

# What's Shaping Medical Student's Attitude Towards Lesbian, Gay, Bisexual, And Transgender (LGBT) Community?

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## ABSTRACT

### Background

Lesbian, Gay, Bisexual, and Transgender (LGBT) people form the basis of sexual and gender minority groups who face discrimination in their daily lives, including in healthcare facilities even though they are quite vulnerable to certain health problems. Medical student's attitudes towards the Lesbian, Gay, Bisexual, And Transgender community greatly shape the healthcare service delivery as well as service utilization by them, thus influencing their health status in the long run.

### Objective

To find out the knowledge, attitude, judgment, and experience of a medical student regarding the Lesbian, Gay, Bisexual, And Transgender community and its associated factors.

### Method

This institution-based Cross-Sectional study approved by the Institutional Ethics Committee was conducted among 216 medical undergraduates of a medical college from October 2022 to February 2023 after a pilot study. Sampling was done by Stratified Random Sampling. Data were collected anonymously by using an online questionnaire. Data were analyzed via Statistical Package for Social Sciences (SPSS) software using univariate and multivariable logistic regression.

### Result

Only 37.5% of medical students had sufficient knowledge regarding the Lesbian, Gay, Bisexual, And Transgender community (mean knowledge score  $69.26 \pm 14.6$ ). Upper socio-economic class students had a more positive judgment (p-value: 0.012) and positive experience (p-value: 0.040). The presence of personal contact made a significant difference in attitude (p-value: 0.001), judgment (p-value: 0.012), and experience (p-value < 0.001).

### Conclusion

The overall attitude of medical students regarding the Lesbian, Gay, Bisexual, And Transgender community was inadequate. Their knowledge and attitude were most positively affected by any personal contact with the Lesbian, Gay, Bisexual, And Transgender community thus peer-to-peer counseling among medical students might be helpful to shed conservative attitudes and be more open-minded.

## KEY WORDS

*Attitude, Judgment, Knowledge, LGBT, Medical students, Perception*

## INTRODUCTION

Lesbian, Gay, Bisexual, and Transgender (LGBT) people form the basis of sexual and gender minority groups. American Psychiatric Association in 1973 and WHO in 1992 removed homosexuality from the list of mental disorders and officially accepted it as a normal variant.<sup>1</sup> The Supreme Court of India on 6<sup>th</sup> September 2018 decriminalized homosexuality and on 15<sup>th</sup> April 2014, recognized Transgender as the third gender.<sup>2,3</sup>

Homosexuality is seen as taboo which can be attributed to the conservative nature of society.<sup>1</sup> People who belong to sexual and gender minorities face discrimination in their day-to-day lives including in healthcare facilities.<sup>4,5</sup> UNAIDS 2022 report Asia-Pacific region shows gay men constitute 46% and transgender women constitute nearly 11% of the total population living with HIV.<sup>6</sup> In India, few studies were showing overall positive attitudes but a large percentage had negative attitudes and inadequate knowledge.<sup>7-10</sup> Studies done outside of India show a majority ( $\geq 83.5\%$ ) of students were comfortable treating Lesbian, Gay, Bisexual, and Transgender patients and this positive attitude was most positively influenced by younger age, female gender, inclusive environment, presence of close contact with the Lesbian, Gay, Bisexual, and Transgender community and most negatively influenced by religiosity.<sup>11-19</sup>

Keeping in mind the specific healthcare needs and barriers such as discrimination, stigmatization, etc. this negative attitude toward Lesbian, Gay, Bisexual, and Transgender people if persists in medical students creates an additional barrier to providing quality care.<sup>20</sup>

Thus, this study was done to assess the knowledge, attitude, judgment, and experience of medical students regarding the Lesbian, Gay, Bisexual, and Transgender community and to identify various factors that influence them.

## METHODS

This was an institution-based observational study with a cross-sectional design. This study was conducted among 216 undergraduate medical students in a medical college in Kolkata from December 2022 to February 2023.

Using Cochran's formula, sample size,  $n = (Z^2_{\alpha/2} SD^2) / d^2$

Based on the previous study done by Wahlen et al. among the fourth-year medical students at the Faculty of Medicine at the University of Lausanne in the fall semester of 2016, the SD in the domain of attitude was the lowest, 13.6 (as no Indian studies mentioned the mean scores), Z-value at 95% confidence interval = 1.96, and precision (d) = 2, the sample size came as 178.<sup>15</sup> Over that design effect of 0.9 (as stratified random sampling is used), 30% non-response rate, and then stratification into 4 strata was applied to arrive at the final sample size of 216 (minimum 24 per strata).

Sampling was done by stratified random sampling where each of the 4 years of the MBBS professional course was taken as strata.

A participant administered a questionnaire including the following tool, socio-demographic characteristics, religiosity, year of study, presence of personal contact from the Lesbian, Gay, Bisexual, And Transgender Community, curriculum during schooling, and place of origin, which was validated by a pilot study.

