

## Medical Students Knowledge and Attitude towards Lesbian, Gay, Bisexual and Transgender Population

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**Abstract-** Lesbian, Gay, Bisexual, and Transgender (LGBT) populations belong to a sexual minority group. But the discrimination still exists regarding the sexual identity because the knowledge about those rights among the medical community is insufficient, the skills and techniques to provide social and psychological support are not scientific. The aim of the study was to assess the medical students' knowledge and attitude towards Lesbian, Gay, Bisexual and Transgender population. This is a cross-sectional study carried out in 2017 in a medical university student in Nepal. The total sample size for this study was 180 undergraduate medical students. The mean score of knowledge was 12.32 ( $\pm 3.7$ ), and the mean score of attitude was 73.04 ( $\pm 9.82$ ). The mean coefficient attitude score of the present study was 13.44. Female has a higher knowledge of LGBT than male. Those who exposed to teachers have higher knowledge than friends and others. Similarly, internship medical students have a better attitude towards LGBTQ than other students. Knowledge and attitude found highly correlated in this study. Positive attitude can be enhanced by making the medical students learn about homosexuality related health issues by adding these issues in their courses or curriculum. This may help to reduce prejudice and discrimination in clinical settings.ing.

**Keywords:** Attitude, Knowledge, Medical Students, LGBT, Nepal

### I. INTRODUCTION

The lesbian, gay, bisexual, and transgender (LGBT) population is a sexual minority group. All discriminations, oppressions, and biases have been abolished in this globalized world. Despite social changes and even shifting laws in support of women's and LGBT community rights, both minorities continue to face severe discrimination and prejudice in Nepal. [1].

Lesbian, gay, bisexual and transgender (LGBT) adolescents are vulnerable to poor health and social outcomes because of marginalization, stigma and normative pressure against sexual and gender minorities [2].

The LGBT people has distinct physical, social, and medical health care needs. Health care professionals, such as physicians, nurses, and health technicians, have racial attitudes toward minorities. As a result, they appear to delay seeking medical advice [3].

Everyone has the same access to health care and facilities. New health-care systems and facilities have been enhanced with miraculous results. However, even in countries where LGBT people's rights are secured, such as Nepal, this progress and achievement in the health sector has had no impact on the LGBT population. This is because the

medical community's aggressive and dismissive views still remain. As a result, the LGBT community is afraid of being judged and denied access to health care [1].

Individuals who are gay, lesbian, bisexual, or transgender face particular health challenges. Since they are aware of their sexual identity, they tend to conceal their health problems, especially sexual diseases [1]. In addition, there are no homosexuality-related topics covered in medical school. As a result, they are unaware of sexual orientations [3] When working with patients, sexual orientations are rarely mentioned. As a result, the health needs of sexual minorities are underserved [4].

Health care providers or medical communities need to be trained and educated about sexual orientations and they need to be trained about their health needs and facilities [1]. This is to address the actual oppression they are facing while accessing health care facilities and to promote non-discriminatory approach in every field [1]. In the study done in India, about 56.53 percent of people have a negative attitude. Those having inadequate knowledge also have a more homophobic attitude towards LGBT [3].

Heterosexuality is a norm and minority groups (LGBT) are subjected to group stereotypes [5]. LGBT people face

barriers to equitable health care that profoundly affect their overall wellbeing [1].

Discrimination against Lesbian and gay men has been recognized as possible obstacles in the patient-physician relationship. An increased incidence of depression, suicide, and other mental health problems has been reported as well as a higher risk of cardiovascular risk and lower immunity [5].

Sexual orientation or homosexuality related issue requires in-depth study. This subject needs to be added in the medical curriculum because increasing the awareness about the non-discriminatory health care approach in providing social and psychological support helps increasing positivity towards those individuals and make the health implications friendly and better. Health departments including health care centers and pharmacies need to have manuals on providing friendly services to LGBT people [1].

Medical Students knowledge and attitude towards homosexuals is of great importance as the young ones are more prone to change and could be better promoters of anti-stigma programs[6].The study aimed to assess medical students' knowledge and attitude towards LGBT people.

