

**ORIGINAL RESEARCH****Assessment of sedentary lifestyle, obesity and cardiovascular diseases among students****Mohammad Sufyan**MBBS, 3<sup>rd</sup> year, Kasturba Medical College Manipal, Karnataka, IndiaEmail:-[mohdsufyan972@gmail.com](mailto:mohdsufyan972@gmail.com)**ABSTRACT**

**Background:** Sedentary lifestyle has become a huge health concern in one's life in which physical inactivity has become a major concern. The present study was conducted to assess sedentary lifestyle, obesity and cardiovascular diseases among students.

**Materials & Methods:** 280 students of both genders were enrolled. A questionnaire was prepared and distributed among all subjects. They were asked to fill it and return

**Results:** Out of 280 subjects, males were 130 and females were 150. 52% do exercise and 48% don't. Sedentary lifestyle leads to obesity and other complications, 53% were strongly agree, 45% agree and 2% disagree. Awareness about the increased sedentary lifestyle was seen among 85% and not in 15%. Factors causing obesity was lack of exercise in 45%, unhealthy diet in 30%, smoking in 15% and systemic diseases in 10%. Obesity causes respiratory problems, 52% were agree, 36% strongly agree, 7% disagree and 5% strongly disagree. Obesity leads to high blood pressure and diabetes, 87% replied yes and 13% no. Obesity leads to cardiovascular problems, 82% replied yes and 18% no. The difference was significant ( $P < 0.05$ ).

**Conclusion:** Most of the students were aware about sedentary lifestyle and its complications.

**Key words:** Cardiovascular diseases, Obesity, Sedentary lifestyle

**Introduction**

Most of the CVDs can be averted by tackling associated risk factors like physical inactivity, use of tobacco, diabetes mellitus, unhealthy diet, obesity, raised lipids, and high BP.<sup>1</sup> Sedentary lifestyle has become a huge health concern in one's life in which physical inactivity has become a major concern. Sedentary lifestyle involves lack of physical inactivity, eating junk food, all these lead to obesity and cardiovascular problems and many more health problems. Following a sedentary lifestyle these days has been increasing and it's increasing at an alarming rate among students.<sup>2</sup> Obesity has become a severe epidemic health problem. It is continuing to be increasing among students. Obesity leads to so many disorders such as diabetes, hypertension, cardiovascular problems and many more. Studies showed that obesity also causes problems in thyroid function.<sup>3</sup> Obesity also affects you psychologically by being bullied by the society which leads to a state of depression. Adolescence is a change which occurs between childhood and adulthood. Whatever is learnt in this phase will be impacted in adult life.<sup>4</sup>

Numerous studies are available about the perception regarding knowledge, attitudes and practices on CVD risk factors but most of the studies related with the women perception, only few studies available about the perception of young people.<sup>5</sup> It is imperative to understand the young generation's existing knowledge, attitudes and practices about CVD risk factors for initiating the preventive efforts.<sup>6</sup> The present study was conducted to assess sedentary lifestyle, obesity and cardiovascular diseases among students.

**Materials & Methods**

The present study comprised of 280 students of both genders. The consent was obtained from all enrolled subjects.

Data such as name, age, gender etc. was recorded. A questionnaire was prepared and distributed among all subjects. They were asked to fill it and return. Data thus obtained were subjected to statistical analysis.  $P$  value  $< 0.05$  was considered significant.

## Results

**Table I Distribution of subjects**

Total- 280		
Gender	Males	Females
Number	130	150

Table I shows that out of 280 subjects, males were 130 and females were 150.

