

A CROSS-SECTIONAL STUDY TO COMPARE THE ATTITUDE TOWARDS HOMOSEXUALITY AMONG ENGINEERING & MEDICAL UNDERGRADUATES OF TWO PRIVATE INSTITUTIONS IN TAMIL NADU

Mahendran C¹, Sakthivel M²

¹Associate Professor, Department of Community Medicine, Arunai Medical College & Hospital, Tiruvannamalai, India.

²Senior Resident, Department of Community Medicine, Meenakshi Medical College Hospital & Research Institute, Meenakshi Academy of Higher Education and Research, India.

Received : 20/02/2024
Received in revised form : 15/03/2024
Accepted : 02/04/2024

Keywords:
Homosexuality, Undergraduates,
Engineering, Medical.

Corresponding Author:
Dr. Sakthivel M,
Email: drsakthivel96@gmail.com.

DOI: 10.47009/jamp.2024.6.2.149

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2024; 6 (2); 712-716



Abstract

Background: Students play a pivotal role in shaping the future of India and their negative attitude towards a certain community can affect the development of the nation. Teamwork is very much salient for engineering graduates and such negative attitude can affect their harmony with their Homosexual colleagues. On the other hand, many studies reveal that homosexual patients experience discrimination, stigmatization, and even denial of care in the health system. The negative attitude of the health care providers may lead to increased suffering of homosexuals who are already tormented making it significant public health problem. There are over 10 crore Homosexuals in India contributing to significant manpower. Hence this study was done to compare the Attitude towards Homosexuality among Engineering & Medical undergraduates of two Private institutions in Tamil Nadu. **Material and Methods:** Total of 702 undergraduates participated in this cross-sectional study. Convenience sampling was done. After getting consent a validated Questionnaire was administered through google forms only to participants above 18 years of age and who are heterosexuals. The data obtained was entered in Microsoft excel and results were analyzed using SPSS version 25. **Results:** Out of 702 participants 379(54%) were medical undergraduates & 323(46%) were Engineering undergraduates. Nearly half of the participants 315(45%) had negative attitude towards homosexuality. Among them many 200(63%) were medical undergraduates. Male gender, undergraduates from rural background, non-co-educational schools, being dogmatic of their religion & being unaware of the legalization, having prior sexual experience and neglecting gender equity are found to have negative attitude towards homosexuality. **Conclusion:** This study reveals an alarming finding that negative attitude towards homosexuality was more among medical undergraduates compared to engineering undergraduates. If this attitude is not addressed, this may interfere with the patient care which can affect the health and well-being of the Homosexuals.

INTRODUCTION

A persistent pattern of emotional, romantic, and/or sexual attraction to either men or women, or both sexes, is referred to as sexual orientation.^[1] These desires often fall under the categories of heterosexuality, homosexuality, and bisexuality, with asexuality (the absence of sexual desire for others) occasionally being listed as the fourth.^[2] Sexual propensity or conduct toward one's own sex or gender is termed as homosexuality whereas sexual desire / attraction towards opposite sex is explained as heterosexuality.^[3,4]

The year 1975 has an historical importance in the field of research in sexual behaviours.

As a result of absence of scientific research prior to 1975 the world and the psychological community mutually agreed that homosexuality was a disease. The consensus at the time reflected the dominant belief of the greater culture.^[5] But in 1975, the American Psychological Association removed homosexuality from the Diagnostic and Statistical Manual and advocated the mental health professionals to work on the ways to remove the stigma associated with it.^[5] After 43 long years of

removing homosexuality from the domain of morbidity, the Supreme court of India legalised Homosexuality on 6th September 2018.^[6]

Even though the fact that “Homosexuality is not a disorder” is well established, homophobia and Homonegativity still persists across all ages in the world at varied proportions.

Homonegativity and homophobia are the two terms often used by various researchers to express negative attitude towards homosexuality.^[7] Although it has been suggested that this negative attitude is linked to strict moralistic beliefs, sexual ignorance, and fear of homosexuality, the exact cause of these attitudes and behaviours is still unknown.^[8]

Alex Newton a programme manager at Stonewall said “We find schools have high levels of casual homophobic language, and high rates of homophobic bullying”.^[9] Indian schools are no way different and students tend to use gay names to humiliate and degrade one another.^[10] India being a traditional socio-centric country, homosexuals continue to be victims of violence in a variety of ways.^[11] On the other hand, homosexuals in India have increased from a dispersed group of a few hundred to a population that now numbers 10 crore and is still growing as more and more of these individuals started expressing their sexual orientation.^[11]

With increase in people opening up their sexual orientation, there is higher chance that they get humiliated, bullied and rejected. As a result anxiety, depression, and suicidal tendencies amongst them increases.^[12,13] This prejudice and discrimination against homosexuals still exist in general, and in academic institutions in particular.^[5] Students play a pivotal role in shaping the future of India and their negative attitude towards a certain group of people can affect the development of the nation. Majority of the Indian students who pass out from schools prefer Engineering or Medicine as their carrier preference.