## II. METHODOLOGY

This is a cross-sectional study carried among undergraduate Medical Students of Kathmandu University School of Medical Sciences (KUSUM), Dhulikhel, Nepal. KUSMS is running Bachelor in Medicine and Bachelor in Surgery since 2001. There are a total of 8 semesters in Bachelor in Medicine Bachelor in Surgery (MBBS program, where they are clinically exposed from the second half semesters only. This study included undergraduate 7th, 9th semester, and interns (MBBS) of KUSMS (i.e. who had been clinically exposed). In total there were a total of 230 eligible target students for this study. We tried to cover all the students.

together 180 students participated in this study. A self-administered questionnaire was used for data collection. The questionnaire consisted of three parts 1. Socio-demographic, 2. knowledge and 3. attitude. The socio-demographic questionnaire consisted of age, gender, year of medical schooling, religion, previous exposure with LGBT, sexual orientation.

Knowledge about LGBT: It is a questionnaire developed using the compilation of 25 true/false statements developed from the India study.<sup>4</sup>The instrument was found to have a Cronbach's alpha of 0.724 in the Indian study. In the present study, we found the satisfactory internal consistency Cronbach's alpha was 0.768.

Attitude towards LGBT: It contains 20 statements regarding homosexuals, their lifestyle, and their social position and is scored by the participants on a 5-grade Likert type scale ranging from 1 ("Strongly agree) to 5 (Strongly disagree). It was already used in India by Banwari et al (2015) which has internal consistency Cronbach's alpha of 0.810 [6]. In the present study, its Cronbach's alpha was 0.867.

Permission for this study was obtained from KUSUM. Data was analyzed using SPSS 21 software. Descriptive statistics mean, standard deviation and percentage was used.

## III. RESULTS

Table 1: Socio-demographic information of the respondents, n = 180

Characteristics	Frequency	Percentage
Gender		
Male	108	60.0
Female	72	40.0
Sexual orientation		
Heterosexual	178	98.9
Prefer not to answer	2	1.1
Religion		
Hindu	165	91.7
Buddhist	10	5.6
Others	5	2.8
Ethnic group		
Brahmin/Chhetri	129	71.6
Janajati	45	25.0
Madhesi	6	3.3
Year of medical schooling		
Seventh Semester	65	36.1
Ninth Semester	68	37.8
Internship	47	26.1
Exposure with LGBT		
Teacher	12	6.7
Friend	27	15.0
No One	141	78.3

Table 1 displays the socio-demographic information of respondents, where more than half of the respondents (60%) were male, the majority of the respondents (98.9%) were heterosexual where few of them (1.1%) did not prefer to answer. The majority of the participants were Hindus (91.7) follows by Buddhists (5.6%) and only a few (1.1) were Islam. Nearly 3/4th of the respondents (71.6%) were Brahmin/Chhetri whereas, 1/4th of them were Janajati, and only a few (3.3%) were Madhesi. The highest percentage of participants were from the ninth semester (37.8%) followed by the 7th semester (36.1%) and interns were (26.1%). The majority of the respondents (78.35%) were not exposed to no one, those who had exposed with friends were (15%) and only a few were exposed with the teacher (6.7%).

Table 2: Knowledge regarding LGBT with frequency and percentage correctness, n=180

SN	Statement	Frequency	Percentage
1.	Sex and gender have the same meaning	128	71.1
2.	Sexual orientation is usually well-established by adolescence	110	61.1
3.	The homosexuals usually disclose their sexual identity to a friend before	108	60