**Table II Assessment of parameters**

Parameters	Variables	Number	P value
Exercise	Yes	52%	0.92
	No	48%	
Sedentary lifestyle leads to obesity and other complications	Strongly agree	53%	0.12
	Agree	45%	
	Disagree	2%	
Awareness about the increased sedentary lifestyle	Yes	85%	0.01
	No	15%	
factors causing obesity	Lack of exercise	45%	0.05
	Unhealthy diet	30%	
	Smoking	15%	
	Systemic diseases	10%	
Obesity causes respiratory problems	Agree	52%	0.02
	Strongly agree	36%	
	Disagree	7%	
	Strongly disagree	5%	
Obesity leads to high blood pressure and diabetes	Yes	87%	0.01
	No	13%	
Obesity leads to cardiovascular problems	Yes	82%	0.01
	No	18%	

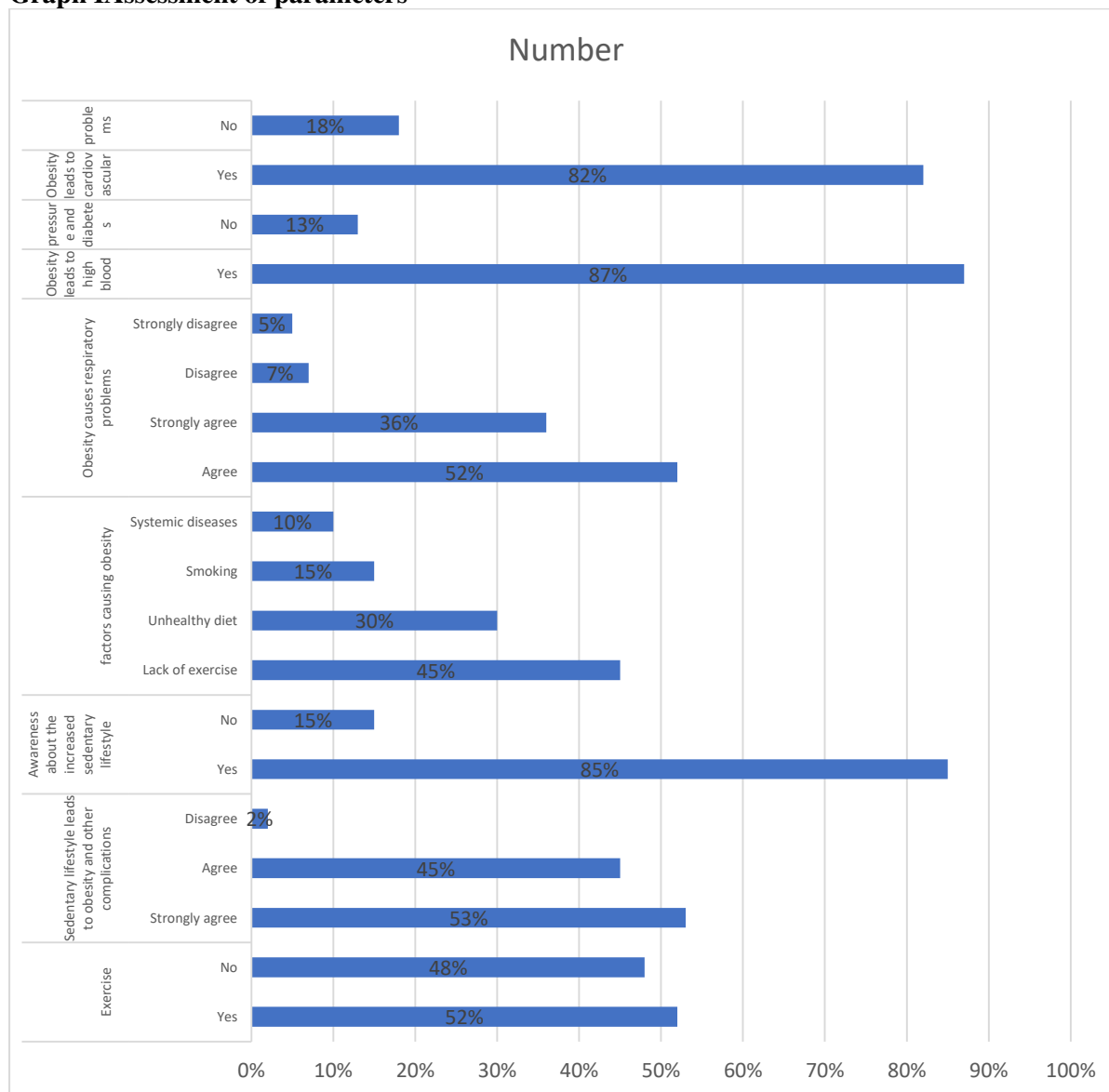
Table II, graph I shows that 52% do exercise and 48% don't. Sedentary lifestyle leads to obesity and other complications, 53% were strongly agree, 45% agree and 2% disagree. Awareness about the increased sedentary lifestyle was seen among 85% and not in 15%. Factors causing obesity was lack of exercise in 45%, unhealthy diet in 30%, smoking in 15% and systemic diseases in 10%. Obesity causes respiratory problems, 52% were agree, 36% strongly agree, 7% disagree and 5% strongly disagree. Obesity leads to high blood pressure and diabetes, 87% replied yes and 13% no. Obesity leads to cardiovascular problems, 82% replied yes and 18% no. The difference was significant ( $P < 0.05$ ).

