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ASSOCIATION BETWEEN PERCEIVED PHYSICAL FITNESS, LIFESTYLE DISORDERS, AND WELLNESS PROGRAM READINESS AMONG UNIVERSITY STUDENTS: A CROSS-SECTIONAL STUDY

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Abstract: Lifestyle disorders have emerged as a major public health concern among young adults. Sedentary lifestyles, unhealthy dietary habits, inadequate sleep, and psychological stress increase the risk of obesity, hypertension, diabetes, musculoskeletal disorders, and mental health problems among university students.

Objective-To evaluate the association between physical fitness, lifestyle disorders, and wellness program readiness among university students.

Methods-A cross-sectional survey was conducted among 334 university students using a structured self-administered questionnaire. Information on demographic characteristics, physical fitness perception, lifestyle disorders, sleep patterns, dietary habits, alcohol consumption, smoking behavior, and wellness program readiness was collected. Data were analyzed using descriptive statistics, chi-square tests, and Pearson correlation analysis.

Results-The mean age of participants was 21.62 ± 2.36 years. Anxiety/depression (37.4%), musculoskeletal disorders (34.4%), obesity (24.6%), gastrointestinal disorders (24.3%), and sleep disorders (23.7%) were the most prevalent lifestyle disorders. Nearly half of participants (47.6%) reported sleeping less than six hours daily. Students reporting poor physical fitness demonstrated a higher lifestyle disorder burden (mean disorder count 2.46) compared with physically fit students (1.69). A significant association was observed between physical fitness status and lifestyle disorder prevalence ($\chi^2 = 9.86$, $p = 0.007$). Furthermore, a significant association existed between disorder burden and attempts at disorder management ($\chi^2 = 11.544$, $p = 0.021$).

Conclusion-Lifestyle disorders are highly prevalent among university students and are significantly associated with perceived physical fitness. Universities should implement comprehensive wellness programs focusing on physical activity promotion, mental health support, nutritional counseling, and preventive screening.

Index Terms - Fitness, Lifestyle Disorders, University Students, Wellness Programs, Mental Health, Obesity

I. INTRODUCTION

Lifestyle disorders are non-communicable health conditions resulting from unhealthy behavioral patterns, including physical inactivity, poor dietary practices, inadequate sleep, smoking, alcohol consumption, and chronic stress. These disorders contribute substantially to the global burden of disease and are increasingly observed among younger populations.

University students represent a unique population undergoing significant physical, social, and psychological transitions. Academic pressure, irregular schedules, reduced physical activity, poor dietary choices, and prolonged screen exposure may contribute to the development of obesity, hypertension, type 2 diabetes mellitus, sleep disorders, musculoskeletal complaints, and mental health conditions.

Physical fitness is recognized as a protective factor against numerous lifestyle-related disorders. Regular physical activity improves cardiovascular health, metabolic function, musculoskeletal strength, and psychological well-being. However, evidence regarding the relationship between physical fitness and lifestyle disorder burden among Indian university students remains limited.

This study was therefore undertaken to assess lifestyle disorder prevalence, evaluate the association between physical fitness and lifestyle disorders, and determine students' readiness to participate in wellness programs.

OBJECTIVES

Primary Objective

To evaluate the association between physical fitness and lifestyle disorders among university students.

Secondary Objectives

1. To determine the prevalence of lifestyle disorders among university students.
2. To assess lifestyle-related health behaviours.
3. To evaluate wellness program readiness among students.
4. To determine the association between physical fitness status and lifestyle disorder burden.

I. RESEARCH METHODOLOGY

Study Design is Cross-sectional analytical study.

Study Population-University students enrolled in various academic programs.

Sample Size-334 students.

Sampling Technique-Convenience sampling.

Data Collection Tool

A structured questionnaire was used comprising:

- Demographic details
- Lifestyle disorder assessment
- Health behaviour assessment
- Physical fitness perception assessment
- Wellness program readiness assessment

Variables Assessed

Lifestyle Disorders

- Obesity
- Hypertension
- Type 2 Diabetes Mellitus
- Polycystic Ovarian Syndrome (PCOS)
- Sleep Disorders
- Anxiety/Depression
- Gastrointestinal Disorders
- Musculoskeletal Disorders

Health Behaviours

- Smoking
- Alcohol Consumption
- Sleep Duration
- Fast Food Consumption

Physical Fitness Variable

Participants were asked:

"Do you feel physically fit?"