4.	they tell a parent The homosexual person's gender identity does not agree with his/her biological parents	47	26.1
5.	Testosterone is the hormone responsible for the growth of pubic hair on girls	113	62.8
6.	Boys breast typically grow during puberty	62	34.4
7.	In the world the most common mode of transmission of HIV is through gay male sex.	69	38.3
8.	Gay men and lesbian women have increased incidence of anxiety and depression	114	63.3
9.	Heterosexual men and women commonly report homosexual fantasies	41	22.8
10.	Most homosexuals want to encourage or entice others into a homosexual or gay life style	73	40.6
11.	If children are raised by homosexual, the likelihood that they themselves will develop homosexual orientation is greater	78	43.3
12.	Homosexuals are usually identifiable by their appearance or mannerisms	88	48.9
13.	About one-half of the population of men and more than one-third of women have had a homosexual experience at a time in their lives	34	18.9
14.	Homosexuality does not occur among animals	83	46.1
15.	Bisexuals will eventually "come out" as homosexuals	26	14.4
16.	Bisexual behaviour is just a cry for attention	111	61.7
17.	In order to be considered transgender, a person must have undergone a reassignment surgery	81	45.0
18.	Transgender women are usually attracted to male genitals	49	27.2
19.	LGBT patients do not seek medical treatment because of fear of discrimination	125	69.4
20.	Homosexual women always dress and act in masculine way.	90	50.0
21.	Most health care providers automatically make the assumption that their patient is heterosexual	125	69.4
22.	LGBT patient may present with signs of depression due to lack of social acceptance	141	78.3
23.	Lesbian patient do not need Pap smears as frequently as heterosexual women	102	56.7
24.	LGBT people do not make good role models for children and could do Psychological harm.	131	72.8
25.	LGBT people are less likely than heterosexual people to be in long-term monogamous relationship	90	50

Table 2 shows the details of each of the questionnaire included to assess the knowledge level and percentage of correct answers of each questions. The Mean and Standard deviation of the respondents on the Knowledge regarding LGBT was  $12.32 \pm 3.70$ . As the knowledge level ranged from 0 to 25.

The highest correct response was for the statement, "LGBT patient may present with signs of depression due to lack of social acceptance which is 78.3%. Also the statement, "LGBT people do not make good role models for children and could do Psychological harm to children with whom they interact as well as interfere with normal sexual development of children has the percentage correctness of 72.85%. The positive statement, "Sex and gender have the same meaning," has the percentage correctness of 71.1%.

Also, less than 3/4<sup>th</sup> of the respondents gave correct response to the statement, "LGBT patients do not seek medical treatment because of fear of discrimination."

However, the lowest correct response (14.4%) was for the statement, "Bisexuals will eventually 'come out' as homosexuals". Similarly, only 18.9% of the respondents gave correct response for the statement, "About one-half of the population of men and more than one-third of women have had a homosexual experience to the point of orgasm at some time in their lives." The statement, "Heterosexual men and women commonly report a homosexual fantasy has the percentage correctness of only 22.8. Similarly, the Statement, "Transgender women are usually attracted to male genitals" is responded correctly by only 27.2 percentages of respondents (Table 2).

Table 3: The Attitude towards Homosexuals Questionnaire with respective mean values and Standard deviation, n=180

S.No	Statement	Mean $\pm$ SD
1.	Many gay men use their sexual orientation so that they can obtain special privileges.	2.98 $\pm$ 1.32
2.	LGBT people still need to protest for equal rights.	4.41 $\pm$ 0.79
3.	Homosexuals should be allowed to marry.	4.19 $\pm$ 1.09
4.	Homosexual couples should be allowed to adopt children just like heterosexual couples.	4.13 $\pm$ 1.08
5.	If a man has homosexual feelings, he should do everything he can do to overcome them	3.31 $\pm$ 1.27
6.	In today's tough economic times, tax money shouldn't be used to support LGBT organizations.	3.47 $\pm$ 1.24
7.	I think male homosexuals are disgusting.	3.85 $\pm$ 1.13
8.	I would not be too upset, if I learned that my child was homosexual.	3.02 $\pm$ 1.20

9.	LGBT should have equal opportunity of employment.	4.46±0.89
10.	Homosexuality is merely a different kind of lifestyle that should not be condemned or made guilty of.	4.14±1.08
11.	Bisexuality is a natural expression of sexuality in males and females.	3.75±1.12
12.	Bisexual people are not capable of monogamy.	3.38±1.02
13.	A person who feels that their sex (male or female) does not match their gender identity (masculine or feminine) is just a plain wrong.	3.40±1.15
14.	I would get angry if a bisexual person made sexual advances towards me.	2.62±1.21
15.	Having sex with both male and females is just a plain wrong.	3.19±1.10
16.	I would be upset, if someone I'd known for a long time revealed that they used to be another gender.	3.06±1.18
17.	I would be comfortable working for a company that welcomes transgender individuals.	3.86±1.09
18.	A person who is not sure of about being male or female is mentally ill.	3.84±1.19
19.	If a transgender person identifies as female, she should have right to marry a man.	3.51±1.04
20.	Transgender individuals are valuable human beings regardless of how I feel about transgender.	4.46±0.97