Engineering students are exposed to sexual education in a minimal extent. Lower level of knowledge may result in negative attitude. Studies done internationally has revealed the same.^[14,15,16] Teamwork is very much salient for engineering graduates and such negative attitude can affect their harmony with their Homosexual colleagues.

The undergraduate students of the medical college are the future of the medical fraternity, who is going to take care of the special needs of the homosexuals. Studies show that, compared to the general population, homosexuals have a higher risk of substance abuse, STDs, cancer, cardiovascular disease, obesity.^[12,17] There has been a rise in evidence stating that the health care professionals are not properly trained in addressing the problems faced by this community.^[12] Homosexuals experience alarmingly high rates of health care discrimination, which can range from harassment and humiliation to being turned away by hospitals

and doctors.^[18,19] Studies done globally prove that a significant proportion of Health care professionals and medical students are homonegative.^[20,21,22,23]

There are limited literatures available to assess the attitude of the undergraduate students towards Homosexuals in India, especially in the southern region. But this topic really needs to be addressed since it has implications in the physical and mental health of this sexual minority.

Hence through this study we have made an effort to compare the Attitude towards Homosexuality between Engineering & Medical undergraduates of two Private institutions in Tamil Nadu and explore the factors associated with their attitude.

MATERIALS AND METHODS

This Cross-sectional study was conducted among Engineering & Medical undergraduates of two private institutions located in Kanchipuram district of Tamil Nadu during the months of July & August 2022.

Undergraduate students of both the institutions who were above 18 years, who consented and expressed their sexual orientation as Heterosexuals were included in the study. Undergraduate students aged less than 18 years as well as who expressed their sexual orientation as Homosexual, Bisexual, Asexual and Non willing students along with Interns and Trainees were excluded from the study.

Assuming 50% of the undergraduates had positive attitude towards homosexuality, an absolute precision of 5% and non 10% non-response rate, the sample size was calculated using the formula $n = Z\alpha^2pq/d^2$. Minimum sample size calculated for this study was 440. We used Convenience sampling to select the study participants.

After getting informed consent from the participants, data was collected by an online survey using google forms. Online survey was done rather than face to face interview as the participant can answer the questions without any fear of being judged.

For data collection, a semi structured questionnaire along with a validated scale - Attitudes toward Homosexuality scale for Indians (AHSI) developed by Kanika K. Ahuja et al was used. The instrument was found to have a Cronbach's alpha of 0.970.^[24] The scale had 20 statements (10 Positive phrases & 10 Negative phrases) regarding homosexuals, their lifestyle, and their social position. It is scored by the participants on a 5-grade Likert type scale ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

Some items require an inverse scoring. The scores of this scale ranges from 20–100, a higher score indicates the participants positive attitude towards homosexuals and vice versa.

The data was coded and entered in computer using Microsoft Excel and analysed using Statistical Package for Social Sciences (SPSS) v 25.0.

Univariate analysis was done using mean, median and standard deviation to analyse appropriate continuous variables. Bivariate analysis was done using Chi square test and categorical variables were expressed in terms of percentage. "p-value" of less than 0.05 was considered statistically significant for statistical analysis.

RESULTS

Out of 702 participants 379 (54%) were Medical undergraduates & 323 (46%) were Engineering undergraduates. More than half of them were females (57%) and had a conservative family background 406 (58%). Majority of them were Hindus by religion 596 (85%), were from urban background 482 (69%), have passed out of a Co-educational school 574 (82%), had no prior sexual experience 610 (87%), felt that Gender equity is important 657 (94%) and were aware of the legalisation of Homosexuality in India 445 (63%). Nearly half of the study participants were dogmatic (strong believer) of their religion 313 (45%). The developers of the scale has not advised any cut off values for categorisation hence the median value of the total score of the participants (Median = 76) was used to categorise the participants. Nearly half of the participants 315(45%) had negative attitude towards homosexuality. Majority of undergraduates pursuing medicine 200 (53%) are found to have negative attitude towards homosexuality when

compared to the engineering undergraduates 115 (36%). [Figure 1]