Responses:

- Yes
- No
- Not Sure

IV. RESULTS AND DISCUSSION

TABLE 1. Demographic Characteristics of Participants (N = 334)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	192	57.5
Gender	Female	142	42.5
Age (Years)	Mean $\pm$ SD	21.62 $\pm$ 2.36	-

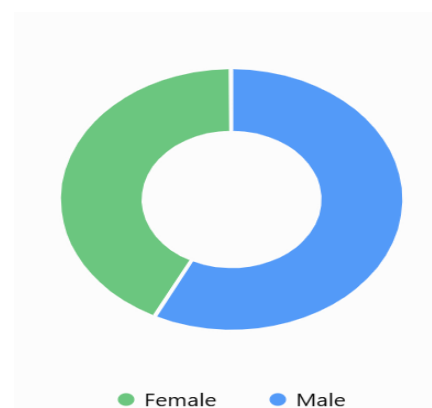


Figure 1. Gender Distribution of participants

Distribution of male and female participants (N=334).

TABLE 2. Prevalence of Lifestyle Disorders

Lifestyle Disorder	Frequency (n)	Percentage (%)
Anxiety/Depression	125	37.4
Musculoskeletal Disorders	115	34.4
Obesity	82	24.6
Gastrointestinal Disorders	81	24.3
Sleep Disorders	79	23.7
PCOS	58	17.4
Hypertension	48	14.4
Type 2 Diabetes Mellitus	40	12.0

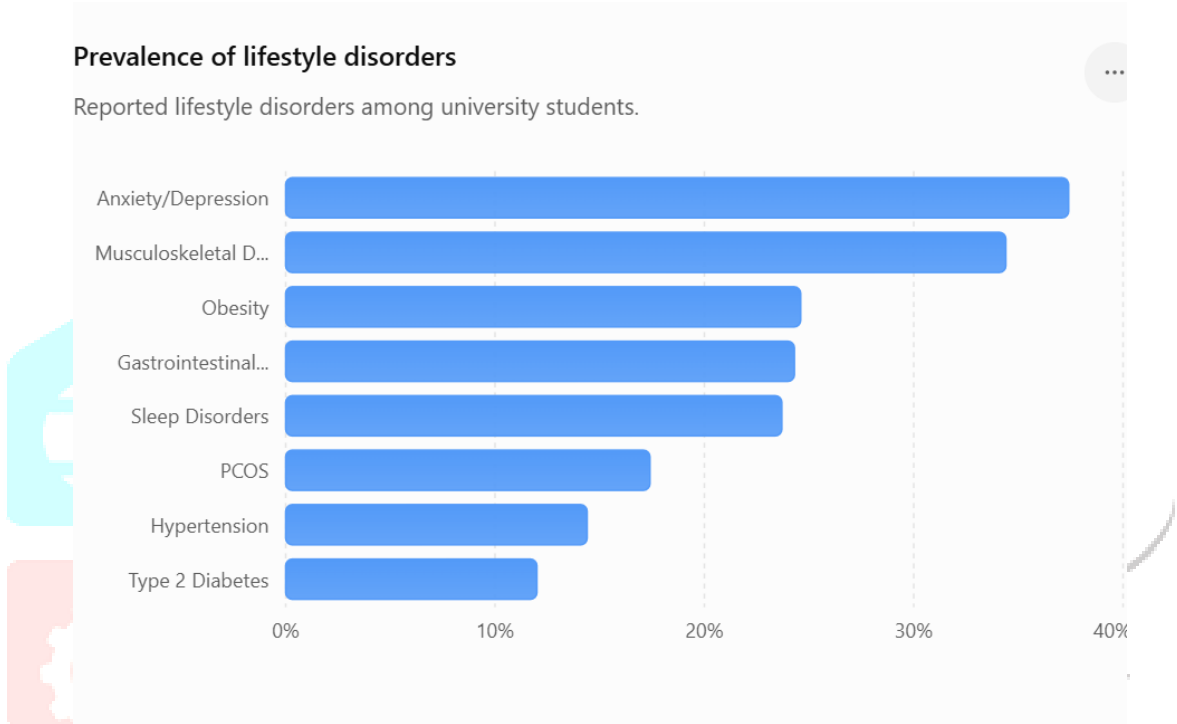


Figure 2. Prevalence of Lifestyle Disorders
Reported lifestyle disorders among university students.

