CAHIERS MAGELLANES-NS
Volume 06 Issue 2
2024

ISSN:1624-1940
http://magellanes.com/

PATTERN AND DETERMINANTS OF HEALTHY LIFESTYLES AMONG MEDICAL STUDENTS, JEDDAH, SAUDI ARABIA 2022

Manal Ibrahim Hanafi Mahmoud [1,2], Hawazin Salem Althobaiti[1], Raghad Rushdy Filfilan*[1], Rozana Mohammed Hamadah[1], Ruba Abdullah Kurdi[1].

[1]Ibn Sinal National College for Medical Studies, Jeddah, KSA.
[2]Community Medicine Department, Faculty of Medicine, Alexandria University, Egypt.

***Corresponding author**: Raghad Rushdy Filfilan; **Email:** rushdyraghad@gmail.com.

Abstract

Background: Lifestyle is the way of living, reflects an individual's attitudes, value, or world view. It is assumed to be an important factor affecting health.

Objectives: To identify pattern of and determinants of life styles among male and female medical students, Jeddah, KSA.

Methods: A cross-sectional survey included 204 male and female medical students at private medical college. A specially designed pre-coded closed ended pilot tested online questionnaire in English and Arabic was used. It included socio-demographic characteristics and lifestyle habits (sleeping pattern, activity level, feeding pattern, smoking, medication and medical history). Chi-square, independent t-test and bivariate analysis were conducted. Statistical significance was at p less than 0.05.

Results: There were significant differences regarding: activity level (p=0.001), smoking (p=0.001), self-medication (p=0.000), exposure to stressful life events (p=0.021) and total life style score (p=0.001). Gender was negatively correlated with activity level score (r=-.236, p=0.001), smoking score (r=.221, p=0.001), self-medication score (r=-.337, p=0.000) and stressful life events score (r=-.158, p=0.24). The feeding pattern score was affected by age (r=0.184, p=0.008), socio-economic level (r=0.188, p= 0.007), educational level (r=0.191, p=0.006) BMI (r=0.191, p=0.006) and chronic medical condition (r=0.144, p=0.040). Both smoking and self-medication scores were affected by chronic medical conditions (r=0.206, p=0.003 and r=0.247, p=0.000 respectively)

Conclusion: The total healthy life style score was significantly low. Gender has an effect on activity level, smoking, self-medication and stressful life events scores. Feeding pattern score is affected by age, socio-economic level, education level, body mass index and chronic medical condition.

Key words: Life styles; Medical students; Sleeping pattern; Exercise; Feeding pattern

Introduction

Lifestyle is the way of living, typically reflects an individual's attitudes, value, or world view. It is often assumed to be an important factor affecting health and lifestyle information is used for health promotion.(1) *It also includes the interests, opinions, behaviors, and behavioral orientations of an individual, group, or culture*.(1,2) The broader sense of lifestyle as a "way or style of living" has been documented since 1961.(3)

A number of lifestyle factors have been recognized to play an important role in positively modifying medical and psychiatric diseases and their associated morbidity and mortality. They include sleeping pattern, activity level, feeding pattern, body mass index, smoking pattern and stressful life events. Additional lifestyle factors for healthy living include safe and peaceful environment, social connections/support and healthy mental activities.(4)

ISSN:1624-1940
http://magellanes.com/

Burnout causes personal suffering and adverse professional consequences. It is prevalent among medical students. [5] Socioeconomic status, level of education, family, media and social networks, gender, age and interpersonal influences all affect the choice of lifestyle. [6,7]
Medical students tend to reduce their sleep, in an effort to adjust and cope with their workload and stressful environment.[6] Poor sleep quality is closely associated with lifestyle habits including use of mobile cell-phones.[8] Because impaired dietary habits, such as skipping breakfast and taking meals irregularly, are correlated with poor performances.[9]

Lifestyle has a great impact on the overall physical and mental health of people on the short and long term. A healthy lifestyle is a way of living that lowers the risk of being seriously ill or dying early from associated risk of development of non-communicable diseases [NCD].[10-13]. Despite the known benefits of healthy behaviors, few people engage in several healthy behaviors at once. [13,17,18-23]
The rate at which people engage in healthy behavior may be an important index of public health and serve as a major predictor of the future disease burden and medical expenditures and may be useful for developing health promotion and disease prevention programs. [14-24]

Collectively, life styles are important for health promotion and quality of life. No sufficient updated available data about healthy life styles among medical students in Saudi Arabia; therefore, this study was carried out to their determine pattern and determinants of life styles among medical students.