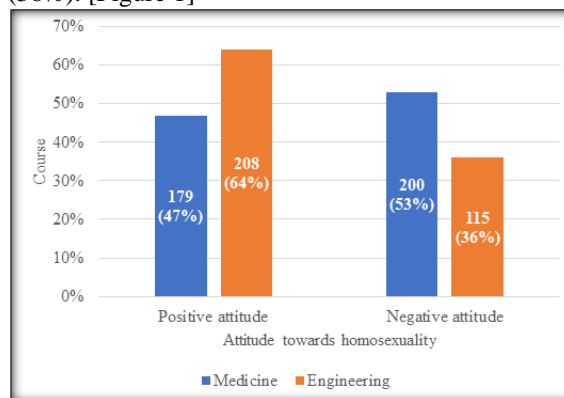


Figure 1: Attitude towards Homosexuality

Majority of the undergraduates who were pursuing Engineering 208 (64%), Females 259 (65%), Hindus 353 (59%), non-Dogmatic of their Religion 141 (71%), hailing from Urban areas 309 (64%), passed out off a Co-educational school 338 (59%), had no Prior Sexual experience 348 (57%), felt Gender Equity was important 380 (58%) and were aware of the legalization of Homosexuality in India 299 (67%) had Positive attitude towards homosexuality when compared to their counterparts. This association was statistically significant at p value < 0.05.

We did not find any association between year of study, family background and the participant's attitude towards homosexuality. [Table 1]

Table 1: Factors associated with attitude of the study participants towards Homosexuality

S.NO	Variables	n	Negative attitude	Positive attitude	x ²	p value	
1	Course	Medicine	379	200 (53%)	179 (47%)	20.775	0.000*
		Engineering	323	115 (36%)	208 (64%)		
2	Sex	Males	304	176 (58%)	128 (42%)	36.762	0.000*
		Females	398	139 (35%)	259 (65%)		
3	Religion	Hindus	596	243 (41%)	353 (59%)	26.822	0.000*
		Others	106	72 (68%)	34 (32%)		
4	Religious dogmatism	No	200	59 (29%)	141 (71%)	37.081	0.000*
		Yes	313	177 (57%)	136 (43%)		
5	Residence	Rural	220	142 (64%)	78 (35%)	50.134	0.000*
		Urban	482	173 (36%)	309 (64%)		
6	Schooling	Co Education	574	236 (41%)	338 (59%)	17.961	0.000*
		Non Co education	128	79 (62%)	49 (38%)		
7	Designation	1 st year	202	90 (45%)	112 (55%)	7.655	0.054 (ns)
		2 nd year	240	111 (46%)	129 (54%)		
		3 rd year	176	67 (38%)	109 (62%)		
		4 th year	84	47 (56%)	37 (44%)		
8	Sexual experience	No	610	262 (43%)	348 (57%)	6.943	0.008*
		Yes	92	53 (58%)	39 (42%)		
9	Family background	Conservative	406	189 (47%)	217 (53%)	1.099	0.295 (ns)
		Liberal	296	126 (43%)	170 (57%)		
10	Gender equity is important	No	45	38 (84%)	7 (16%)	30.439	0.000*
		Yes	657	277 (42%)	380 (58%)		
11	Homosexuality is legal in India	No	102	70 (69%)	32 (31%)	72.064	0.000*
		Yes	445	146 (33%)	299 (67%)		
		Don't know	155	99 (64%)	56 (36%)		

*Statistically significant, (ns) – Not statistically significant.

DISCUSSION

This study was done in the view to compare the attitudes of Engineering & Medical undergraduates of 2 private institutions situated in Kanchipuram district of Tamil Nadu. Research works on Attitude towards Homosexuality is a rarely touched topic among undergraduates in India especially in the state of Tamil Nadu.

Out of 702 undergraduates in the study, more than half of them had positive attitude 387 (55%) and nearly half of them 315(45%) had negative attitude towards homosexuality. Majority of Engineering Undergraduates 208 (64%) had positive attitude when compared with those pursuing Medicine 179 (47%).

Even though homosexuality is physiological and cannot be considered or treated as a morbidity, it has several health implications. Men who engage in sexual activity with other men are at a higher chance of getting AIDS, and other STDs like Syphilis, Gonorrhoea, Hepatitis A & B and HPV infections.^[25] On the other hand NGOs like Queerhythm&Disha had filed complaints against some of the famous Medical books stating their Homophobic references.^[26] So, being aware of the possible adverse consequences of homosexuality and being misguided may be the reason for majority of Medical undergraduates having negative attitude towards the same.

