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Review Article

**GENDER DIFFERENCES IN HABITS FOR A HEALTHY LIFESTYLE
AMONG MEDICAL STUDENTS, SAUDI ARABIA**

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Abstract

Background: healthy life style I mandatory for having nearest area to optimal health. Students at the medical field should be on the way of healthy behaviors which should be equal in both males and females.

Aim: ascertain gender differences in healthy habits if they exist.

Methodology: A random sample of 446 medical students (259 males and 187 females) was selected from faculty of medicine, King Khaled University, Abha, Saudi Arabia using a descriptive cross sectional approach. The sample was selected using one stage stratified cluster sampling technique with stratification based on student gender. A self-administered questionnaire containing the socio-demographic data of the respondent and their different lifestyle aspects (nutrition, smoking habits, physical activities and sleeping data) was used for data collection.

Results: The study included 446 medical students whose ages ranged from 17 to 29 years old with mean age of 21.9 ± 1.9 years while 58.1% of the included students were males. About 97% of the male students believe in importance of having healthy life style compared to 98.4% of the females. Also 80.3% of the male students agreed in differences between males and females regarding concept towards healthy life style compared to 74.9% of the female students. **Conclusions & recommendations:** The current research proved that there is generally shortage in adopting healthy life style among medical students especially for smoking and nutritional behaviors and also there is significant differences between male and female students regarding many aspects of healthy behaviour.

Keywords: Gender, Habit, Sleep disturbance, Smoking, Physical Activity, Cross-sectional studies, Healthy, Lifestyle, Medical students, KKU University, KKU, Saudi Arabia.

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BACKGROUND:

Health-related behavior in early life influences later risks for lifestyle-related disorders. It is therefore important to investigate health behaviors among young people. University students represent a major segment of the young adult population health-related behavior in early life influences later risks for lifestyle-related disorders. It is therefore important to investigate health behaviors among young people. University students represent a major segment of the young adult population

Health is defined by physical, social, cultural and economic environment where people live and work. [1,2] Healthy behaviors are activities and efforts that individuals practice to stay on healthy status, to reduce disease risk, and live happy and fulfilled life. [3,4] For developing healthy lifestyle, persons should develop and adhere to healthy eating habits, responsibility for health, regular and sufficient physical activity, satisfactory relationships, effective stress management and appropriate sense of self-realization. [5,6]

Drugs including drug consumption, especially tobacco and alcohol, unhealthy diet and lack of physical activity constitutes an important portion of the deaths and illnesses that occur in many regions including the European region of the World Health Organization. These lifestyles are largely modifiable through planned actions, and it is interesting for public health to know their evolution and trends in different communities and population groups. [7] Among these groups, the health habits of university students are a special concern, since they represent a major segment of the young population and they are at a stage of their lives during which important lifestyle modifications take place. [8] If these changes become fixed routines, they are likely to determine the person's future health. [9,10]

A widespread perception is that medical students, being future physicians, would have healthier lifestyle and dietary habits as compared to their non-medical counterparts. Studies have reported high prevalence of physical inactivity, mental stress, tobacco and alcohol use among a considerable proportion of medical students. [11-15] In a survey in a college population, 36% respondents revealed that time constraints posed a barrier to adoption of healthy practices.8 Initiation of unhealthy behaviour in medical students may be ascribed to peer pressure, mental stress, performance anxiety in a competitive academic environment, socio-cultural adjustment problems, inadequate parental supervision, home sickness after leaving their parental homes, and

greater financial autonomy as compared to their earlier years. [16,17]

Finally, to the author's knowledge, it seems that scientific research aimed to compare and identify healthy habits among university students, taking into account their gender and chosen academic discipline, are less frequent [18,19] especially in Saudi Arabia Thus, the aim of the present study is to assess the lifestyle of university students in order to: (a) ascertain gender differences in healthy habits if they exist and (b) determine whether the academic discipline that the selected students take part in are related to those behaviour.