Objectives

1. To identify pattern of life styles among the male and female medical students, Jeddah, KSA.
2. To identify the determinants of life styles among the male and female medical students at Jeddah, KSA.

Subjects and Methods

Study design: A cross-sectional survey was conducted from February to April 2022.
Study population and settings: The study population included male and female medical students at Ibn Sina National College for Medical studies, Jeddah, KSA.
Ethics: Approval from the Research Center at Ibn Sina National College was pursued **(Ref No.: IRRB-03-07052023)**. The purpose of the study was explained to the students. Verbal and written informed consent were obtained. Ethics and confidentiality of the data were assured.
Study tool: A specially designed pre-coded closed ended online questionnaire in English and Arabic was used. The questionnaire was pre-tested on a random sample of 20 students to ensure practicability, validity, and interpretation of responses. Its reliability was assessed using Cronbach's alpha (0.876). The questionnaire included the following data: socio-demographic characteristics, lifestyle habits including sleeping pattern, activity level, feeding pattern, smoking, medication, medical history and gynecological history.
Sample size and sampling technique: The total number of students to be selected was estimated using the following formula: [25]
n0= Z2pq/e2
Where; Z = critical value of the desired confidence interval (1.96 at 95%, 1.645 at 90%, 2.33 at 98% and 2.575% at 99%) e= margin of error; 0.05 p= the estimated proportion of attribute that is present in the population; 0.50, q= 1-p; 0.50.
Based on these assumptions, convenient sample of 186 students was calculated. For ease of calculation and analysis, 190 were chosen as the minimum sample size.
Statistical analysis: Data was collected and coded before being entered into Excel. Then data were entered and analyzed with SPSS version 25.0 and were presented as frequencies, means and standard

ISSN:1624-1940
http://magellanes.com/

deviations. Bivariate analysis was conducted to test significant differences. Chi-square and independent t-test were used to analyze variables. Statistical significance was assumed at p less than 0.05.
The mean percent scores for socioeconomic level, chronic medical condition and life style were calculated using the following formula:
Percent score =∑Scores of questions selected/ maximum possible score for these questions × 100
The answers of questions that were considered in calculation were scored (if binary question, it would be 0for no and 1 for yes), and the actual answers for that questions were summated. Then, the maximum possible score that could be obtained for those questions was calculated. (Appendix 1) Using the above formula, the score was calculated. To calculate the percent score, the mean value ± SD was multiplied by 100.

Results

The present work included 204 medical students; 71 (34.8%) males and 133 (65.2%) females. Their mean age in years was 22.3 (2.20). More than half (56.9%) enrolled in clinical years, 94.6% was single and 81.4% were Saudi. (Table 1)
There was insignificant difference in the socioeconomic level and chronic medical condition scores [73.9% (21.56) and 85.8% (16.71) respectively]. (Table 1)
Regarding body mass index (BI), there was a significant difference between males and females (p=0.043) with a mean value of 23.9 (5.87). (Table 1)

Table 1: Socio-demographic description and health status of the studied ISNC medical students according to their gender, Jeddah, 2022

	Total		Males		Females		P-value
	Number (N=204)	Percent (100.0%)	Number (N=71)	Percent (100.0%)	Number (N=133)	Percent (100.0%)	
Age (in years)[a] Mean (SD)	22.3 (2.20)		22.4 (2.15)		22.2 (2.24)		0.478
Educational level							
Preclinical years	88	43.1	36	50.7	52	39.1	0.111
Clinical years	116	56.9	35	49.3	81	60.9	
Marital status							
Single	193	94.6	67	94.4	126	94.7	0.911
Ever married	11	5.4	4	5.6	7	5.3	
Nationality							
Saudi	166	81.4	54	76.1	112	84.2	0.154
Non-Saudi	38	18.6	17	23.9	21	15.8	
Socio-economic level score [a] Mean (SD)	73.9 (21.56)		72.7 (20.93)		74.1 (21.94)		0.656
BMI [a] Mean (SD)	23.9(5.87)		25.05 (5.57)		23.3 (5.96)		0.043*
Chronic medical conditions score [b] Mean (SD)	85.8 (16.71)		88.3 (14.14)		84.5 (17.85)		0.123

a: expressed as mean and SD, b: only present medical conditions, *P-value is significant at < 0.05 level

