Gender differences in lifestyle and psycho-social aspects of medical students. A cross sectional study

J.P. Winfred Gnanaraj¹, R. Hariharan¹, S. Sandeep¹, J.P. Gnanaraj¹, S. Raghunanthan¹, M. Anusuya¹, T.S. Shanthi¹, A. Samuel Dinesh¹, S. Sudharshini¹, J. Ramalakshmi¹, S. Anne Princy², C. Penchalliah¹, M. Balamanikandan¹, T.B. Umadevi¹, V. Rajendran¹

¹Madras Medical College, Chennai, India
²Tamil Nadu Government Multi Super Speciality Hospital, Chennai, India
On behalf of HHLS study group

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Background: Incidence of premature cardiovascular deaths in medical practitioners is on the increase. Lifestyle habits, psychosocial and emotional status of medical students has the potential to initiate the premature onset of cardiovascular disease. Gender differences in diagnosis and management of cardiovascular diseases is well known. However, data on gender differences in heart healthy status of medical students are scarce.

Purpose: To investigate the gender differences heart healthy lifestyle habits among undergraduate medical students of a medical college from low-and-middle income country in south Asia.

Methods: All students pursing MBBS between 2017 and 2018 were included in the cross-sectional study. The study had Institutional ethics committee approval and the participation was voluntary. Anthropometric measurements (weight using digital weighting scale, height, waist and hip circumference using measuring tape), vital signs (pulse and blood pressure using digital manometer) and self-reported lifestyle/psychosocial cum behavioural pattern (using a specially designed proforma) were collected for all the participants. (525)

Results: 824 medical students were enrolled in the study of whom 377 (45.8%) were women. Overall 37.1% had abnormal body mass index (BMI) and 27.8% had abnormal waist hip ratio (WHR). Overall 14% and 10.3% students had abnormal systolic (≤ 85 mm of Hg) or diastolic blood pressure (BP) (≤ 135 mm of Hg) readings respectively. 19.4% of students had either systolic or diastolic abnormal BP values.

Gender differences: Abnormal BMI and abnormal WHR (Figure 1A) were found in similar proportion among women and men. However less women has abnormal BP readings compared to men. More men has abnormal diastolic BP and abnormal systolic BP compared to women. Either systolic or diastolic BP values were abnormal in lower proportion of women (7.8% vs 29.4%; P<0.001). Women had less physically active minutes per day compared to men (71.15 ± 68.2 vs 109. 38± 81.7; P < 0.001). A feeling of lack of self-worth (73.5%) was common among medical students, however no significant gender differences were observed (Figure 1B). Significantly more women students have harbored suicidal thoughts than men. Women students were more likely to feel lifestyle counseling is necessary for medical students and were more likely to implement lifestyle changes if advised.

Conclusion: High blood pressure and feeling of lack of self-worth is commonly observed in medical students. Women were more likely to harbor suicidal thoughts, bitterness and anger more likely to implement lifestyle modifications if advised. Interventions warranted at improving heart healthy lifestyle patterns is warranted, and must be optimized by observed gender differences.
Figure 1A: Gender differences in medical students: Anthropometry, blood pressure and sleep

- High SBP: Men 21.4, Women 5.4 (P < 0.001)
- High DBP: Men 15, Women 4.6 (P < 0.001)
- Hypertension: Men 29.4, Women 7.8 (P < 0.001)
- Abnormal WHR: Men 29.5, Women 25.5 (P = 0.191)
- Abnormal BMI: Men 36.3, Women 37.9 (P = 0.664)

Figure 1B: Gender differences in medical students: Sleep & emotional parameters

- Suboptimal sleep: Men 13.4, Women 13.4 (P = 0.695)
- LSC needed: Men 75.1, Women 83 (P < 0.001)
- Implement LSC if advised: Men 45.9, Women 59.7 (P < 0.001)
- Suicidal thoughts: Men 12.6, Women 17.8 (P < 0.044)
- Self Esteem: Men 71.9, Women 75.3 (P = 0.113)

Figure 1 Gender and life style habits