Perception of "Chilly Climate" among students in Faculty of Medicine, University of Kelaniya, Sri Lanka

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Abstract

Background - "Chilly Academic Climate" is the "subtle ways that communicate to women that they are not quite first-class citizens in the academic community"[1]. The existence of a Chilly Climate within medical schools and the differences of sensitivity among demographic groups of their inhabitants, have been reported[1,2].

Objectives - To describe the Chilly Climate in a medical school environment as perceived by undergraduates and to determine the demographic differences.

Method - A quantitative cross-sectional study was conducted among a convenience sample of Sri Lankan medical undergraduates. Perceived Chilly Climate Scale (PCCS), content-validated to be used in Sri Lanka (with 25 items; seven-point rating scale; score >25 indicates some form of 'Chilly Climate'), was used as the tool of data collection.

Results - 414 responded to the survey (Males: 116 & Bachelor of Medicine, Bachelor of Surgery (MBBS): 360). The overall reliability of PCCS was high (0.831). The average score for the school was 74.76/175 (MBBS: 73.35/175 & Bachelor of Science in Speech and Hearing Sciences (BScSHS): 84.19/175). Females' perception was stronger than that of males (MBBS: 76.33 & 67.09, P=0.000 & BScSHS: 84.93 & 81.58, P=0.492). The average scores increase significantly from first to final years in the MBBS program (Min: 67.82- Max: 82.58, p=0.000). Some of the minority religious and ethnic groups have perceived chilly climate stronger than the majority groups.

Conclusion - The Chilly Climate is somewhat stronger in the institution. Females perceived Chilly Climate stronger than males. The Chilly Climate appears to become stronger in clinical years than in pre-clinical years. The perceptions may be affected by 'the minority' factor.

Keywords - chilly academic climate, gender discrimination, medical education

Introduction

Sandler and Hall (1986) define a "Chilly Academic Climate" as the "subtle ways women are treated differently – ways that communicate to women that they are not quite first-class citizens in the academic community"[1]. Some examples for instances that contribute to this are, preventing women from seeking help outside class, not getting the female students involved in the discussions as much as the male students, not giving an equal opportunity to answer or raise their concerns as much as male students, giving less priority to female students in classes and making sexist jokes or making direct sexual overtures to women[1,3].

The learning environment of an educational institution consists of interactions between several stakeholders such as students, academia, and its organizational structure[4]. The nature/climate of this environment directly affects how the students learn, perform and thrive in their day-to-day activities and examinations[5,6,7]. In the medical education setting, many interactions occur between both genders and medical practitioners should be able to communicate and work with anyone in the society despite their gender[8]. Therefore, the prevalence of a chilly climate can especially cause adverse effects on the training process of medical students.

Sri Lanka is a country with a multicultural multi-religious society. There are deep-rooted beliefs in the society supporting a patriarchal family structure[9]. This has created a lack of opportunities for females to go forward in the educational sector.

Some research has been done in Sri Lanka regarding gender equality in the field of higher education[10]. However, an assessment of "Chilly Climate" in an undergraduate medical setting in Sri Lanka has never been conducted. Gaining an understanding of this situation with evidence will help to do effective interventions.

Methodology

The study was conducted under two phases. The research tool which was used to gather data was the Perceived Chilly Climate Scale (PCCS)[11]. PCCS consisted of 28 questions. Each question was marked on a Likert scale from 1 to 7, with 1 having the least effect and 7 having the most effect on chilly climate. Each question came under one of the five subscales, Climate Students Hear About (CSHA), Climate Students Experience Personally (CSEP), Safety (SAF), Sexist Attitude and Treatments (SAT), Classroom Climate and Course Materials (CCCM). Any score more than 28 for the questioner indicated some form of a chilly climate[1].

Phase 1 was conducted to validate the PCCS to be used in Sri Lanka by an expert panel approach. Accordingly, 24 medical teachers (9 males and 15 females) in the Faculty of Medicine, University of Kelaniya, with medical and non-medical backgrounds were given the PCCS. They were asked to rate each item under three domains, relevance of a particular item to measure Chilly Climate, the clarity of language to the target population, and the cultural appropriateness. They were also asked to make comments on each item.

The average scores for each item in the PCCS was calculated. The average score for clarity of language ranged from 2.75 to 3.58, cultural appropriateness ranged from 2.63 to 3.71, the relevance of the item to measure the construct ranged from 1.88 to 3.71. The final average ranged from 2.43 to 3.57. Based on the total scores for individual items and comments given, item number 22,23,24 were removed. A validated questionnaire of 25 items was created. (Min Score 25-Maximum Score – 175 Mid-point -87.5)

Phase 2 was conducted to assess the prevalence of a chilly climate. The validated questionnaire was distributed among the students including both MBBS and BSc SHS study programs along with a Demographic Details Form. These were distributed to them at the end of their lectures and collected back upon successful completion. A total of 450 questionnaires were distributed, 414 completed ones were returned. The data were entered into an SPSS form and analyzed using descriptive and inferential statistics. P<0.01 was considered to be statistically significant.