ISSN:1624-1940
http://magellanes.com/

Mean age of menarche for the studied female students was 13.4years (2.86) years. (Data were not presented) About three fourths (74.4%) of studied females had regular menses, 70.7% had dysmenorrhea and 20.3% suffered from polycystic ovary. (Figure 1)

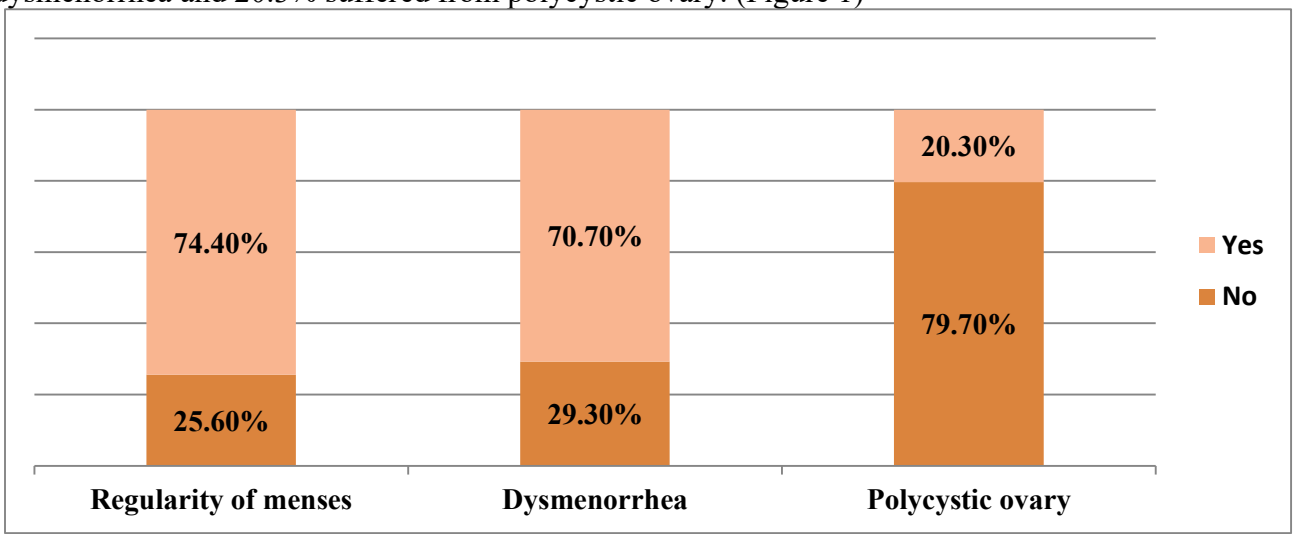

Fig. 1: Gynecological history of the included female students

The present study revealed that the mean duration of sleep was 6.5 hours (3.81); with insignificant difference between males and females. The mean number of meals per day was 2.4 (2.53) with a significant difference between males and females (p=0.032). Figure 2 illustrates the pattern of health life styles among the studied students. The following had significant differences between males and females: practicing exercise, use of elevator, intake of green vegetables and active smoking (p= 0.001, 0.001, 0.008 and 0.002 respectively). (Figure 2)