METHODOLOGY:

A random sample of 2067 medical students (1023 males and 1044 females) was selected from five faculty of medicine, Saudi Arabia (Jazan, King Khalid University, Taif, Um Qoura, and Taibah University). Using a descriptive cross sectional approach. The sample was selected using two stage stratified cluster sampling technique as Five faculties were randomly selected then within each faculty, students were stratified according to their gender and then from each strata a sample was selected from at the different grades using systematic random sample depending on students' names list with proportional allocation technique. A self-administered questionnaire containing the socio-demographic data of the respondent and their different lifestyle aspects (nutrition, smoking habits, physical activities and sleeping data) was used for data collection. The questionnaire was distributed to the selected students in a random way by paper form and for privacy was put inside closed folder, with involvement of all college levels.

DATA ANALYSIS:

After data were collected it was revised, coded and fed to statistical software IBM SPSS version 20. . All statistical analysis was done using two tailed tests and alpha error of 0.05. P value less than or equal to 0.05 was considered to be statistically significant. Descriptive statistics was done by showing frequencies and percentages for each lifestyle domain items by respondents' gender. Chi-square or exact tests were used to test for significance of differences between students gender regarding all covered lifestyle domains.

RESULTS:

The study included 2067 medical students whose ages ranged from 17 to 29 years old with mean age of 21.5 ± 1.7 years while 49.% of the included students

were males and nearly all of them 98.9% were Saudi. As for residence, 81.7% were from urban areas (Table 1).

Regarding health related believes among the sampled students (Table 2), 98.1% of the male students believe in importance of having healthy life style compared to 98.4% of the females. Also 80.8% of the male students agreed in differences between males and females regarding concept towards healthy life style compared to 74.6% of the female students with statistical significance.

As for healthy life style in table (3), 43.9% of the male students sleep enough hours daily (7-9 hours) compared to 41.6% of the female students ($P>0.05$). Also 76.3% of the males had sleeping difficulties compare to 77.8% of the females and 67.1% of the males had sleeping disturbances compare to 71.3% of the females.

Smoking was recorded 16.7% of the male students compared to 2.6% of the females with recorded statistical significance. Home smoking was recorded

among 9.8% of males compared to 1.4% of the female with significant difference. About 14% of male student smoked shisha compared to 4.9% of females ($P<0.05$).

As for exercises, 30.6% of the males did physical exercises regularly compared to 29.2% of females with no statistical significance. Doing exercises for 6 to 7 days weekly was recorded among 22% of the male students compared to 18.7% of females. Also playing exercises for 1 hour or more was recorded among 34.8% of males compared to 9.2% of the females with statistical significance ($P<0.05$).

Considering nutritional habits, 67.4% of male students had their breakfast daily compared to 69.2% of females. About 95% of male students had healthy food compared to 58% of females with statistical significance ($P<0.05$). About 63% of male students had adequate water drinks daily compared to 49.2% of females with $P<0.05$. Also 89.1% of males had fast foods daily compared to 84.1% of females with significant difference ($P<0.05$).

Table (1): Socio-Demographic characteristics of sampled medical students, Saudi Arabia 2017

| Sample characteristic | | No | % |
|-----------------------|-----------|----------------|-------|
| Age in years | <20 years | 220 | 10.6% |
| | 20-24 | 1759 | 85.1% |
| | 25+ | 88 | 4.3% |
| Mean \pm SD | | 21.5 \pm 1.7 | |
| Gender | Male | 1023 | 49.5% |
| | Female | 1044 | 50.5% |
| Nationality | Saudi | 2045 | 98.9% |
| | Non Saudi | 22 | 1.1% |
| Residence | Urban | 1688 | 81.7% |
| | Rural | 379 | 18.3% |

Table (2): Health related believes recorded by sampled medical students, Saudi Arabia 2017

| Health related believes | | Gender | | | | Total | | P |
|--|-----|--------|-------|--------|-------|-------|-------|--------|
| | | Male | | Female | | No | % | |
| | | No | % | No | % | | | |
| Believe in healthy life style | Yes | 1004 | 98.1% | 1027 | 98.4% | 2031 | 98.3% | 0.691 |
| | No | 19 | 1.9% | 17 | 1.6% | 36 | 1.7% | |
| There is gender differences in life style | Yes | 827 | 80.8% | 779 | 74.6% | 1606 | 77.7% | 0.001* |
| | No | 196 | 19.2% | 265 | 25.4% | 461 | 22.3% | |