Results

The study consisted of 414 participants (36% of total student population), 128 males (MBBS = 116, BSc SHS = 12) and 286 females (MBBS = 244, BSc SHS = 42). The mean ages for MBBS students were 24.06 for males and 23.95 for females. The mean ages for BSc SHS students were 23.58 for males and 22.95 for females. The gender distribution of the study population was proportionate to that of the faculty-student population.

The internal consistency between the individual items, the subscales, and total score was measured using Cronbach Alpha. (Score > 0.90 = excellent, 0.8-0.9 = good, 0.7-0.8 = good and acceptable, 0.6-0.7=acceptable, < 0.5 = not acceptable)

Overall reliability (0.831) and reliability for CSHA (0.742) were high. The reliability of SAT (0.583), CSEP (0.599), and SAF (0.606) were moderate. The reliability of CCCM (0.235) was poor. Therefore, the internal consistency for all domains except CCCM was verified and used for the interpretations.

Means of the scores for main domains and total score for the validated questionnaire were calculated for each academic year. They were compared between the academic years using Kruskal Wallis Test to identify the statistical significance of the variation of the total score and subscale scores between the academic years. There were 3 statistically significant variations in the scores between the academic years. Total score for the validated questionnaire (P-Value = 0.000), CSHA (P-Value = 0.000), SAT (P-Value = 0.000).

Table 1 - Variation of means of total score and subscale scores with the academic year

	Total Score	Total score CSHA	Total score SAT	Total score CSEP	Total score CCCM	Total score SAF
Mean scores for subscales/ Academic years	74.76	23.35	18.49	17.24	6.45	9.24
First	67.82	19.40	16.60	16.47	6.20	9.15
Second	69.72	21.21	16.94	16.83	6.06	8.68
Third	71.88	21.15	18.71	16.50	6.29	9.24
Fourth	82.58	27.32	20.41	18.60	6.68	9.58
Fifth	79.87	26.70	19.43	17.21	7.63	9.49
P Value*	0.000	0.000	0.000	0.032	0.264	0.800

** Kruskal Wallis Test*
CSHA – Climate Students Hear About, SAT – Sexist Attitude and Treatment, CCCM - Classroom Condition and Course Material

The total score for the validated questionnaire and all the subscale scores showed an increasing trend over the academic years. This suggested that the students' perception of Chilly Climate appears to increase over the years. The highest increment was in the fourth year. CSHA is the main contributor to the increase. (Figure 1)
The means of total scores and subscale scores were calculated according to gender and course. These means were compared using independent samples T-Test.

In the MBBS program, female students had higher mean scores for total and all 5 sub-scale scores than male students. Statistically significant variation between male and female mean scores was observed for total score (P=0.000), SAT (P=0.000), CCCM (P=0.000), and SAF (P=0.000). In the BSc SHS program, female students had higher mean scores for total and subscales SAT, CCCM, and SAF than the male students. But there was no statistically significant variation between the means of the total score or sub-scale scores of males and females.

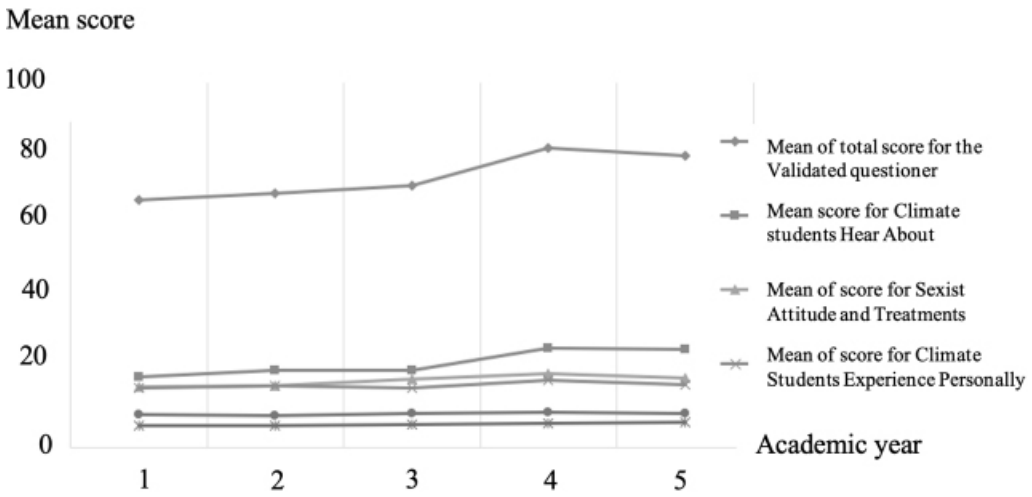

Figure 1 - Trend of variation of means of the total score and subscale scores with the academic year.