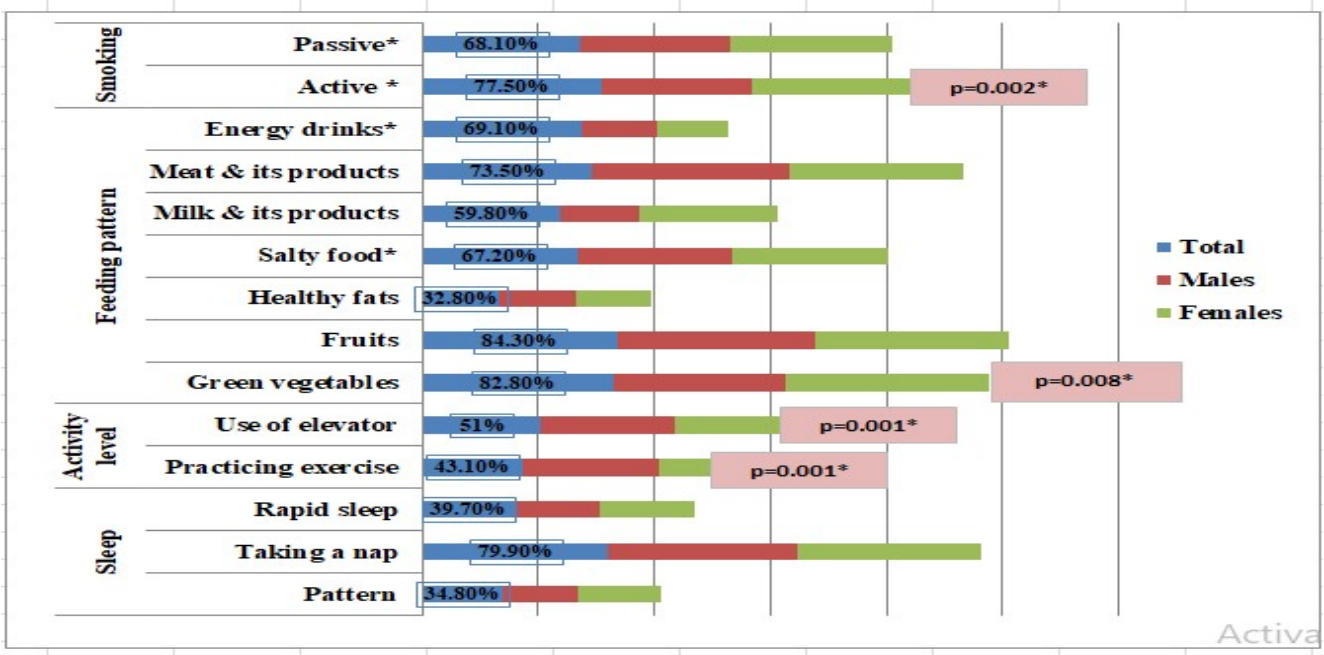

Fig. 2: Pattern of healthy life style among the studied medical students

* The presented percent for non-practicing this style

**P-value is significant at < 0.05 level

ISSN:1624-1940
http://magellanes.com/

Regarding exposure to stressful life events, only 3.4% of the students insignificantly stated that they did not expose; 7% among males and only 1.5% among females. The most stated stressful life event was "Study" (75.9%; males=74.6%, females= 76.7%). (Figure 3)
The majority of students (90.7%; males= 30.9% and females = 91.7%) insignificantly use smart phones daily for long time; with a mean duration in hours of 7.9 (3.64). (Figure 3)