Mean±SD=(73.04±9.82), Mean variance = 13.44

Table 3 shows the details of each of the questionnaire included to assess the attitude level of each questions. Its total score ranges from 20 to 100. Mean score of attitude score was 73.04±9.82. Negative attitudes towards homosexuals were most reflected on statements like “I would get angry if a bisexual person made sexual advances towards me” with a mean score of 2.62 and with the statement like “Many gay men use their sexual orientation so that they can obtain special privileges” with the mean score of 2.98. The negative statement like “I think male homosexuals are disgusting” and the statement, “A person who is not sure of being male or female is mentally ill” have the mean score of 3.85 and 3.84 respectively

Also, the statement, “I would not be too upset if I learned that my child was homosexual had more negative attitude with mean score of 3.02 followed by another statement “If the transgender person identifies as female, she should have right to marry a man” had the mean score of 3.84. The positive statement “LGBT should have equal opportunity of employment” and the statement “Transgender individuals are valuable human beings regardless of how I feel about transgender” has same mean attitude score of 4.46 respectively. Also, the mean attitude score of the statement “LGBT people still need to protest for equal rights” has the more positive mean attitude score of 4.41.

Table 4: Pears correlation between socio-demographic variables and mean knowledge score LGBT. n=180

Characteristics	Mean knowledge score(IQR)	p-value of correlation
1. Gender		0.010
Male	10.9	
Female	13.2	
2. Sexual orientation		0.389
Heterosexual	12.2	
Do not prefer to answer	12.4	
3. Religion		0.063
Hindu	11.5	
Buddhist	13.1	
Others	13.0	
4. Ethnic group		0.257
Brahmin/chhetri	12.1	
Janajati	12.3	
Madhesi	12.4	
5. Year of medical schooling		0.052
7 <sup>th</sup> Semester	11.0	
9 <sup>th</sup> Semester	14.0	
Internship	12.3	
6. Exposure with LGBT		0.020
Teacher	15.0	
Friend	13.5	
No one	10.5	

Table 4 displays the relationship between knowledge and socio-demographic variables. Regarding Gender, the mean knowledge score of female was higher 13.2 than the mean knowledge score of male i.e. 10.9. This difference was statistically significant (p= 0.010).

Likewise, the mean knowledge score of those who were heterosexual was 12.4 which was higher than those who

didn't prefer to answer with the mean knowledge score of 12.2. Their difference was not statistically significant (p=0.389).

With regard to religion, Buddhist had higher mean knowledge (13.1) than Hindu (11.5) The difference was not statistically significant (p=0.063). Regarding ethnic group, Madhesi had higher mean knowledge score than Janajati and Bhramin/Chhetri. Their difference was not statistically

significant ( $p=0.257$ ). Similarly, the mean knowledge score of 9<sup>th</sup> semester was 14.0 which was higher than interns with the mean knowledge score of 12.3 followed by the mean knowledge score of 7<sup>th</sup> semester i.e.11.0. And their difference was not statistically significant ( $p=0.052$ )

Likewise, those who were exposed with teachers had mean score of 15.0 which is higher than the mean score of those who were exposed to friend 13.5 followed by those who had not been exposed to any LGBT people (10.2). This difference was statistically significant ( $p=0.020$ ).

Table 5: Association between socio-demographic variables and attitude regarding LGBT. n=180

S.No.	Characteristics	Mean Attitude score	f-value	p-value
1.	Religion		0.984	0.402
	Hindu	73.4		
	Buddhist	70.7		
	Christian	65		
2.	Muslim	70	0.937	0.458
	Ethnic group			
	Bhramin/Chhetri	72.3		
3.	Janajati	75.3	3.497	0.032
	Madhesi	72.2		
	Year of medical schooling			
	7 <sup>th</sup> semester	71.8		
4.	9 <sup>th</sup> Semester	72.0	0.616	0.541
	Internship	76.1		
	Exposure with LGBT			
	Teacher	73.1		
	Friend	73.4		
	No one	73.2		

