



Life style Assessment Among Saudi Adult 2021

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Abstract

Background: In Saudi Arabia, chronic disease is on the rise, accounting for roughly 73 percent of all premature deaths in 2020. The importance of lifestyle factors in preventing chronic diseases has been a cause of considerable concern.

Objectives: To evaluate lifestyle and its determinants among adults in Saudi Arabia, in 2021/2022.

Materials and Methods: This is a cross-sectional study that used a non-probability quota sampling technique to obtain data from 285 Saudi men and women who were 18 years and above. SPSS was used to evaluate the data. A p value of less than 0.05 was deemed significant.

Results: Majority of males were overweight (43%) and did not participate in any physical exercise, while majority of females were normal weight (57%) and walked regularly. Majority of people aged 18-30 and 50-80 years, sleep 8 hours or less a day, whereas the majority of people in the age group 30-50 sleep 7 hours or less. The Relationship between Gender and Physical activity is not statistically significant (P-Value: - 0.244), the Relationship between Age and Physical activity is not statistically significant (P-Value:- 0.902), the Relationship between Education and Physical activity is not statistically significant (P-Value: - 0.194), the Relationship between Gender and Sleep pattern is not statistically significant (P-Value: - 0.146), the Relationship between Age and Sleep pattern is not statistically significant (P-Value: - 0.734), the relationship between Gender and BMI is not statistically significant (P Value: - 0.286)

Conclusion: In addition to sleep, sedentary behavior is a risk factor for chronic diseases, which are a leading cause of death in Saudi Arabia.

Keywords: Chronic disease; Lifestyle factors; Physical activity; sleep pattern, adults, Saudi, daily routine, style

Introduction

Healthy activities and habits include regular exercise; a balanced, nutritious diet; adequate sleep and relaxation; abstaining from smoking and taking nonessential drugs; and moderating the intake of alcohol.¹ Studies have linked lifestyle with risk factors such as smoking, low vegetable and fruit consumption, excessive alcohol intake, and low physical activity.² millions of people follow an unhealthy lifestyle. Hence, they encounter illness, disability and even death. Problems like metabolic diseases, joint and skeletal problems, cardio-vascular diseases, hypertension, overweight, violence and so on, can be caused by an unhealthy lifestyle.³ A well-established body of research links poor diet and inactivity to a wide range of preventable diseases and premature death.⁵

Researchers found that people who maintained healthy lifestyle habits lived more than a decade longer than those who didn't maintain any.⁶ A study was conducted by Al-Hazaa in Saudi Arabia and published in 2019 showed that there were several parameters that changed over the ten-year period. Most notable was the significant reduction in the prevalence of physical inactivity among Saudi adolescents, which was due to increased levels of moderate-intensity physical activity among young Saudi females. Another study conducted by Almutairi in Saudi Arabia in 2018 showed that the mean scores for physical activity behavior dimensions was found to be lower in proportion to the mean score of the other dimensions (16.19 ± 5.12). it was concluded by the results of the current study indicate that university students are leading unhealthy lives, where the majority of them have unhealthy eating habits and poor physical activity level.

A study was conducted by Alshammar in Saudi Arabia and published in 2020 showed that the most common medical problems reported were obesity. On average, participants reported 6.4 ± 1.7 hours sleep per night, 33.8% reported short sleep duration of less than 7 hours per night. As per the PSQI, the majority (78.3%) of the sample reported poor sleep quality. A study was conducted by AlQuiz in Saudi Arabia and published in 2019 showed that a sedentary lifestyle was related to the risk of the development of cardiovascular diseases. The most vulnerable group was females beyond the age of 50. This study aims to evaluate lifestyle and its determinants among adults in Saudi Arabia, in 2021/2022.

Materials and Methods

It was a cross-sectional study that was performed at on adult residents 18 years or more in Riyadh: al-hamra primary health care center, primary health care center Ar Rabie, Al Thomairy poly clinics, Kingdom hospital, Sulaiman alhabib Hospital. The study was collected from 285 adult men and women by non-probability quota sampling technique.

The data was collected by a questionnaire that is specially prepared for the purpose of this study. It will contain four sections: The first section is on the identification of the respondent. The second section is about the pattern of physical activity and sleep. The third section is on the diet and supplementation. The fourth section is on the factors associated with physical activity, sleep, diet and supplementation.