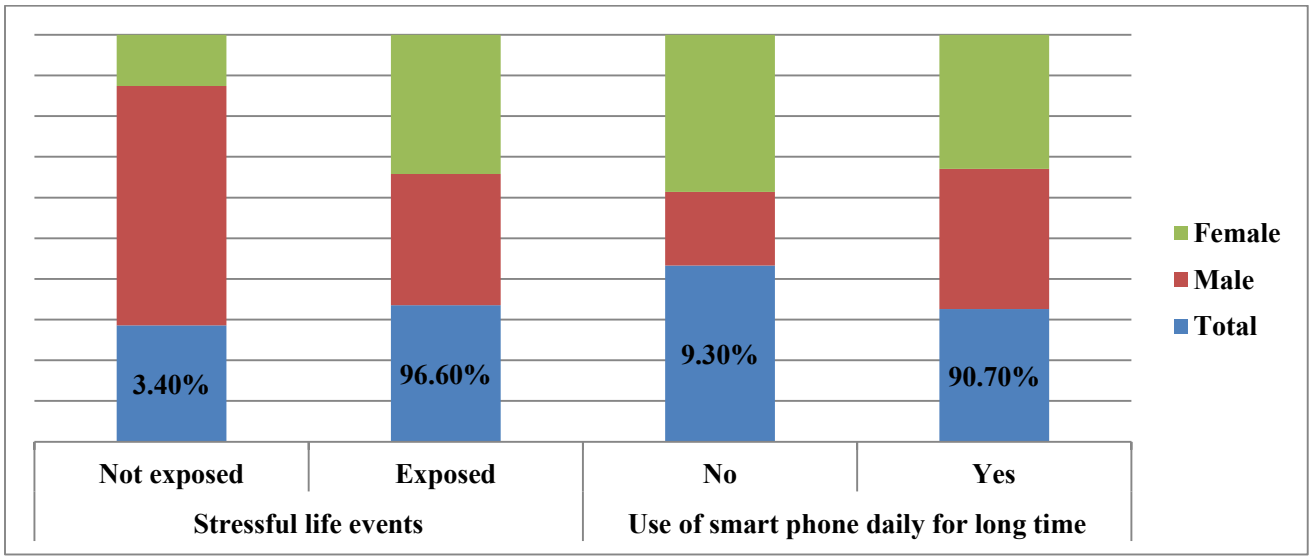

Fig. 3: Exposure of the studied students to stressful life events and their daily use of smart phone for long time

There were significant differences among studied males and females regarding the following life style scores: activity level (p=0.001), smoking (p=0.001), self-medication (p=0.000), exposure to stressful life events (p=0.021) and also for total life style score (p=0.001). (Table 2)

Table 2: Life style scores of the studied ISNC medical students according to their gender, Jeddah, 2022

	Total		Males		Females		P-value*
	Mean	SD	Mean	SD	Mean	SD	
Sleep score	59.1	21.57	60.9	21.44	58.1	21.66	0.486
Activity level score	43.1	49.65	59.2	49.50	34.6	47.74	0.001*
Feeding pattern score	70.2	19.54	68.5	20.69	71.1	18.92	0.410
Smoking score	55.5	8.38	53.0	9.62	56.8	7.32	0.001*
Self-medication score	65.9	25.86	77.8	24.48	59.6	24.37	0.000*
Stressful life events score	34.1	24.89	39.4	25.24	31.2	24.31	0.021*
Chronic medical	85.9	16.72	88.3	14.14	84.5	17.85	0.138

ISSN:1624-1940
http://magellanes.com/

condition score							
Total life styles score	53.0	7.80	55.4	7.72	51.6	7.55	0.001*

*P-value is significant at < 0.05 level

Regarding factors affecting life style scores, it was found that gender was negatively correlated with activity level score (r=-.236, p=0.001), smoking score (r=.221, p=0.001), self-medication score (r=-.337, p=0.000) and stressful life events score (r=-.158, p=0.24). (Table 3)
The feeding pattern score was affected by age (r=0.184, p=0.008), socio-economic level (r=0.188, p= 0.007), educational level (preclinical or clinical) (r=0.191, p=0.006) BMI (r=0.191, p=0.006) and chronic medical condition (r=0.144, p=0.040). Both smoking and self-medication scores were affected by chronic medical conditions (r=0.206, p=0.003 and r=0.247, p=0.000 respectively). (Table 3)

Table 3: Factors affecting various life style scores among the studied ISNC medical students, Jeddah, 2022

		Correlation coefficient (r)	Sig. level
Sleep score	**Age**	-.065	.352
	Gender	-.063	.373
	Socioeconomic level	-.133	.057
	Educational level	.034	.633
	BMI	.067	.342
	Chronic medical conditions	.065	.357
Activity level score	**Age**	.041	.561
	Gender	-.236**	.001
	Socioeconomic level	-.108	.124
	Educational level	.019	.785
	BMI	.075	.289
	Chronic medical conditions	-.007	.917
Feeding pattern score	**Age**	.184**	.008
	Gender	.064	.365
	Socioeconomic level	.188**	.007
	Educational level	.191**	.006
	BMI	.191**	.006
	Chronic medical conditions	.144*	.040
Smoking score	**Age**	-.106	.131
	Gender	.221**	.001
	Socioeconomic level	.058	.409
	Educational level	.075	.288
	BMI	-.024	.734