TABLE 3. Lifestyle Behaviors

Variable	Category	Frequency (n)	Percentage (%)
Smoking Status	Yes	50	15.0
Smoking Status	No	284	85.0
Alcohol Consumption	Occasionally/Frequently	60	18.0
Alcohol Consumption	Never	274	82.0
Fast Food Consumption	Regular	64	19.2
Fast Food Consumption	Rare	270	80.8
Sleep Duration <6 Hours	Yes	159	47.6
Sleep Duration <6 Hours	No	175	52.4
Interested in Wellness Programs	Yes	143	42.8
Interested in Wellness Programs	No/Not Sure	191	57.2

TABLE 4. Sleep Duration Pattern

Sleep Duration	Frequency (n)	Percentage (%)
<5 Hours	68	20.4
5–6 Hours	91	27.2
6–8 Hours	120	35.9
>8 Hours	55	16.5
Total	334	100

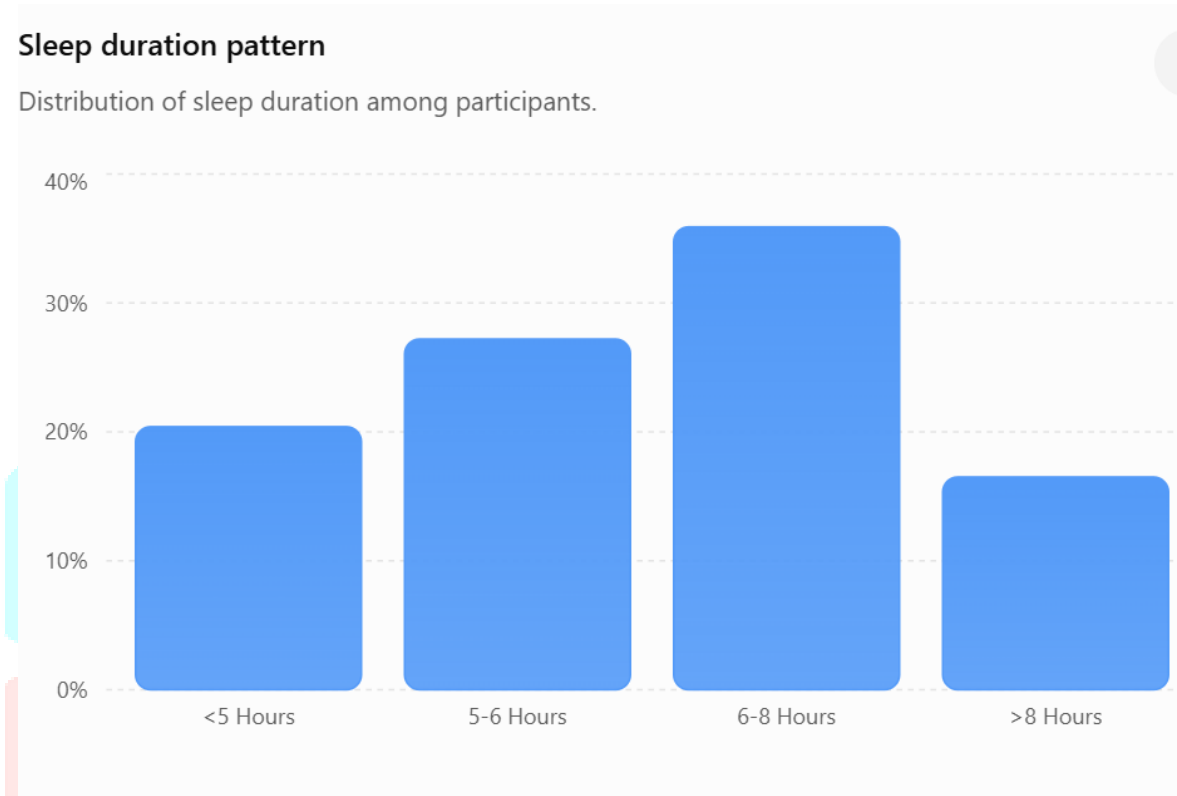


Figure 3. Sleep Duration Pattern
Distribution of sleep duration among participants.

TABLE 5. Wellness Program Readiness

Response	Frequency (n)	Percentage (%)
Yes	143	42.8
No	118	35.3
Not Sure	73	21.9
Total	334	100

Wellness program readiness

Interest in participating in university wellness programs.



Figure 4. Wellness Program Readiness
Wellness program readiness
Interest in participating in university wellness programs.