Akar et al in their study concluded that the proportion of students with poor attitudes is very high.^[21] Holger B Elischberger et al did a Cross-Cultural Comparison study Between the United States and India to assess the attitude of the people of these nations towards Homosexual youths. They found Positive attitudes toward homosexuality among U.S sample and moderately negative attitude in Indian sample.^[27]

We found that females had positive attitude towards homosexuality when compared to male participants. Similar finding was seen in the study conducted by G Banwari et al among medical students in India.^[28]

The study revealed that majority of Hindus had positive attitude towards homosexuality when compared to other religions. Similar finding was seen in the study conducted by Hooghe et al.^[29]

Hinduism is the 3rd largest religion in the world following Christianity and Islam. India is a Hindu predominant country. Homosexuality has been a part of many novels and Vedas of Hinduism. This may be the reason for Hindus accepting homosexuals when compared with participants belonging to other religion.^[30]

CONCLUSION

This study reveals an alarming finding that negative attitude towards homosexuality was more among Medical undergraduates compared to engineering undergraduates. Pursuing Engineering, Female

gender, Hindu religion, not being Dogmatic of ones Religion, hailing from Urban areas, passing out off a Co-educational school, having no Prior Sexual experience, feeling Gender Equity is important and being aware of the legalization of Homosexuality in India are some of the factors found to have statistical significant association with participants' attitude towards homosexuality. If this attitude is not addressed, this may interfere with the patient care which can affect the health and well-being of the Homosexuals. Even though majority of engineering undergraduates had positive attitude towards homosexuality, more than a quarter 115 (36%) of participants had negative attitude which may affect their harmony with homosexual colleagues which needs to be addressed.

REFERENCES

1. Answers to Your Questions for a Better Understanding of Sexual Orientation and Homosexuality [Internet]. 2019 [cited 2022 Sep 25]. Available from: <https://web.archive.org/web/20190216213129/https://www.apa.org/topics/lgbt/orientation>
2. Sexual orientation. In: Wikipedia [Internet]. 2022 [cited 2022 Sep 25]. Available from: https://en.wikipedia.org/w/index.php?title=Sexual_orientation&oldid=1109327149
3. Definition of homosexuality | Dictionary.com [Internet]. www.dictionary.com. [cited 2022 Sep 25]. Available from: <https://www.dictionary.com/browse/homosexuality>
4. Definition of heterosexuality | Dictionary.com [Internet]. www.dictionary.com. [cited 2022 Sep 25]. Available from: <https://www.dictionary.com/browse/heterosexuality>
5. Causes of Homosexuality: Past and Present Understandings [Internet]. [Cited 2022 Sep 25]. Available from: <https://www.mentalhelp.net/sexuality/homosexuality/>
6. India court legalises gay sex in landmark ruling. BBC News [Internet]. 2018 Sep 6 [cited 2022 Sep 25]; Available from: <https://www.bbc.com/news/world-asia-india-45429664>
7. Lottes I, Grollman E. Conceptualization and Assessment of Homonegativity. International Journal of Sexual Health. 2010 Oct 1; 22:219–33.
8. The Roots Of Homophobia - Putting Freud To The Test | Assault On Gay America | FRONTLINE | PBS [Internet]. [Cited 2022 Nov 24]. Available from: <https://www.pbs.org/wgbh/pages/frontline/shows/assault/root/s/freud.html>
9. Ashenden A. The “gay” word: what does it mean when young people use it negatively? The Guardian [Internet]. 2015 Dec 21 [cited 2022 Sep 25]; Available from: <https://www.theguardian.com/education/2015/dec/21/the-gay-word-what-does-it-mean-when-young-people-use-it-negatively>
10. The struggles of LGBTQ+ community in India — Quartz India [Internet]. [Cited 2022 Sep 25]. Available from: <https://qz.com/india/1667992/the-struggles-of-lgbtq-community-in-india/>
11. Parasar A. Homosexuality in India - The Invisible Conflict. 2022 Jul 6; Available from: <https://www.delhihighcourt.nic.in/library/articles/legal%20education/Homosexuality%20in%20India%20-%20The%20invisible%20conflict.pdf>
12. Hafeez H, Zeshan M, Tahir MA, Jahan N, Naveed S. Health Care Disparities Among Lesbian, Gay, Bisexual, and Transgender Youth: A Literature Review. Cureus. 9(4):e1184.
13. Greenberger, E. and McLaughlin, C., 1998. J. Youth Adolesc. Attachment, coping and explanatory style in late adolescence, 27, pp.121-139.
14. Omodara OO, Idowu HA. The perceptions and attitudes of undergraduate students in Obafemi Awolowo University