ISSN:1624-1940
http://magellanes.com/

	Chronic medical conditions	.206**	.003
Self-medication score	**Age**	-.101	.152
	Gender	-.337**	.000
	Socioeconomic level	.071	.315
	Educational level	-.114	.103
	BMI	-.018	.794
	Chronic medical conditions	.247**	.000
Stressful life events score	**Age**	.051	.470
	Gender	-.158*	.024
	Socioeconomic level	.064	.361
	Educational level	-.041	.564
	BMI	-.043	.545
	Chronic medical conditions	.005	.939

***Correlation is significant at the 0.05 level (two tailed).**
**** Correlation is significant at the 0.01 level (two tailed)**

Discussion

The current study aimed to identify the pattern and determinants of life styles among medical students in Jeddah, KSA 2022. The study included 204 medical students from a private medical college; 34.8% of them were males and 65.2% were females.

The present study revealed that the mean age of studied students was 22.3 years (2.20) and the mean total life style score was only 53.0% (7.80); with significant difference between males and females. These results were similar to that obtained by one research where they conclude that the lowest healthy life style practice was for age group 19-44 years; especially among college graduate.[(26)] Medical students; especially those in clinical years are overwhelmed by study, clinical training and exams. Their timeline almost always busy and they have neither time for thinking about their own life styles nor their modification. There should be a plan for increasing their awareness and for creating a time schedule suitable for their healthier life.

The current study illustrates that there was significant difference between gender and activity level, smoking, self-medication and stressful life events scores. These findings were obtained by other researches.[(27)] Males are more concerned about their muscle bulk and so they practice exercise more than females. Males are more active smokers than females. Meanwhile the effects of stressful life events are more predominant among females who tend to relief them by many ways including self-medications. Nearly three fourths of the studied females suffered from dysmenorrhea. That is why self-medications; especially analgesics are used mainly by females to relief their pains. The same finding was stated in other work.[(28)]

The present work revealed that the studied students were middle to high socioeconomic level. The only healthy life style score that was significantly affected by the socioeconomic level was the feeding pattern. Moreover, one study proved that healthy life styles were affected by the socioeconomic level. [(29)] The selection of the participants from one private college; with nearly similar socioeconomic level may explain the obtained results.

ISSN:1624-1940
http://magellanes.com/

The current work revealed that studied students significantly had optimum BMI; which was similar to previous research which proved that nearly three fourths of medical students had ideal BMI. [29] The present work revealed that the only affected life style with BMI was of course; the feeding pattern score. Moreover, there is an insignificant negative relationship between BMI and smoking, self-medication and stressful life events scores. Smoking is known to have a suppressing effect on appetite. Those with lower BMI were more prone to stressful life events and had greater tendency for self-medications. One research illustrated that lean people exposed to more stressors together with their greater tendency to use many medications without consultation; may be for relieving their stress or increasing their weight. [29]

Study limitation

The online method for data collection together with the short time frame that was planned for data collection were from the limitations encountered with this work together with moderate response of the students. Inclusion of only medical students may be one of our imitations.

Conclusion

Healthy life styles are pillars of health quality and their practice necessitate the individual commitment. Medical students who are the future physician constitute models for others in all life aspects including life styles. Nearly all community members try to mimic these models and approach them.

This study aimed to determine the pattern and determinants of healthy life styles and factors affecting them among medical students. The most important finding was that the total healthy life style score among the study group was significantly low. Gender has an effect on activity level, smoking, self-medication and stressful life events scores. Feeding pattern score is affected by age, socio-economic level, education level, body mass index and chronic medical condition.

Recommendation

Medical students who are the future physician constitute models for others who are trying to mimic their behaviors in many practices including self-medication. Planned health education programs should be directed to medical students to increase their knowledge, attitude and practice of healthy life styles. Not only that, but also there must be channels for dissemination of more detailed knowledge to general population.

Acknowledgment

The authors thank the participants involved in the study for their cooperation and help.

Conflict of interest

There is no conflict of interest between authors.