## Discussion

Cardiovascular diseases (CVDs) lead the causes of morbidity and mortality worldwide and more than 75% of cardiovascular diseases related deaths occurs in low- and middle-income countries.<sup>7</sup> It is the leading cause of death in India and Cardiovascular diseases deaths occur a decade earlier in Indians than Western countries.<sup>8</sup> Atherogenic diet, sedentary lifestyle and 'South Asian lipid profile' are the most important behavioural risk factors for insulin resistance which leads to metabolic syndrome,

diabetes mellitus, obesity and eventually cardiovascular diseases.<sup>9</sup> Long term cardiovascular diseases risk in young adults can be strongly predicted by their risk factor profiles. The magnitude and types of risk factors among young adults needs to be understood to establish targeted intervention through lifestyle changes.<sup>10</sup> Most of the young adults are not aware of the cardiovascular diseases risk and do not undergo screening leading to risk underestimation in spite of high prevalence.<sup>11</sup>

### Graph Assessment of parameters



We found that out of 280 subjects, males were 130 and females were 150. Mukhopadhyay et al<sup>12</sup> estimated the prevalence of risk factors of CVD and their correlation with CVD risk ratio among the MBBS students from eastern India. 433 students were studied. International Physical Activity Questionnaire-long form was used for assessment of physical activity and Perceived Stress Scale (PSS) to elicit psychological stress levels. Waist-to-height ratio (WHtR) was calculated. Total cholesterol to high-density lipoprotein ratio was calculated as the CVD risk ratio. 39.3% were women and 68.6% of the subjects were in junior classes. 22.4% subjects had high PSS while 30% performed low physical activity. Tobacco and alcohol intake was prevalent in 29.3% and 21.0% respectively. High CVD risk ratio was found in 14.3%. Most risk factors were more prevalent among juniors except diabetes. Among the non-overweight and non-obese subjects there was a significant positive correlation between WHtR and CVD risk score ( $R = 0.33$ ,  $p < 0.001$ ). 82.7% of the variance in CVD risk ratio could be explained by WHtR, Body mass index, Triglycerides and Low-density lipoprotein ( $F(7, 425) = 296.085$ ), of which LDL ( $\beta = 0.755$ ) contributed the most.

We observed that 52% do exercise and 48% don't. Sedentary lifestyle leads to obesity and other complications, 53% were strongly agree, 45% agree and 2% disagree. Awareness about the increased sedentary lifestyle was seen among 85% and not in 15%. Factors causing obesity was lack of exercise in 45%, unhealthy diet in 30%, smoking in 15% and systemic diseases in 10%. Obesity causes respiratory problems, 52% were agree, 36% strongly agree, 7% disagree and 5% strongly disagree. Obesity leads to high blood pressure and diabetes, 87% replied yes and 13% no. Obesity leads to cardiovascular problems, 82% replied yes and 18% no. Baig Met al<sup>13</sup> investigated the prevalence of obesity and hypertension among University students' and their knowledge and attitude towards risk factors of cardiovascular disease (CVD). A total of 610 male students were selected and their blood pressure (BP) and body mass index (BMI) was determined. Out of 610 students, 7.5% were hypertensive (systolic 2.6% and diastolic 6.3%) while the BMI of 51.6% was in the normal range, 29.8% were overweight and 10.7% were moderately obese and 7.9% were severely obese. Majority of the participants considered that smoking, increased fatty food intake, obesity, high BP, and increased LDL-cholesterol level, are the main causes of the CVD. Most of the participants agreed that one should know his BP, blood sugar, serum cholesterol and one should maintain normal body weight and should do regular exercise. They were also aware that healthy lifestyle could prevent CVD. However, majority of the participants were not practicing healthy lifestyle.