TABLE 6. Physical Fitness Status

Physical Fitness Status	Frequency (n)	Percentage (%)
Yes	185	55.4
No	79	23.7
Not Sure	70	21.0
Total	334	100

Perceived physical fitness status

Self-reported physical fitness among participants.



Figure 6. Physical Fitness Status of Participants-Perceived physical fitness status
Self-reported physical fitness among participants.

TABLE 7. Lifestyle Disorder Burden According to Physical Fitness

Physical Fitness Status	Sample Size (n)	Mean Disorder Count
No	79	2.46
Yes	185	1.69
Not Sure	70	1.73

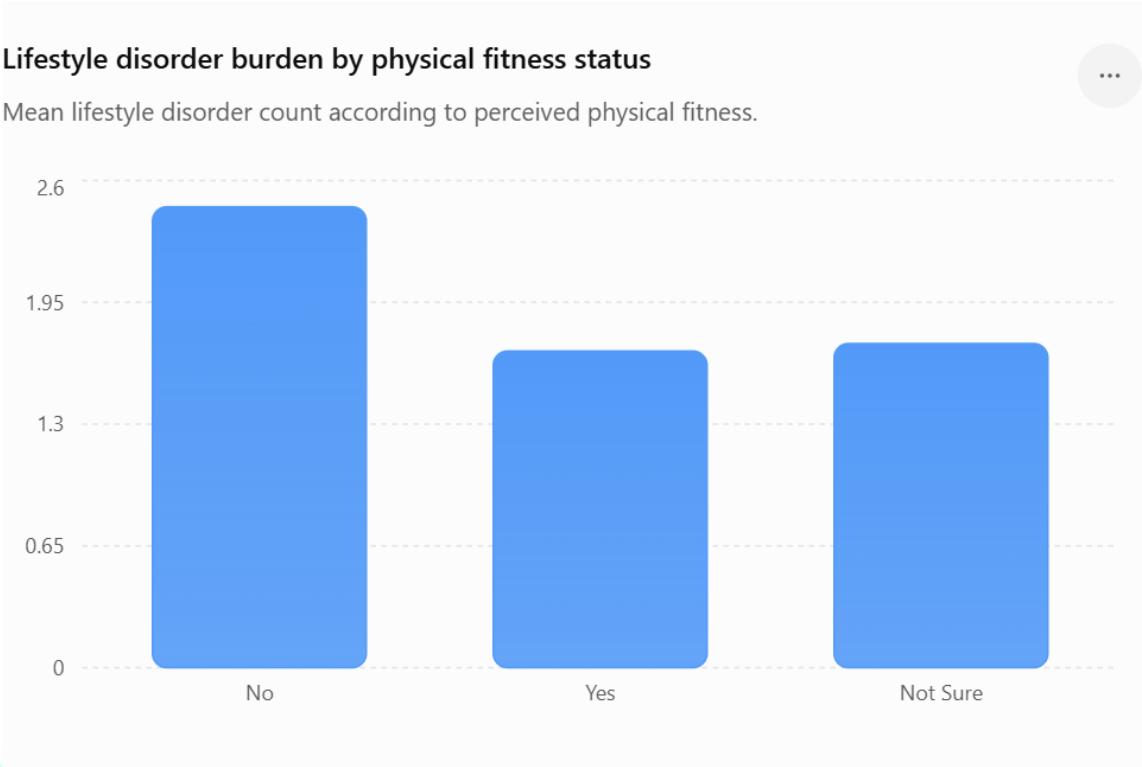


Figure 6. Physical Fitness Status of Participants
Self-reported physical fitness among participants.

TABLE 8. Association Analysis Between Physical Fitness, Lifestyle Disorders, and Management Behavior

Analysis	Statistical Test		Test Value	p-value	Interpretation	
Physical Fitness Status vs Lifestyle Disorder Presence	Pearson Square	Chi-	9.86	0.007	Significant association	
Disorder Group vs Disorder Management	Pearson Square	Chi-	11.544	0.021	Significant association	
Lifestyle Disorder Burden vs Management Attempts	Pearson Correlation (r)		-0.126	0.021	Weak correlation	negative

Table 9. Summary of Major Findings

Parameter	Key Finding
Mean Age	21.62 ± 2.36 years
Most Common Disorder	Anxiety/Depression (37.4%)
Second Most Common Disorder	Musculoskeletal Disorders (34.4%)
Obesity Prevalence	24.6%
Students Sleeping <6 Hours	47.6%
Wellness Program Interest	42.8%
Physically Fit Students	55.4%
Significant Association	Physical Fitness vs Lifestyle Disorders (p=0.007)
Significant Correlation	Disorder Burden vs Management Attempts (p=0.021)