Table (3): Health related life style recorded by sampled medical students, Saudi Arabia 2017

| Life style | | Gender | | | | Total | | P |
|---|--------------------|--------|-------|--------|-------|-------|-------|--------|
| | | Male | | Female | | No | % | |
| | | No | % | No | % | | | |
| Daily sleeping hours | Inadequate | 574 | 56.1% | 610 | 58.4% | 1184 | 57.3% | 0.286 |
| | Adequate | 449 | 43.9% | 434 | 41.6% | 883 | 42.7% | |
| Have sleep difficulties | Yes | 781 | 76.3% | 812 | 77.8% | 1593 | 77.1% | 0.438 |
| | No | 242 | 23.7% | 232 | 22.2% | 474 | 22.9% | |
| Have sleep disturbances | Yes | 686 | 67.1% | 744 | 71.3% | 1430 | 69.2% | 0.038* |
| | No | 337 | 32.9% | 300 | 28.7% | 637 | 30.8% | |
| Smoking | Smoker | 171 | 16.7% | 27 | 2.6% | 198 | 9.6% | 0.001* |
| | Non smoker | 852 | 83.3% | 1017 | 97.4% | 1869 | 90.4% | |
| Home smoking | Unhealthy practice | 923 | 90.2% | 1029 | 98.6% | 1952 | 94.4% | 0.001* |
| | Healthy practice | 100 | 9.8% | 15 | 1.4% | 115 | 5.6% | |
| Shisha smoking | Smoker | 149 | 14.6% | 51 | 4.9% | 200 | 9.7% | 0.001* |
| | Non smoker | 874 | 85.4% | 993 | 95.1% | 1867 | 90.3% | |
| Do regular exercises | Unhealthy practice | 710 | 69.4% | 739 | 70.8% | 1449 | 70.1% | 0.493 |
| | Healthy practice | 313 | 30.6% | 305 | 29.2% | 618 | 29.9% | |
| Days of exercises / week | 1-2 | 75 | 24.0% | 91 | 29.8% | 166 | 26.9% | 0.221 |
| | 3-5 | 169 | 54.0% | 157 | 51.5% | 326 | 52.8% | |
| | 6-7 | 69 | 22.0% | 57 | 18.7% | 126 | 20.4% | |
| Duration of exercises daily(min) | < 30 min | 47 | 15.0% | 93 | 30.5% | 140 | 22.7% | 0.001* |
| | 30-60 | 157 | 50.2% | 184 | 60.3% | 341 | 55.2% | |
| | > 60 min | 109 | 34.8% | 28 | 9.2% | 137 | 22.2% | |
| Have breakfast | Unhealthy practice | 333 | 32.6% | 322 | 30.8% | 655 | 31.7% | 0.404 |
| | Healthy practice | 690 | 67.4% | 722 | 69.2% | 1412 | 68.3% | |
| Have healthy food | Unhealthy practice | 518 | 50.6% | 438 | 42.0% | 956 | 46.3% | 0.001* |
| | Healthy practice | 505 | 49.4% | 606 | 58.0% | 1111 | 53.7% | |
| Water liters / day | Inadequate | 380 | 37.1% | 530 | 50.8% | 910 | 44.0% | 0.001* |
| | Adequate | 643 | 62.9% | 514 | 49.2% | 1157 | 56.0% | |
| No. of fast food meals / week | Unhealthy practice | 911 | 89.1% | 878 | 84.1% | 1789 | 86.6% | 0.001* |
| | Healthy practice | 112 | 10.9% | 166 | 15.9% | 278 | 13.4% | |
| No. of daily meals | One | 68 | 6.6% | 120 | 11.5% | 188 | 9.1% | 0.001* |
| | 2-3 | 794 | 77.6% | 806 | 77.2% | 1600 | 77.4% | |
| | 4+ | 161 | 15.7% | 118 | 11.3% | 279 | 13.5% | |

* P ≤ 0.05 (significant)

DISCUSSION:

Among the changes from adolescence to adulthood is the admission of students to a university setting.