The questionnaire is attached as annex I. It was on field or an online-based questionnaire in two languages: English and Arabic. All data was cleared, coded and entered using SPSS. The results were expressed in tables and graphs as frequencies and percentages. Suitable statistical tests of significance were used to test for association. A p value ≤ 0.05 was considered significant. The study protocol was reviewed for approval by the Institutional Review Board of Al- Maarefa University. Permission of the participants was taken at the time they open the questionnaire link. Anonymity was promised and maintained. The data was kept confidential and secured. Furthermore, the data was used only for the purpose of this research.

3. Results

Table 1 Demographic Data of the respondents:

Variable	Frequency	Percent %
➤ Gender		
male	186	65.3
female	99	34.7
Total	285	100.0
➤ Age		
18.00	11	3.9
19.00	7	2.5
20.00	10	3.5
21.00	4	1.4
22.00	15	5.3
23.00	15	5.3
24.00	12	4.2
25.00	15	5.3
26.00	12	4.2
27.00	25	8.8
28.00	12	4.2
29.00	14	4.9
30.00	9	3.2
31.00	8	2.8
32.00	9	3.2
33.00	6	2.1
34.00	7	2.5
35.00	5	1.8
36.00	9	3.2
37.00	2	.7
38.00	9	3.2
39.00	7	2.5
40.00	7	2.5
41.00	5	1.8
42.00	9	3.2
43.00	4	1.4
44.00	3	1.1
45.00	2	.7
46.00	3	1.1
48.00	5	1.8
49.00	3	1.1
50.00	1	.4
51.00	2	.7
52.00	2	.7
53.00	2	.7
54.00	1	.4
55.00	3	1.1

56.00	1	.4
59.00	2	.7
63.00	1	.4
69.00	2	.7
79.00	2	.7
80.00	2	.7
Total	285	100.0
➤ Compared to people around you in KSA, how would you rate your financial Situation and possessions?		
well below average	19	6.7
slightly below average	37	13.0
average	114	40.0
slightly above average	69	24.2
well above average	46	16.1
Total	285	100.0
➤ BMI		
underweight	1	.4
normal	117	41.1
overweight	112	39.3
obese1	36	12.6
obese2	9	3.2
obese3	10	3.5

Demographic data that was used in this study is illustrated. Firstly, the gender value for females is slightly smaller than males, males (65.3%) vs. females ((34.7%)). Second, the largest age groups were between 18-35 years old with (69%) and the minority was between 35-80 years old with (31%). The financial Status of majority were above average with (80.3%) and the rest of participants were below average with (19.7%). The respondents BMI majority were either normal (41.1%) rather Overweight (39.3%) and minority were obese 1 with (12.6%), obese 2 with (3.2%), obese 3 (3.5%) and a small percent underweight.

Table 2 to 6 (Participants Response)

Variable	Frequency	Percent %
➤ What type of physical activity you often do ?		
no physical activity	90	31.6
Total	285	100.0
➤ Duration		
20-30 min	140	49.1
Total	285	100.0
➤ For how long have you been doing physical activity?		
months	108	37.9
Total	285	100.0
➤ What time you usually go to bed ?		
12.00	103	36.1
Total	285	100.0
➤ How long do you usually go to bed ?		

15.00	1	.4
Total	285	100.0
➤ How good is your sleep usually ?		
continuous	183	64.2
Total	285	100.0
➤ How often do take naps ?		
many times per week	95	33.3
Total	285	100.0
➤ Marital status		
single	141	49.5
Total	285	100.0
➤ Education		
university	185	64.9
Total	285	100.0
➤ Occupation		
employed	135	47.4
Total	285	100.0
➤ Nationality		
Saudi	214	75.1
Total	285	100.0
➤ Region		
central	231	81.1
Total	285	100.0
➤ Blood pressure		
no	237	83.2
Total	285	100.0
➤ Diabetes		
no	235	82.5
Total	285	100.0
➤ Asthma		
no	251	88.1
Total	285	100.0
➤ Arthritis		
no	259	90.9
Total	285	100.0
➤ Disability		
no	279	97.9
Total	285	100.0
➤ Are currently pregnant		
not applicable	185	64.9
Total	285	100.0

➤ Do you take vitamins		
no	206	72.3
Total	285	100.0
➤ What type of vitamin you take?		
no	206	72.3
Total	285	100.0
➤ Minerals		
no	229	80.4
Total	285	100.0
➤ What type of minerals you take?		
no	229	80.4
Total	285	100.0
➤ What's your child's basic vaccination Status?		
3.00	189	66.3
Total	285	100.0
➤ How do you describe your meal?		
mixed	200	70.2
Total	285	100.0
➤ What is the size of your meal?		
medium	162	56.8
Total	285	100.0
➤ The source of your meal		
home made	184	64.6
Total	285	100.0
➤ How frequently are engaged in family meal		
once a day	138	48.4
Total	285	100.0