Physical fitness status demonstrated a significant association with lifestyle disorder prevalence ($\chi^2 = 9.86$, $p = 0.007$). Students who perceived themselves as physically fit were significantly less likely to report lifestyle disorders compared with those perceiving themselves as physically unfit. Furthermore, disorder group was significantly associated with disorder management behavior ($\chi^2 = 11.544$, $p = 0.021$). Correlation analysis revealed a weak but statistically significant negative relationship between lifestyle disorder burden and

management attempts ($r = -0.126$, $p = 0.021$), suggesting that students with a higher burden of disorders were less likely to engage in self-management practices.

DISCUSSION

The present study demonstrates a substantial burden of lifestyle-related disorders among university students. Anxiety/depression and musculoskeletal disorders emerged as the most prevalent conditions, affecting more than one-third of participants. The high prevalence of obesity, gastrointestinal disorders, sleep disturbances, and hypertension further highlights the growing burden of non-communicable disease risk factors among young adults.

An important finding of this study was the significant association between physical fitness and lifestyle disorder burden. Students who perceived themselves as physically fit reported substantially fewer lifestyle disorders than those reporting poor physical fitness. These findings reinforce existing evidence suggesting that physical activity and fitness play a protective role against chronic disease development.

Sleep deprivation was another major concern, with nearly half of students sleeping less than six hours daily. Poor sleep has been associated with obesity, impaired academic performance, reduced cognitive function, and mental health disorders.

The significant association between disorder burden and management behaviour suggests that students with multiple disorders may require additional motivational and institutional support to engage in healthy behaviours.

The finding that 42.8% of students expressed willingness to participate in wellness programs presents an opportunity for universities to implement structured interventions focusing on exercise promotion, nutritional education, mental health counselling, and preventive health screening.

LIMITATIONS

1. Cross-sectional design limits causal inference.
2. Self-reported responses may introduce recall bias.
3. Physical fitness was assessed through perceived fitness rather than objective fitness testing.
4. Single university participation may limit generalizability.

CONCLUSION

Lifestyle disorders are highly prevalent among university students and are significantly associated with perceived physical fitness. Students reporting poor physical fitness exhibited a greater burden of lifestyle disorders. The findings support the implementation of university-based wellness initiatives emphasizing physical activity, healthy nutrition, adequate sleep, stress management, and routine health screening. Such interventions may reduce lifestyle disorder prevalence and improve overall student well-being.

II. Declaration by Authors

III. Ethical Approval: Obtained from the Institutional Ethics Committee.

IV. Informed Consent: Obtained from all participants.

V. Acknowledgement: The authors express gratitude to all participants and the Department of Physiotherapy for their cooperation and support.