Accompanying this change is life style and attitude towards many life aspects like a new-found independence which results in university students having more autonomy over their lifestyles and behaviour. The change in this area of life is that many students are likely to engage in unhealthy and risky lifestyle behaviour which include alcohol abuse, tobacco use, physical inactivity and unhealthy dietary practices which may adversely affect their health in the long-term. Medical students are potential risky group depending on the nature of their career so they need to be more adherent to healthy life style.

The current study aimed at discovering the areas of differences at the life style according to the student gender and to discover areas of shortage for each gender.

The researchers focused on sleeping pattern, smoking behaviour, physical activities, and nutritional habits for the included sample. It was found that sleeping life style was the same among male and female gender with no statistical significance females had more sleep disturbances than males as more males were using hypnotics than males so they had no any annoyance during sleeping. Janse van Rensburg 2013 [20] also studied the same problem and found that females were more stressed than males and this was accompanied with more sleeping disturbances.

Considering smoking habits, the current study revealed that cigarette and shisha smoking was higher among males than females which is more popular and with trend findings and this was approved also by many studies. [20-22] The current study also revealed that about 6% of the females smoked either cigarettes or shisha which is considered as unusual behaviour in the Saudi community but this may be explained by that there were marvelous changes in the southern region specially Abha city in the last few years due to urbanization. This may be proved by that half of the females who smoked shisha was done at home.

As for physical activities, Females insignificantly practiced exercises more than males due lack of time among males. Also males were more concerned with activities focusing on body built which is suitable for their gender but females were more concerned with the traditional activities including walking and running which can be done daily. These findings were consistent with those of Janse van Rensburg 2013 [20] who found based on exercise sessions per month, female respondents exercised more than males. Also Ainsworth BE et al 1993 [23] found that Heavy-intensity exercises was greater in men than in women (98.1 vs 50.5, $p = 0.01$), while household

activities was greater in women than in men (238.2 vs 134.7, $p < .0001$). In contrast, males were more active than women as the prevalence of high activity level was two-fold higher among men than among women (10.8 % and 5.4 %, respectively) according to the findings of Azevedo M et 2007. [24]

With regards to nutritional habits, there was significant difference at rate of having outdoor meals which was more recorded among males than females which in turn made the total number of daily meals more also among males. This may be due to lifestyle nature of males as they spend more time outside home than females and the nature of the Saudi community.

CONCLUSIONS AND RECOMMENDATIONS:

The current research proved that there is generally shortage in adopting healthy life style among medical students especially for smoking and nutritional behaviors and also there is significant differences between male and female students regarding many aspects of healthy behaviour. The researchers recommend that more health education sessions are required to improve all non-medical and medical students' awareness regarding importance and benefits of adopting healthy life style with more concern on male students. Also healthy life style should be studied for students before the university grade for early prevention of being embedded in unhealthy behavior specially drug utilization and addiction.

REFERENCES:

1. Wilkinson R, Marmot M. The Solid Facts. Copenhagen: World Health Organization, 2003. Available at: http://www.euro.who.int/__data/assets/pdf_file/0005/98438/e81384.pdf. Accessed 25.12.2017.
2. Marmot M. Social determinants of health inequalities. Lancet. 2005; 365:1099-104.
3. Centers for Disease Control and Prevention. Health-Related Quality of Life (HRQOL) – Well-Being Concepts. Available at: <http://www.cdc.gov/hrqol/wellbeing.htm>. Accessed 25.12. 2017.
4. Herrman HS, Saxena S, Moodie R. Promoting Mental Health: Concepts, Emerging Evidence, Practice. A WHO Report in collaboration with the Victoria Health Promotion Foundation and the University of Melbourne. Geneva: World Health Organization; 2005. http://www.who.int/mental_health/evidence. Accessed 25.12.2017.