Table 5 shows the association between socio-demographic variables and attitude score. Females were found to have a more positive attitude than males. The mean attitude of female ( $76.76 \pm 9.57$ ) was significantly higher than mean attitude of male ( $70.56 \pm 9.23$ ) and their difference was statistically significant ( $p=0.001$ ). The mean attitude score of heterosexual ( $73.04 \pm 9.9$ ) was slightly high than those who didn't prefer to answer ( $73 \pm 2.4$ ), ( $p=0.995$ ). So their difference didn't reflect significantly with each other. The mean attitude of Hindu ( $73.4 \pm 9.7$ ) was significantly higher than mean attitude of Christian ( $65 \pm 3.5$ ), ( $p < 0.402$ ). Hindu religion was found to have more positive attitude whereas Christian had more negative attitude towards LGBT and the mean attitude score was not statistically significant.

The mean knowledge score of Interns was ( $76.1 \pm 10.2$ ) which was higher than 9<sup>th</sup> semester with mean score of ( $72.0 \pm 8.9$ ) and mean score of 7<sup>th</sup> Semester ( $71.8 \pm 9.9$ ). The difference was statistically significant ( $p < 0.032$ ).

Further the relation between knowledge and attitude among medical students shows there was strong relation between knowledge and attitude towards LGBT ( $p < 0.001$ ) with Correlation Coefficient 0.658.

#### IV. DISCUSSION

Lesbian, Gay, Bisexual, and Transgender (LGBT) populations belong to sexual minority groups. Very few studies focused on these issues in Nepal. So far in our knowledge, there is no study carried out focusing the medical students' knowledge and attitude towards LGBT in Nepal.

*Knowledge towards LGBT:* This study found the mean knowledge score of knowledge of LGBT was 12.32 this knowledge was slightly lower than median knowledge of 12.5. So, this knowledge score is considered low among Nepalese medical students when compared with the study carried out in other countries [4].

In the present study, More than half of the respondents (60%) had given correct response to the statement that, "homosexuals usually disclose their sexual identity to a friend before they tell a parent," which was less than the study done in Belgrade, Serbia which revealed 84.20% and the research that was done in India, Ahmadabad with the percentage correctness of 72.5% for the same statement [3, 4].

In the present study, almost (3/4<sup>th</sup>) 71.1% had correctly responded to the statement sex and gender had the same meaning which is slightly lower than to the study done in Illinois Wesleyan University where the majority of the respondents (79.3%) had given correct response for the same statement [7]. This could be because of lack of good sexual education system in our country.

In this study, 18% gave the correct answer to the statement about one-half of the population of men and more than one-third of women have had a homosexual experience to the point of orgasm at some time in their lives which was higher than the study done in Serbia, Belgrade where the percentage correctness is only 10.70% [4].

Concerning the statement, "transgender women were usually attracted to male genitals," About 27.2% of the respondents gave the correct answer in the present study, which was lower than the study done in Illinois Wesleyan University (2013), where the majority of the respondents (94.8%) gave correct answer on the same statement. This could be because of lack of knowledge related to transgender [7].

Likewise, regarding the Statement, "LGBT people do not make good role models for children and could do Psychological harm to children with whom they interact as well as interfere with the normal sexual development of children," about 3/4<sup>th</sup> (72.8%) of the respondents have given a correct answer which is higher than the outcome of the study done in Serbia, Belgrade where the correct response to the statement was less than half of the respondents i.e. (41.2%) [4,8].

*Attitude towards LGBT:*

The mean coefficient attitude score of the present study was 13.44. This score is low when compared with other studies [4,8]. It shows Nepalese students' attitude score towards LGBT is poor.

In the present study, the mean attitude score for the statement, "I would get angry if a bisexual person made sexual advances towards me" was  $2.62 \pm 1.21$  which was similar to the study done in Eastern Michigan University with the mean score of  $2.68 \pm 1.25$  [8].

Response to the attitudinal statement, "Many gay men use their sexual orientation so that they can obtain special privileges" had a mean score of  $2.98 \pm 1.32$  which was lower than the study conducted in Belgrade, Serbia, with the mean score of  $3.29 \pm 1.27$  [4].