The data were collected using a web-based form of the questionnaire to maintain the anonymity of the participants as because it is a sensitive issue, a direct interview may warrant a biased response. Fifty four responses from each stratum, thus a Total of 216 responses were received.

The tool used in this study was adapted from the study of Wahlen et al. with permission from the author.<sup>15</sup> This tool has 23 questions divided into 4 domains- Knowledge (3 questions), Attitude (12 questions), Judgment (4 questions), and Experience (4 questions). Response to each question was on a 5-point Likert scale of 5 (Strongly Agree) to 1 (Strongly Disagree). The total score in each domain was converted into a scale of 1 to 100.

This study was approved by the Institutional Review Committee (IRC) with ref no. MC/KOL/IEC/NON-SPON/1754/01/2023 on 7<sup>th</sup> January 2023. Informed written consent was obtained from all of the study participants

Students who gave informed written consent were considered eligible for the study.

Data were analyzed using MS Excel 2016 and Statistical Package for Social Sciences (SPSS) software version 16.0. Descriptive and inferential statistics were performed. The statistical significance level was considered as a p-value < 0.05. Along with a test of significance, a bivariate and multivariable logistic regression model was used.

## RESULTS

As per table 1 among the 216 study participants, the mean age was  $21.6 \pm 1.9$  years where most of the participants (52.3%) belonged to the age of 21 to 23. 61.6% of the participants were male and 38.4% were female. The majority of participants were Hindus (92.6%), 6.1% were Muslims, and 1.3% belonged to the other religion. Most of the participants (85.2%) belonged to the Upper socioeconomic class as per the modified BG Prasad scale 2022. Almost all of the participants (99.5%) were unmarried.

Table 1 also shows that only 29.6% of participants considered themselves non-religious, most of them (64.4%) grew up in urban areas, and 59.3% of participants had studied in central board schools during schooling. 55.1% of the participants had personal contact with the Lesbian, Gay, Bisexual, And Transgender community.

**Table 1. Characteristics of the study population (N= 216)**

Characteristics	Frequency (%)
<b>Age</b>	
18-20	64 (29.6)
21-23	113 (52.3)
24-27	39 (18.1)
<b>Sex</b>	
Male	133 (61.6)
Female	83 (38.4)
<b>Religion</b>	
Hindu	200 (92.6)
Muslim	13 (6.1)
Others	3 (1.3)
<b>Socio-economic class</b>	
Upper class	184 (85.2)
Upper-middle class	17 (7.9)
Middle class	8 (3.7)
Lower middle class	5 (2.3)
Lower class	2 (0.9)
<b>Religiosity</b>	
Religious	152 (70.4)
Non-religious	64 (29.6)
<b>Place of origin</b>	
Urban	139 (64.4)
Rural	77 (35.6)
<b>School Education Board</b>	
Central Board	128 (59.3)
State Board	88 (40.7)
<b>Year of Study</b>	
1 <sup>st</sup> year	54 (25.0)
2 <sup>nd</sup> year	54 (25.0)
3 <sup>rd</sup> year part I	54 (25.0)
3 <sup>rd</sup> year part II	54 (25.0)
<b>Personal contact from the Lesbian, Gay, Bisexual, and Transgender community</b>	
Yes	119 (55.1)
No	97 (44.9)
<b>Total</b>	<b>216 (100)</b>

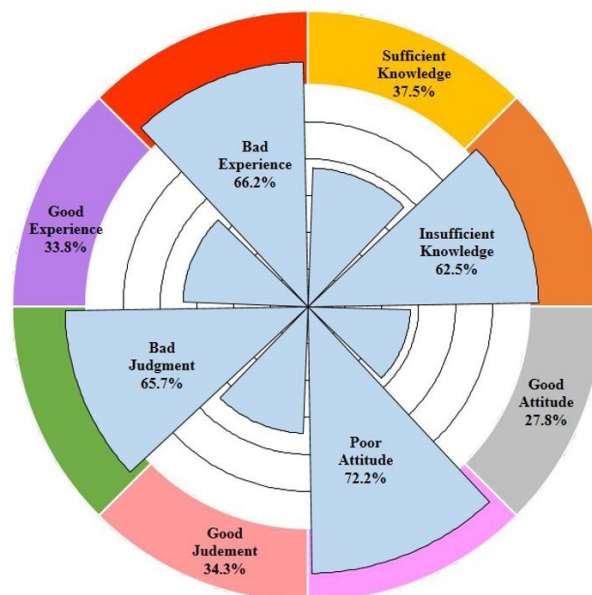
Personal contact with the Lesbian, Gay, Bisexual, and Transgender community means if the participant knows anyone who belongs to the Lesbian, Gay, Bisexual, and Transgender community.