Fund

None

Role of Authors

Prof. Manal Mahmoud conceptualized the study, supervised the study procedures, contributed to data collection, analysis, and interpretation, and drafted the first manuscript. Hawazin Salem Althobaiti and Raghad Rushdy Filfilan designed the survey, helped with data acquisition, analysis, and interpretation of the results and the first draft of the overall manuscript. Rozana Mohammed Hamadah, Ruba Abdullah

Kurdi shared in reviewing the literature and the introduction section, in addition to data collection. Hawazin Salem Althobaiti, Raghad Rushdy Filfilan, Rozana Mohammed Hamada, Ruba Abdullah Kurdi contributed to quantitative data collection and analysis and interpretation of the results. All authors made the essential contributions, critically reviewed, and approved the final manuscript.

References

1. Lifestyle from Merriam-Webster's Dictionary
2. *Lynn R. Kahle; Angeline G. Close (2011). Consumer Behavior Knowledge for Effective Sports and Event Marketing. New York: Routledge. ISBN 978-0-415-87358-1.*
3. *"lifestyle | Search Online Etymology Dictionary". www.etymonline.com*. Retrieved 2021-12-20.
4. Zaman R, Hankir A. LIFESTYLE FACTORS AND MENTAL HEALTH [Internet]. Srce.hr. [cited 2022 Sep 28]. Available from: https://hrcak.srce.hr/file/382167
5. Almojali AI, Almalki SA, Alothman AS, Masuadi EM, Alaqeel MK. The prevalence and association of stress with sleep quality among medical students. J Epidemiol Glob Health [Internet]. 2017 [cited 2022 Sep 28];7(3):169–74. Available from: https://pubmed.ncbi.nlm.nih.gov/28756825/
6. Loutfy I, Abdel Aziz F, Dabbous NI, Hassan MHA. Women's perception and experience of menopause: a community-based study in Alexandria, Egypt. East Mediterr Health J [Internet]. 2006 [cited 2022 Sep 28];12 Suppl 2:S93-106. Available from: https://pubmed.ncbi.nlm.nih.gov/17361681/
7. Ochieng BM. Factors affecting choice of a healthy lifestyle: implications for nurses. British Journal of Community Nursing. 2006 Feb;11(2):78-81.
8. Devi HM, Purborini N, Chang H-J. Mediating effect of resilience on association among stress, depression, and anxiety in Indonesian nursing students. J Prof Nurs [Internet]. 2021 [cited 2022 Sep 28];37(4):706–13. Available from: https://pubmed.ncbi.nlm.nih.gov/34187668/
9. Healthy lifestyle among Ha'il university students, Saudi Arabia - pharmaceutical research and allied sciences [Internet]. Ijpras.com. [cited 2022 Sep 28]. Available from: https://ijpras.com/article/healthy-lifestyle-among-hail-university-students-saudi-arabia
10. Hanafi MI. Healthy lifestyles among women in reproductive age in urban Alexandria Egypt 2006: community based study.
11. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. JAMA 2004;291(10):1238- 1245.
12. Kurth T, Moore SC, Gaziano JM, Kase CS, Stampfer MJ, Berger K, et al. Healthy lifestyle and the risk of stroke in women. Arch Intern Med 2006;166(13):1403-1409.
13. Hu FB, Manson JE, Stampfer MJ, Colditz G, Liu S, Solomon CG, et al. Diet, lifestyle, and the risk of type 2 diabetes mellitus in women. N Engl J Med 2001;345(11):790-797.
14. Schlecht NF, Franco EL, Pintos J, Negassa A, Kowalski LP, Oliveira BV, et al. Interaction between tobacco and alcohol consumption and the risk of cancers of the upper aero-digestive tract in Brazil. Am J Epidemiol 1999;150(11):1129-1137.
15. Pronk NP, Wing RR. Physical activity and long-term maintenance of weight loss. Obes Res 1994;2(6):587-599.
16. Byun W, Sieverdes JC, Sui X, Hooker SP, Lee CD, Church TS, et al. Effect of positive health factors and all-cause mortality in men. Med Sci Sports Exerc 2010;42(9):1632-1638.
17. Stampfer MJ, Hu FB, Manson JE, Rimm EB, Willett WC. Primary prevention of coronary heart disease in women through diet and lifestyle. N Engl J Med 2000;343(1):16-22.