Likewise, the mean score for the Statement, "I think male homosexuals are disgusting" is  $3.85 \pm 1.13$ , which was higher than the study done in Ahmadabad India, with a mean score of  $2.72 \pm 0.99$ ,<sup>4</sup> and the study done in Belgrade India, with the mean score of  $2.59 \pm 1.36$  [4].

In the present study, the statement, "A person who is not sure of about being male or female is mentally ill has mean score of  $3.84 \pm 1.19$ , which was similar to the a mean score of the study done in California State University i.e.  $3.81 \pm 1.16$  [9].

In the study done in Los Angeles, USA, the attitude score for the statement, "Transgender individuals are valuable human beings regardless of how I feel about transgender is  $2.24 \pm 1.2$  [9] Whereas the mean attitude score for the same statement was  $4.46 \pm 0.97$  in the present study [10].

#### *Relation of socio-demographic variables and knowledge of LGBT*

This study found women had a higher mean score of knowledge than men. The finding was similar to the cross-sectional study done in Ahmadabad, India [3]. This finding was also supported by the research done in Belgrade Serbia [4].

There was no significant relationship between Knowledge and sexual orientation, which is similar to the study done in Zagreb Croatia [5]. The finding was consistent with the study done at Illinois Wesleyan University, USA [7]. There was no association between religion and knowledge level in this study. This finding was in contrast to the study done in Ahmadabad, India [3]. However, the difference was supported by the study done in Belgrade Serbia [4].

In the present study, there was a significant association between Knowledge and year of Medical schooling. This result was in contrast to the study carried out in Ahmadabad India [3]. In the present study, there was a significant relation between Knowledge with exposure of LGBT. This outcome supported by the study done in Zagreb, Croatia [5]. This relation was consistent with the study done at Ohio State University [11]. A study shown

that medical student attitude was favorable towards LGBT people but need to impart some knowledge of LGBT [12].

#### *Relation of socio-demographic variables and Attitude of LGBT*

This study found there was a significant difference between gender and attitude towards LGBT. This finding supported by the research conducted in India and Serbia [3, 4]. Further, year of medical schooling and positive attitude towards LGBT is also supported by India's study [3]. But it is not supported by Serbian study [4]. A study done in Italy, displayed moderately positive attitudes towards the LGBT among the Italian nurses [13].

#### **LIMITATION**

Nepal, being a culturally and sexually conservative country, where respondents may feel less comfortable in expressing their views on sexuality related issues. They might not have been open with all the questionnaires.

#### **IMPLICATION**

This study to assess knowledge and attitude towards Lesbian, gay, bisexual, and transgender among medical students is conducted for the first time in this area. Hence, it could provide help for further research to those conducting future research. The study might be useful for planning new intervention or education for LGBT.

#### **RECOMMENDATION**

Inclusion of sexuality, gender issues and LGBT patients' health needs in the medical curriculum to spread awareness regarding LGBT issues is the positive first step to combat negative attitude and reduce prejudice faced by LGBT patients.

## **V. CONCLUSION**

The result emphasized that nearly half of the respondents have knowledge score less than mean value. The result shows that more than half of the respondents have attitude score less than mean value. There is a significant relation between Knowledge and Socio-demographic variables (gender and exposure with LGBT). There is significant association between attitude and socio-demographic variables (gender and year of medical schooling)

#### **Competing interests**

The authors declare that they have no competing interests. There are no financial and/or personal relationships between the authors and others that might bias the work.

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## AUTHOR PROFILE

Mrs. Radha Acharya Pandey is the Associate Professor of Kathmandu University. She is the preceptor of Master of Nursing (Medical Surgical Nursing) students. She completed master in adult nursing. She has more than ten journal article publication in national and international journal.



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## List of abbreviation

BDS: Blue diamond society  
 HIV: Human immune deficiency virus  
 ICCPR: International Covenant on Civil and political rights  
 ICESCR: International Covenant on economic, social and cultural rights  
 KUSMS: Kathmandu University School of Medical Sciences  
 LGBT: Lesbian, Gay, Bisexual, Transgender  
 MBBS: Bachelor of Medicine and Bachelor of surgery  
 UNDP: United nation development program