Table 2 showing among the 216 participants the mean scores were found to be  $69.26 \pm 14.6$  for Knowledge (out of 100),  $79.89 \pm 8.42$  for Attitude (out of 100),  $70.93 \pm 13.2$  for Judgment (out of 100), and  $69.56 \pm 15.47$  for Experience (out of 100).

In figure 1 it was seen that 72.2% of medical students had a bad attitude toward the Lesbian, Gay, Bisexual, And Transgender community. In Table 3 multiple logistic regression shows students who had contacts from the

**Table 2. Domain-wise score in the study population (N= 216)**

Domains	Median (IQR)	Mean (SD)	Range (Min,Max)
Knowledge	66.67 (60,73.33)	69.26 (14.60)	73 (27, 100)
Attitude	81.67 (73.33, 86.67)	79.89 (8.42)	43 (53, 97)
Judgment	70 (68, 80)	70.93 (13.20)	70 (30, 100)
Experience	65 (60, 80)	69.56 (15.47)	70 (30, 100)



**Figure 1. Wind-Rose Chart showing domain-wise categories**

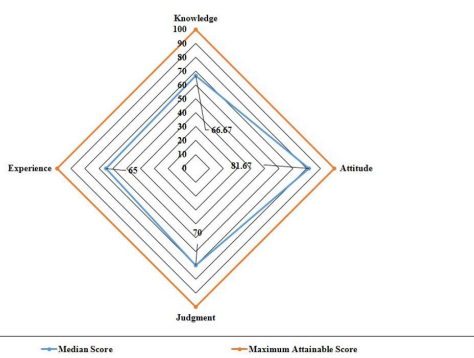
Lesbian, Gay, Bisexual, And Transgender community had 3.116 higher odds of good attitude towards Lesbian, Gay, Bisexual, And Transgender aOR (95% CI): 3.116 (1.594-6.090), p-value 0.001. The overall model is fit, Hosmer and Lemeshow test (p-value 0.127).

Figure 1 shows that 65.7% of medical students have a bad judgment toward the Lesbian, Gay, Bisexual, And Transgender community. Table 3 with multiple logistic regression model shows higher odds in the upper-class aOR (95% CI) 4.153 (1.374-12.551) p-value 0.012 and Participants with Lesbian, Gay, Bisexual, And Transgender contact aOR (95% CI) 2.850 (1.544 -5.262) p-value 0.001 to have positive judgment. The overall model was fit, Hosmer and Lemeshow test (p-value 0.334)

Figure 2 shows 33.8% of medical students shown to have good experience with the Lesbian, Gay, Bisexual, And Transgender community. In table 3 upper socio-economic class and participants with Lesbian, Gay, Bisexual, And Transgender contacts had higher odds of positive experience, aOR (95% CI) 3.556 (1.062 -11.902) p-value 0.040 and aOR (95% CI) 11.884 (5.150 -27.418) p-value < 0.001 respectively. The multivariable logistic regression model was fit with Hosmer and Lemeshow test (p-value 0.398).

**Table 3. Logistic regression for association between variables and domains (N = 216)**

Domains	Variables	uOR (95% CI)	p-value	aOR (95% CI)	p-value
Knowledge	Sex				
	Male	1.844 (1.026- 3.312)	0.041	-	-
	Female (Ref)	1	-	-	-
Attitude	Personal contact from the LGBT community				
	Yes	3.324 (1.712- 6.454)	< 0.001	3.116 (1.594- 6.090)	0.001
	No (Ref)	1	-	1	-
	Curriculum during School Education				
	Central Boards	1.899 (1.006- 3.587)	0.048	1.639 (0.850- 3.161)	0.140
	State Board (Ref)	1	-	1	-
	Cox and Snell 0.072	Nagelkerke 0.104		Hosmer and Lemeshow 0.127	
Judgment	Socio-economic class				
	Upper class	4.298 (1.446- 12.773)	0.009	4.153 (1.374- 12.551)	0.012
	Other Classes (Ref)	1	-	1	-
	Personal contact from the LGBT community				
	Yes	2.906 (1.589- 5.314)	0.001	2.850 (1.544- 5.262)	0.001
No (Ref)	1	-	1	-	
Cox and Snell 0.092	Nagelkerke 0.128		Hosmer and Lemeshow 0.334		
Experience	Religiosity				
	Religious (Ref)	1	-	1	-
	Non-religious	2.460 (1.343- 4.508)	0.004	1.467 (0.722- 2.980)	0.290
	Socio-economic class				
	Upper class	4.200 (1.413- 12.484)	0.010	3.556 (1.062- 11.902)	0.040
	Other classes (Ref)	1	-	1	-
	Curriculum during School Education				
	Central Boards	2.650 (1.430- 4.912)	0.002	1.838 (0.888- 3.807)	0.101
	State Board (Ref)	1	-	1	-
	Personal contact from the LGBT community				
Yes	13.391 (5.966- 30.055)	< 0.001	11.884 (5.150- 27.418)	< 0.001	
No (Ref)	1	-	1	-	
Cox and Snell 0.273	Nagelkerke 0.378		Hosmer and Lemeshow 0.398		