Anirudhet al<sup>14</sup> in their study a total 15 questions were prepared. A total of 100 undergraduate college students have taken the survey. A total of 100 college students have taken up the survey in which 47% were male and 53% were female. In a question pertaining to how many people were following a healthy diet- 74 % have answered yes and 26% said no. The next question was about exercising every-day in which 62 % said yes while 38% said no. In which 47% males and 15% females have answered yes. 97% agree that sedentary lifestyle leads to complications such as obesity. 90% of the students are aware about the increase in sedentary lifestyle among students. 69% have answered that unhealthy diet, lack of physical activity, smoking etc were the common causes of obesity. 95% agree that obesity causes respiratory problems. Almost 95 % students agree that obesity causes systemic diseases such as diabetes and hypertension which will ultimately lead to cardiovascular problems.

### Conclusion

Author found that most of the students were aware about sedentary lifestyle and its complications.

### References

1. Heidi Mochari-Greenberger TM, Susan L. Simpson, Mosca L. Knowledge, Preventive Action and Barriers to Cardiovascular Disease Prevention by Race and Ethnicity in Women: An American Heart Association National Survey. *J Women's Health*. 2010;19:1243-1249.
2. Rosediani M, Ranimah Y, Harny MY. Knowledge, Attitude and Practice on Cardiovascular Disease among Women in NorthEastcoast Malaysia. *Int J Collaborative Res Int Med Public Health*. 2012;4:85-98.
3. Charan J, Biswas T. How to calculate sample size for different study designs in medical research? *Indian J Psychol Med*. 2013;35:121-126.
4. Al-Rukban MO. Obesity among Saudi male adolescents in Riyadh, Saudi Arabia. *Saudi Med J* 2003;24:27-33.
5. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *JAMA*. 2003;289:2560-2571.
6. Burke JD, Reilly RA, Morrell JS, Lofgren IE: The University of New Hampshire's young adult health risk screening initiative. *J Am Diet Assoc*. 2009;109:1751-1758.
7. Sabra AA, Taha AZ, Al-Sebiany AM, et al. Coronary Heart disease risk factors: prevalence and behavior among male university students in Dammam city, Saudi Arabia. *J Egypt Public Health Assoc*. 2007;82:21-42.
8. Al-Almaie SM. Prevalence of obesity and overweight among Saudi adolescents in Eastern Saudi Arabia. *Saudi Med J* 2005;26:607-611.
9. Lee DE, Cooper RS. Recommendations for global hypertension monitoring and prevention. *CurrHypertens Rep* 2009;11:444-449.

10. Khan MS, Jafary FH, Jafar TH, et al. Knowledge of modifiable risk factors of heart disease among patients with acute myocardial infarction in Karachi, Pakistan: a cross sectional study. *BMC Cardiovascular Disord.* 2006;6:18.
11. Vanhecke TE, Miller WM, Franklin BA, et al. Awareness, knowledge, and perception of heart disease among adolescents. *Eur J CardiovascPrevRehabil.* 2006;13:718–723.
12. Mukhopadhyay S, Mukherjee A, Khanra D, Samanta B, Karak A, Guha S. Cardiovascular disease risk factors among undergraduate medical students in a tertiary care centre of eastern India: a pilot study. *The Egyptian Heart Journal.* 2021 Dec;73(1):1-1.
13. Baig M, Gazzaz ZJ, Gari MA, Al-Attallah HG, Al-Jedaani KS, Mesawa ATA, et al. Prevalence of obesity and hypertension among university students' and their knowledge and attitude towards risk factors of cardiovascular disease (CVD) in Jeddah, Saudi Arabia. *Pak J Med Sci* 2015;31(4):816-820.
14. Anirudh et al. Awareness on sedentary lifestyle, obesity and cardiovascular diseases among undergraduate student population. *European Journal of Molecular & Clinical Medicine* 2020; 737-47.