Table 2 - Variation of total scores and subscale scores with course and gender (Independent samples T-Test)

	MBBS Students		P-Value*	SHS Students		P-Value*
	Male Mean	Female Mean		Male Mean	Female Mean	
Total Score	67.09	76.33	0.000	81.58	84.93	0.492
CSHA Total	21.61	23.36	0.141	29.25	26.33	0.236
SAT Total	16.11	19.04	0.000	18.00	22.00	0.035
CSEP Total	16.37	17.20	0.265	18.08	19.57	0.405
CCCM Total	5.64	6.59	0.003	7.75	7.52	0.824
SAF Total	7.35	10.13	0.000	8.50	9.50	0.431

Discussion

Overall, the scores revealed that though there were no major issues of gender discrimination or inequality, female students, in general, found that the academic climate was much chillier when compared to their male counterparts. This was quite interesting because almost 2/3rd of the student population comprised of female students. The students who belonged to the minority ethnic or religious groups tend to perceive the climate as chillier than the others.

Being the first study done in a Sri Lankan medical faculty regarding this issue, the total mean score for the validated questionnaire for this study was 74.76/175 (higher the score, chillier the academic climate). Sri Lanka being a multi-cultural, multi-religious country, the academic climate scored better than that of other western countries. However, the female students who perceived the academic climate chiller than the male students are at risk of being adversely affected by this[1]. They might keep their ideas and expressions to themselves, which might result in a doctor who can't communicate properly with their patients and colleagues and overall, someone who is less effective than their peers[8]. Furthermore, this can adversely affect their academic performance directly in instances like long cases, short cases where proper communication with their patients and the examiners are detrimental to obtain a higher mark.

The teaching style carried out by some tutors contributed directly to the chilly academic climate created for the female students. Although unintentional, some of the remarks they made during academic sessions were perceived as sexist remarks, sexist jokes, and overall derogatory to females by the students[1,11]. The females were especially affected by this. The rumours that circulated within the academic environments contributed to the pre-made mindset of the students regarding some of the lecturers. This might be the cause for the stronger perception of female students when compared to male students. However, further exploration is needed in this regard via focus group discussions to come to a definitive diagnosis. The isolated nature of the medical faculty from the main university, which is located several kilometers away, might contribute to these findings and to generalize it to the whole university further study comparing the findings in faculties that are located in the main university premises is also needed.

The fact that the medical faculty is located far from the main university body might be affecting as a protective factor against alarming gender issues as instances of ragging-related violence are minimal in the faculty when compared to that of the main university. The busy nature of the students in the senior years has limited their contact with the juniors. This busy nature has also made it difficult for the students to have a platform to discuss their gender issues. The mentor system that the faculty carries out, is the only place where most of the students get an equal opportunity to discuss their issues with the academic staff members. Although the students are represented in the welfare meetings, the representatives of the students who participate in these meetings, mostly the male students who are the office bearers of the faculty-student union, rarely express the opinions of the female students regarding this matter to the academic staff , as mentioned by several female students under the comment section of the questionnaire. If there was a better representation of female students in these matters, it would significantly improve with the chilly academic climate perceived by them.

Many of the female students mentioned that they were underrepresented in the representative bodies of the students and even the few female representatives couldn't express their views and opinions in a male-dominated setting. Even those who expressed themselves regarding the gender issues were ignored and encouraged to keep these opinions to themselves by the male students. Although the total student population was 2/3rd female , this lack of representation by the female students might be a contributory factor for the chillier academic climate perceived by them.

Despite the gender and other demographic differences, all students who attend the higher education institute should be given equal opportunities to express themselves and enjoy their academic privileges. Therefore, comparative studies regarding these matters should be done and the culprits who contribute towards the chilling nature of the academic climate for the female students in a setting with a female majority should be identified and dealt with accordingly to ensure equal rights and peace of mind for those who are oppressed.

Conclusion

The validated questionnaire has overall validity and reliability to be used in Sri Lanka to measure "Chilly Climate" in academic environments. The institutional educational environment did not demonstrate any alarming issues related to gender discrimination or inequality. However, the female students in general perceived "Chilly Climate" stronger than males across both programs. The Chilly Climate in the MBBS course appears to be stronger than the BSc SHS. The male students appear to be treated more favourably than the female students in clinical years. The findings of this study can help to improve the educational environment and culture to provide a better educational experience to students. The somewhat strong "Chilly Climate" in the institute can be fought through awareness, feedback, and incorporation of more females in the decision-making process of the student bodies of the faculty.

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