**Figure 2. Radar chart comparing domain-wise score**

**DISCUSSION**

This study was conducted to assess the knowledge, attitude, judgment, and experience of medical undergraduates regarding the Lesbian, Gay, Bisexual, and Transgender (LGBT) community. Similar studies in India, such as Banwari et al. highlighted that female students generally

possess significantly more knowledge about Lesbian, Gay, Bisexual, and Transgender issues compared to their male counterparts.<sup>8</sup> However, in our study, the opposite trend was observed, with male students demonstrating better knowledge. This discrepancy might be attributed to the lower number of female participants in our study, as reflected in the male-to-female ratio of 1.6:1. The gender imbalance could have influenced the results, underscoring the need for more gender-balanced future studies to validate these findings.

Our study revealed that the attitude of medical students toward the Lesbian, Gay, Bisexual, and Transgender community was predominantly positive to neutral, whereas their knowledge of the subject was inadequate. These findings align with studies conducted by Kar et al. and Nagrale et al. which also reported insufficient knowledge among medical students despite a relatively neutral or positive attitude.<sup>7,10</sup> The knowledge gaps in our study might stem from the societal stigma surrounding Lesbian,

Gay, Bisexual, and Transgender issues, which limits access to accurate information and open discussions. In Indian society, where Lesbian, Gay, Bisexual, and Transgender-related topics remain taboo, students often lack the resources and opportunities to gain comprehensive knowledge, which can subsequently impact their attitudes.

Studies conducted outside India, such as those by Ardman et al., Bunting et al. and Rambarran et al., emphasize the positive impact of personal contact with the Lesbian, Gay, Bisexual, and Transgender community on shaping favorable attitudes.<sup>12-14</sup> These studies suggest that direct interaction helps individuals break free from stereotypes and develop a better understanding of Lesbian, Gay, Bisexual, and Transgender-related issues. Our findings corroborate this observation, as participants with personal connections to the Lesbian, Gay, Bisexual, and Transgender community demonstrated more informed and progressive attitudes. Such interactions provide first-hand insights, fostering empathy and reducing biases. Conversely, religiosity was found to negatively influence perceptions, as conservative religious beliefs often perpetuate traditional views that stigmatize the Lesbian, Gay, Bisexual, and Transgender community. This trend was consistent with findings in the aforementioned international studies.

Interestingly, our study highlighted the influence of the education board during schooling on participants' experiences with Lesbian, Gay, Bisexual, and Transgender issues. Students educated under more inclusive central board curricula appeared to have better exposure and understanding of Lesbian, Gay, Bisexual, and Transgender-related topics. This factor, which has not been explored extensively in previous Indian studies, sheds light on the potential role of early education in shaping perceptions and attitudes.

A significant limitation of our study was the exclusion of sexual orientation as a variable, which might have been a critical determinant of participants' knowledge and attitudes. Recognizing participants' sexual orientations could provide deeper insights into their perspectives and experiences with the Lesbian, Gay, Bisexual, and Transgender community. Additionally, the exclusion of intern doctors from our study limited our ability to gain a more comprehensive understanding of the medical field's readiness to address Lesbian, Gay, Bisexual, and

Transgender health concerns. Including interns in future studies could offer a broader and more holistic perspective.

Despite these limitations, the anonymous nature of our data collection proved to be an advantage. As Lesbian, Gay, Bisexual, and Transgender issues are sensitive, anonymity encouraged participants to express honest opinions without fear of judgment, minimizing social desirability bias. Our study uniquely assessed not only knowledge but also attitudes, judgment, and experiences related to the Lesbian, Gay, Bisexual, and Transgender community, providing a multidimensional understanding of the issue. This approach could help guide future research and interventions aimed at fostering inclusivity and sensitivity among medical professionals.

## CONCLUSION

As a developing nation India is slowly inching towards a more inclusive society, health sectors should not lag but should take a step forward to create a roadmap for the future. Future medical professionals or medical undergraduates of the present will be the torchbearer of this change. Having a detailed understanding of the Lesbian, Gay, Bisexual, and Transgender community will help them in the long run as well as help the nation. As the Presence of contact from the Lesbian, Gay, Bisexual, And Transgender community comes as one of the most influential determining factors of their knowledge and attitude, the peer-to-peer discussion might help those with conservative attitudes and be more open to receiving newer ideas. Moreover, further qualitative studies need to be conducted to explain the findings of this study and to give recommendations to build a friendlier and more inclusive environment in healthcare facilities for sexual and gender minority people.

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