5. World Health Organisation. Health promotion. Available at: <http://www.who.int/healthpromotion/about/organization/units/en/>. Accessed 26.12.2017.
6. Walker SN, Sechrist KR, Pender NJ. The health-promoting lifestyle profile: development and psychometric characteristics. *Nurs Res*. 1987; 36:76-81.
7. World Health Organization (WHO). The European Health Report 2009: Health and Health Systems; WHO Regional Office for Europe Copenhagen, WHO: Copenhagen, Denmark, 2009.
8. Madureira, A.S.; Corseuil, H.X.; Pelegrini, A.; Petroski, E.L. Association between stages of behavior change related to physical activity and nutritional status in university students. *Cad. Saude Publ*. 2009, 25, 2139–2146.
9. Steptoe, A.; Wardle, J.; Cui, W.; Bellisle, F.; Zotti, A.M.; Baranyai, R.; Sanderman, R. Trends in smoking, diet, physical exercise, and attitudes toward health in European University students from 13 countries, 1990–2000. *Prev. Med*. 2002, 35, 97–104.
10. Von Bothmer, M.I.; Fridlund, B. Gender differences in health habits and in motivation for a healthy lifestyle among Swedish University students. *Nurs. Health Sci*. 2005, 7, 107–118.
11. Troyer D, Ullrich IH, Yeater RA, Hopewell R. Physical activity and condition, dietary habits, and serum lipids in second-year medical students. *J Am Coll Nutr*. 1990; 9:303-7.
12. Iqbal S, Gupta S, Venkatarao E. Stress, anxiety & depression among medical undergraduate students & their socio-demographic correlates. *Indian J Med Res*. 2015; 141(3):354-7.
13. Singh VV, Singh Z, Banerjee A, Basannar DR. Determinants of Smoking Habit among Medical Students. *MJAFI*. 2003; 59(3):209-11.
14. Goel N, Khandelwal V, Pandya K, Kotwal A. Alcohol and Tobacco Use Among Undergraduate and Postgraduate Medical Students in India: A Multicentric Cross-sectional Study. *Central Asian Journal of Global Health*. 2015; 4(1).
15. Collier DJ, Beales IL. Drinking among medical students: a questionnaire survey. *BMJ*. 1989; 299(6690):19-22.
16. Webb E, Ashton CH, Kelly P, Kamah F. An update on British medical students' lifestyles. *Med Educ*. 1998; 32:325-31.
17. Cullen KW, Koehly LM, Anderson C, Baranowski T, Prokhorov A, Basen- ngquist K, et al. Gender differences in chronic disease risk behaviours through the transition out of high school. *Am J Prev Med*. 1999; 17(1):1-7.
18. Riou Franca, L.; Dautzenberg, B.; Falissard, B.; Reynaud, M. Peer substance use overestimation among French university students: A cross-sectional survey. *BMC Public Health* 2010, 10, doi: 10.1186/1471-2458-10-169.
19. Tirodimos, I.; Georgouvia, I.; Savvala, T.N.; Karanika, E.; Nougari, D. Healthy lifestyle habits among Greek university students: Differences by gender and faculty of study 3. *East Mediterr. Health J*. 2009, 15, 722–728.
20. Janse van Rensburg, C. & Surujlal, J. Gender differences related to the health and lifestyle patterns of university students. *Health SA Gesondheid* 2013; 18(1):735-43.
21. Allen AM, Scheuermann TS, Nollen N, Hatsukami D, Ahluwalia JS. Gender differences in smoking behavior and dependence motives among daily and nondaily smokers. *Nicotine & Tobacco Research*. 2015 Jun 30;18(6):1408-13.
22. Chen A, Krebs NM, Zhu J, Sun D, Stennett A, Muscat JE. Sex/Gender Differences in Cotinine Levels Among Daily Smokers in the Pennsylvania Adult Smoking Study. *Journal of Women's Health*. 2017 Nov 1;26(11):1222-30.
23. Ainsworth BE, Richardson M, Jacobs Jr DR, Leon AS. Gender differences in physical activity. *Women in Sport and Physical Activity Journal*. 1993 Apr;2 (1):1-6.
24. Azevedo MR, Araújo CL, Reichert FF, Siqueira FV, da Silva MC, Hallal PC. Gender differences in leisure-time physical activity. *International journal of public health*. 2007 Feb 1;52(1):8.