- towards Alternative Sexual Relationships (ASRs). Prete G, editor. *Cogent Psychology*. 2020 Dec 31; 7(1):1854563.
15. Nea A, Wisaksana R, Rohmawaty E. Knowledge, Attitude, and Behavior Regarding Homosexuality among New Students in Universitas Padjadjaran. *Althea Medical Journal*. 2018 Dec 1; 5:179–86.
 16. Elischberger H, Glazier J, Hill E, Verduzco-Baker L. Attitudes Toward and Beliefs about Transgender Youth: A Cross-Cultural Comparison between the United States and India. *Sex Roles*. 2018 Jan 1; 78.
 17. Robinson JP, Espelage DL. Peer victimization and sexual risk differences between lesbian, gay, bisexual, transgender, or questioning and nontransgender heterosexual youths in grades 7–12. *American journal of public health*. 2013 Oct; 103(10):1810–9.
 18. Discrimination Prevents LGBTQ People From Accessing Health Care [Internet]. Center for American Progress. [cited 2022 Sep 25]. Available from: <https://www.americanprogress.org/article/discrimination-prevents-lgbtq-people-accessing-health-care/>
 19. Mayock PA, Bryan AU, Carr NI, Kitching KA. Supporting LGBT lives: A study of mental health and well-being. Dublin, Ireland: BeLonG To Youth Services. 2008.
 20. Lim D, Ang SB. Primary care physicians' knowledge, attitude and perception towards homosexuality in Singapore. *Global Health Journal*. 2021 Dec 1; 5(4):209–14.
 21. Kar A, Mukherjee S, Ventriglio A, Bhugra D. Attitude of Indian Medical Students Towards Homosexuality. *East Asian Arch Psychiatry*. 2018 Jun; 28(2):59–63. PMID: 29921742
 22. Parker A, Bhugra D. Attitudes of British medical students towards male homosexuality. *Sexual and Relationship Therapy*. 2000 May 1; 15(2):141–9.
 23. Gururaj DGP, Chandrasekhar RS. Attitudes and Beliefs of Indian doctors training in rural medical tertiary college in Kolar, South India towards the LGBT community. *Int j Indian psychol* [Internet]. 2019 Dec 25 [cited 2022 Sep 25]; 7(4). Available from: <https://ijip.in/articles/attitudes-and-beliefs-of-indian-doctors-training-in-rural-medical-tertiary-college-in-kolar-south-india-towards-the-lgbt-community/>
 24. Ahuja KK. Development of Attitudes toward Homosexuality Scale for Indians (AHSI). *Journal of Homosexuality*. 2017 Dec 6;64(14):1978–92
 25. Gay and Bisexual Men's Health Issues [Internet]. 2021 [cited 2022 Nov 26]. Available from: <https://www.hopkinsmedicine.org/health/wellness-and-prevention/gay-and-bisexual-mens-health-issues>
 26. How medical students are taught to hate queer community. *The Times of India* [Internet]. [cited 2022 Nov 26]; Available from: <https://timesofindia.indiatimes.com/india/how-medical-students-are-taught-to-hate-gays/articleshow/86263156.cms>
 27. Elischberger H, Glazier J, Hill E, Verduzco-Baker L. Attitudes Toward and Beliefs about Transgender Youth: A Cross-Cultural Comparison between the United States and India. *Sex Roles*. 2018 Jan 1; 78.
 28. Banwari G, Mistry K, Soni A, Parikh N, Gandhi H. Medical students and interns' knowledge about and attitude towards homosexuality. *J Postgrad Med*. 2015; 61(2):95–100.
 29. Hooghe M, Claes E, Harel A, Quintelier E, Dejaeghere Y. Anti-gay sentiment among adolescents in Belgium and Canada: a comparative investigation into the role of gender and religion. *J Homosex*. 2010; 57(3):384–400.
 30. Hinduism and gays: Acceptance, yes. Approval, no [Internet]. *Hindustan Times*. 2009 [cited 2022 Nov 26]. Available from: <https://www.hindustantimes.com/india/hinduism-and-gays-acceptance-yes-approval-no/story-uQwTN0g5ioCMZM1Kve15bL.html>