minority peers had a positive effect (*ATTI scale*: $\beta = 6.856$ (95% CI 1.379 to 12.334, $P = .015$); *GTS*: $\beta = -10.410$ (95% CI -19.371 to -1.448, $P = .023$)) (Table 3).

DISCUSSION

Transgender people experience discrimination and, potentially, a lack of respect from service providers even in health care settings. Real or perceived stigma and discrimination within biomedicine and the health care provision, in general, may impact transgender people's desire and ability to access appropriate care.^{21–23} In a report by the Korean Society of Law and Policy on Sexual Orientation and Gender Identity, 35.9% of transgender people who used medical institutions had experienced discrimination through acts such as inappropriate questions from medical person(s), derogatory language or criticism, refusal of examination or treatment, demands for unfair examination or treatment, as well as lack of knowledge in transgender health care among doctors.²⁴ They experience health inequities in part because of the

exclusion of transgender-specific health needs from medical school and residency curricula.²⁵ Education among health care providers is deficient and is considered a major barrier for the care of transgender individuals.¹¹ A survey of 101 transgender female individuals in New York revealed that the lack of access to a knowledgeable provider was the greatest reported barrier, and this persisted despite the strengthening of other barriers to care.²⁶

To our knowledge, this study is the first research in South Korea that included a lecture on transgenderism and an evaluation of medical students' attitudes toward transgender people. The GTS we used was the first developed scale to assess genderism and transphobia.^{18,27} The study also used ATTIS as the first measure of its kind to address individuals' attitudes toward transgender individuals specifically.²⁰ The attitude score was measured before and after the lecture.

By LMM analysis, it analyzed all data regardless of pre/post-results and showed that being of the male gender had a negative effect, whereas having minority individuals as peers had a positive effect on the results. Considering previous studies, the reasons that men show more negative attitudes are as follows: observance of masculine behavior, masculine appearance, and heteronormative concepts that uphold traditional ideals regarding male superiority.^{28–32} Moreover, Korean society is also deemed more conservative and patriarchal than most countries, with the country's male society upholding a more conservative and negative stance toward transgenderism. The lecture affected

Table 3. Linear mixed model analysis

Characteristics	β	95% CI		P value*
		Lower	Upper	
ATTI scale				
Intervention, after	2.821	-1.656	7.298	0.214
Gender, male	-8.118	-12.741	-3.495	0.001 [†]
Religion, yes	-3.493	-8.381	1.396	0.159
Having minority peers, yes	6.856	1.379	12.334	0.015 [†]
Previous LGBT-related education, yes	3.299	-1.585	8.183	0.183
GTS				
Intervention, after	-6.783	-15.236	1.670	0.116
Gender, male	18.917	10.195	27.638	0.000 [†]
Religion, yes	3.065	-6.129	12.259	0.513
Having minority peers, yes	-10.410	-19.371	-1.448	0.023 [†]
Previous LGBT-related education, yes	-8.841	-18.119	0.438	0.062

ATTI = Attitudes Toward Transgendered Individuals; CI = confidence interval; GTS = Genderism and Transphobia Scale; LGBT = lesbian, gay, bisexual, and transgender.

*P value by the linear mixed model (LMM).

[†]Statistical significance at $P < .05$.

the participants who had minority individuals as peers and who had previous LGBT-related education more positively. The intervention, on the other hand, did not impact the total score difference between before and after the lecture, which is possibly due to the already favorable attitude of students before the lecture. Among the participants, those with minority individuals as peers made up about 26%, and about 50% of participants had previous LGBT-related education, which may have contributed to the participants' favorable attitude in preintervention. A study that evaluated the attitude of parents and teachers toward transgender youth in the United States reported a mean score on ATTIS at 55.89 for the parents and 69.71 for teachers.²⁷ In another report by Hill,¹⁸ the GTS mean score of undergraduate and graduate students was 180.0 and 100.4, respectively. Our samples' mean score on the ATTIS and GTS was 70.65 and 86.00, respectively, indicating more positive attitudes from our samples than other studies. Braun et al³³ also reported that an elective course could lead to positive short-term changes in measures of multiple knowledge domains and reduced measures of transphobia among students in the health profession.

Most studies do not describe the mechanisms by which an elective course drives positive changes. However, it seems that knowledge about transgenderism expands as such a course improves the conceptual understanding of gender and gender incongruence, as well as the understanding of the disparity faced by transgender individuals, even though gender incongruence is no longer classified as a mental health chapters in the ICD-11 (ICD: International Classification of Diseases). These improvements seem to drive changes in attitudes ultimately. With this, efforts to increase minorities-related content in textbooks, lectures, and class discussions, as well as to develop field sites that provide students with opportunities to serve this population, may decrease transgender health care disparities.^{34,35}

Limitations

First, this study used nonrepresentative samples of medical students, as the current sample was limited to medical students who only volunteered to be part of the lecture and survey on transgender people. As mentioned, this study acknowledges the possible positive bias in the results from volunteers with favorable attitudes.

Second, because the surveys before and after the lecture were conducted anonymously without the pairing of the participants, the attitude change before and after the lecture in each individual is unknown. As the anonymous survey was conducted by group, the process of numbering individuals (matching pre/post-data) was omitted, which is considered as this study's biggest limitation.

Third, while other evaluation tools determined a transphobia scale divided into domains such as knowledge, transphobia content, attitudes, belief, and so on,^{13,32,34} this study evaluated only attitude and their change between before and after lecture using the GTS and ATTIS combined, indicating a lower value on the GTS and a higher value on ATTIS.

The lack of prior work and research on this topic limited the authors' ability to perform a more organized measurement or validation of the scales used. Despite these limitations, however, this study helps set a baseline for future research that makes use of larger samples from different population groups under a more organized study design and emphasizes the need for inclusion of transgender-specific health needs in medical school and residency curricula.

CONCLUSIONS

Although there was no significant attitude change after the lecture, those who had previous LGBT-related education showed significantly positive attitudes in the pre/postintervention surveys

than those without. With this, this study suggests how higher awareness and education in the health care of more vulnerable groups such as the LGBT should be reinforced for health professionals as well as students in the health profession.

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