ISSN:1624-1940
http://magellanes.com/

18. Ford ES, Bergmann MM, Kroger J, Schienkiewitz A, Weikert C, Boeing H. Healthy living is the best revenge: findings from the European Prospective Investigation Into Cancer and NutritionPotsdam study. Arch Intern Med 2009;169(15):1355-1362.
19. Ford ES, Ford MA, Will JC, Galuska DA, Ballew C. Achieving a healthy lifestyle among United States adults: a long way to go. Ethn Dis 2001;11(2):224-231.
20. Reeves MJ, Rafferty AP. Healthy lifestyle characteristics among adults in the United States, 2000. Arch Intern Med 2005;165(8): 854-857.
21. Pronk NP, Anderson LH, Crain AL, Martinson BC, O'Connor PJ, Sherwood NE, et al. Meeting recommendations for multiple healthy lifestyle factors. Prevalence, clustering, and predictors among adolescent, adult, and senior health plan members. Am J Prev Med 2004;27(2 Suppl):25-33.
22. King DE, Mainous AG 3rd, Carnemolla M, Everett CJ. Adherence to healthy lifestyle habits in US adults, 1988-2006. Am J Med 2009;122(6):528-534.
23. Kang K, Sung J, Kim CY. High risk groups in health behavior defined by clustering of smoking, alcohol, and exercise habits: National Health and Nutrition Examination Survey. J Prev Med Public Health 2010;43(1):73-83 (Korean).
24. Bibbins-Domingo K, Coxson P, Pletcher MJ, Lightwood J, Goldman L. Adolescent overweight and future adult coronary heart disease. N Engl J Med. 2007;357(23):2371-2379.
25. Daniel WW, Cross CL. Biostatistics: a foundation for analysis in the health sciences. Wiley 2018.
26. Associations between socio-demographic characteristics and healthy ... (no date). Available at: http://jpmph.org/upload/pdf/jpmph-47-113.pdf (Accessed: October 27, 2022).
27. Dungog, R.J., Tamanal, J.M. and Kim, C.H. (2021) The assessment of lifestyle status among high school and college students in Luzon, Philippines, Journal of lifestyle medicine. Yonsei University Wonju College of Medicine. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8430313/ (Accessed: October 27, 2022).
28. van Noord PA;Dubas JS;Dorland M;Boersma H;te Velde E; (no date) Age at Natural Menopause in a population-based screening cohort: The role of menarche, fecundity, and lifestyle factors, Fertility and sterility. U.S. National Library of Medicine. Available at: https://pubmed.ncbi.nlm.nih.gov/9207591/ (Accessed: October 27, 2022).
29. Ryu, S.Y. et al. (2014) Associations between socio-demographic characteristics and healthy lifestyles in Korean adults: The result of the 2010 community health survey, Journal of Preventive Medicine and Public Health. The Korean Society for Preventive Medicine. Available at: https://www.jpmph.org/journal/view.php?doi=10.3961%2Fjpmph.2014.47.2.113 (Accessed: October 27, 2022).

ISSN:1624-1940
http://magellanes.com/

Appendix 1: Variables used for calculation of the scores included in this study

I. Socioeconomic level score	**III. Life style scores**
1. Housing crowding index	**A. Sleep score** 1. Sleep pattern
	2. Sleeping hours
2. Sleep crowding index	3. Taking a nap
3. Education of father	4. Falling asleep fast
4. Work status of father	**B. Activity level score** 1. Practicing exercise
5. Education of mother	2. Times per week
6. Work status of mother	3. Duration in minutes per week
II. Chronic medical conditions score	**C. Feeding pattern score** 1. Eat green leafy vegetables 2. Times per week 3. Eat fresh fruits 4. Times per week 5. Eat healthy oils 6. Times per week 7. Eat salty food 8. Times per week 9. Eat milk and milk products 10. Times per week 11. Eat meat and meat products 12. Times per week 13.Intake of energy drinks 14. Times per week
1. Congenital problems	
2. GIT diseases	
3. ENT diseases	
4. Chest diseases	
5. CVS diseases	
6. CNS diseases	
7. Endocrine diseases	
8. Others	
	D. Smoking score 1. Active smoker 2. Times per week 3. Duration in years 4. Passive smoker 5. Duration in years
	E. Self-medication score 1. Intake of medications without prescription
	F. Stressful life events score 1. Exposure to stress 2.Planned weekly leisure time