VI. Source of Funding: None

VII. Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Mahindru, A., Patil, P., & Agrawal, V. (2023). The role of physical activity in mental health and well-being: a review. *Cureus*, 15(1)in mental health and well-being: a review. *Cureus*,
2. Gibson-Helm, M., ... and Moran, L. (2023). Lifestyle management of polycystic ovary syndrome – beyond diet and exercise. *BMC Endocrine Disorders*, 23(1),
3. M., Kasperek, W., Guzik, A. and Drużbicki, M. (2022). Body composition and fitness: Does this relationship change over 4 years in young people? *International Journal of Environmental Research and Public Health*, 19 (3), 1579.
4. Kljajevic, V., Stankovic, M., Djordjevic, D., Trkulja-Petkovic, D., Jovanović, R., Plazibat, K., Oršolić, M., Čurić, M., and; Sporis, G. (2022). Physical activity and fitness among university students – A Systematic review. *International Journal of Environmental Research and public health*.
5. Herbert, C. (2022). Enhancing mental health, well-being and active lifestyles of university students by means of physical activity and exercise research programs. *Frontiers in public health*, 10, 849093.
6. Chaabna, K., Mamtani, R., Abraham, A., Maisonneuve, P., Lowenfels, A. B., & Cheema, S. (2022). Physical activity and its barriers and facilitators among university students in Qatar: a cross-sectional study. *International journal of environmental research and public health*, 19(12), 7369.
7. Gao, F. And Sun, Y Zhang, F., Zhou, F., Dog, f. kean, ke, z., ... the oneself Sun, H. (2021). The prevalence and style bonds, anxiety and depression in the first year of the Chinese College: a transverse study. *International Stage of Nursing Science*, 8 (3), 347-353.
8. Tikka, S. K., Garg, S., & Siddiqui, M. A. (2021). Prescribing physical activity in mental health: A focused review on the latest evidence, recommendations, challenges, and relevance to India. *Indian Journal of Psychological Medicine*, 43(6), 535-541..
9. Alam, S., Khan, S. B., Khattak, Q. W., Abidin, S. Z. U., Farooqi, S., Khan, Z., & Kazmi, A. (2021). Level of physical activity in undergraduate students in Peshawar, Pakistan. *Asian Journal of Health Sciences*, 7(1), ID20-ID20.
10. Bennasar-Veny, M., Yañez, A. M., Pericas, J., Ballester, L., Fernandez-Dominguez, J. C., Tauler, P., & Aguilo, A. (2020). Cluster analysis of health-related lifestyles in university students. *International journal of environmental research and public health*, 17(5), 1776.
11. Nagheer, D., Irvin, R., & Younger-Coleman, N. (2017). Overview of the prevalence and associated risk, factors of lifestyle diseases in university students. *International Journal of Clinical Medicine*, 8(05), 344.
12. De la Motte, S. J., Gribbin, T. C., Lisman, P., Murphy, K., & Deuster, P A(2017). Systematic review of the association between physical fitness and Musculoskeletal injury risk: Part 2—Muscular endurance and muscular strength. *The Journal of Strength & Conditioning Research*, 31(11), 3218-3234.
13. Quartiroli, A., & Maeda, H. (2016). The effects of a lifetime physical fitness (LPF) course on college students' health behaviors. *International Journal of Exercise Science*, 9(2), 136.[10]
14. Grissom, J. B. (2005). Physical fitness and academic achievement. *Journal of Exercise Physiology Online*, 8 .
15. Blair, S. N., LaMonte, M. J., andamp; Nichaman, MZ (2004). The evolution of physical activity recommendations: how much is enough? *American Journal of Clinical Nutrition*, 79(5), 913S-920S.
16. Paffenbarger Jr, R. S., Hyde, R., Wing, A. L., & Hsieh, C. C. (1986). Physical activity, all-cause mortality, and longevity of college alumni. *New England journal of medicine*, 314(10), 605-613.

17. Alghadir, A. H., Gabr, S. A., & Al-Eisa, E. S. (2015). Physical activity and cognitive performance in college students: A study from Saudi Arabia. *Medical Science Monitor*, 21, 499–506. <https://doi.org/10.12659/MSM.892053>
18. American College Health Association. (2020). *National College Health Assessment II: Reference Group Executive Summary Spring 2020*. Hanover, MD: ACHA.
19. Biddle, S. J. H., & Asare, M. (2011). Physical activity and mental health in children and adolescents: A review of reviews. *British Journal of Sports Medicine*, 45(11), 886–895. <https://doi.org/10.1136/bjsports-2011-090185>
20. Heyward, V. H. (2010). *Advanced Fitness Assessment and Exercise Prescription* (6th ed.). Human Kinetics.
21. Kushner, R. F., & Choi, S. W. (2010). Prevalence of metabolic syndrome in overweight and obese college students. *Nutrition in Clinical Practice*, 25(6), 622–628. Park, K. (2019). *Preventive and Social Medicine* (25th ed.). Jabalpur: M/s Banarsidas Bhanot Publishers.
22. Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., ... & Viner, R. M. (2016). Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet*, 387(10036), 2423–2478. [6736\(16\)00579-1](https://doi.org/10.1016/S0140-6736(16)00579-1)
23. Racette, S. B., Deusinger, S. S., Strube, M. J., Highstein, G. R., & Deusinger, R. H. (2005). Weight changes, exercise, and dietary patterns during freshman and sophomore years of college. *Journal of American College Health*, 53(6), 245–251. Sogari, G., Velez-Argumedo, C., Gómez, M. I., & Mora, C. (2018). College students and eating habits: A study using an ecological model for healthy behavior. *Nutrients*, 10(12), 1823. <https://doi.org/10.3390/nu10121823>
24. Wilmore, J. H., & Costill, D. L. (2004). *Physiology of Sport and Exercise* (3rd ed.). Human Kinetics.
25. World Health Organization. (2020). *Global status report on noncommunicable diseases 2020*. Geneva: WHO Press.