Table 2 illustrates the participants responses. The majority of the respondents (68.4%) have awareness in practicing exercise and minority (31.6%) don't have any means of having physical activity. The majority (68.4%) of participants did physical activity for more than 30 min, While the minority of participants (31.6%) had no means of activity. Regarding sleeping times, the majority with (75.4%) and the minority from 1AM to 4AM (24.5%). These sleep duration majority (64.2%) of them was continuous and minority (35.8%) have interrupted sleeps. Next the respondents submitted that the majority (82.5%) used to take naps from sometimes to daily bases, while minority (17.5%) of participant not used to take naps. Majority of respondents (83.2%) do not have blood pressure, majority of participants (82.5%) don't have diabetes, also majority of respondents (90.9%) don't have arthritis, and majority of participants (97.9%) don't have disability, also majority of participants do not take vitamin (72.3%), and majority of participants don't admit taking minerals (80.5). The participants submitted meal details majority of meals participants eat is mixed, the size of meal was majorly medium (56.8%) while minority was small (27%) and Large (16.1%), and

source of food majorly (64.6%) homemade, and also the participants submitted the percentage of a meal with the family and majority (92.3%) of participants used to.

Table 7 (Relations between Gender and BMI)

		Classification of BMI						
		Under-weight	normal	over-weight	obese1	obese2	obese3	Total
gender	male	1 (0.5%)	60 (32.3%)	80 (43%)	26 (14%)	9 (4.8%)	10 (5.4%)	186
	female	0	57 (57.6%)	32 (32.3%)	10 (10.1%)	0	0	99
Total		1	117	112	36	9	10	285

P-Value: .286

Table 7 illustrates the relationship between Gender and BMI. The relationship between Gender and BMI is not statistically significant (P Value: - 0.286)

Table 8 (Relations between Age and Sleep pattern)

Table 8 illustrates between Age and Sleep pattern most of the age group 18-30 sleep 8 hours or less and most of the age group 30 - 50 sleep 7 or less and most of the age group 50 – 80 sleep 8 hours. We found the Relationship between Age and Sleep pattern is not statistically significant (P-Value: - 0.734).

Table 9: Relations between Gender and Sleep pattern

		how long do you usually sleep									
		4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	15.00	Total
gender	male	1 (0.5%)	9 (4.8%)	35 (18.8%)	41 (22%)	64 (34.4%)	27 (14.5%)	7 (3.8%)	1 (0.5%)	1 (0.5%)	186
	female	0	4 (4%)	11 (11.1%)	23 (23.2%)	42 (42.4%)	13 (13.1%)	6 (6%)	0	0	99
Total		1	13	46	64	106	40	13	1	1	285

P-Value: .146

Table 9 (Relations between Gender and Sleep pattern)

		4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	Total
how old are you	18.00	0	0	1 (9.1%)	6 (54.5%)	3 (27.3%)	1 (9.1%)	0	0	0	11
	19.00	0	1 (14.3%)	4 (57.1%)	1 (14.3%)	1 (14.3%)	0	0	0	0	7
	20.00	0	0	0	3 (30%)	6 (60%)	0	1 (10%)	0	0	10
	21.00	0	0	0	2 (50%)	2 (50%)	0	0	0	0	4
	22.00	0	1 (6.7%)	2 (13.3%)	2 (13.3%)	8 (53.3%)	2 (13.3%)	0	0	0	15
	23.00	0	0	4 (26.7%)	1 (6.7%)	6 (40%)	2 (13.3%)	2 (13.3%)	0	0	15
	24.00	0	0	0	4 (33.3%)	8 (66.7%)	0	0	0	0	12
	25.00	1 (6.7%)	1 (6.7%)	5 (33.3%)	1 (6.7%)	4 (26.7%)	2 (13.3%)	1 (6.7%)	0	0	15
	26.00	0	1 (8.3%)	5 (41.7%)	2 (16.7%)	3 (25%)	1 (8.3%)	0	0	0	12
	27.00	0	2 (8%)	5 (20%)	5 (20%)	5 (20%)	5 (20%)	3 (12%)	0	0	25
	28.00	0	2 (16.7%)	0	3 (25%)	2 (16.7%)	4 (33.3%)	1 (8.3%)	0	0	12
	29.00	0	1 (7.1%)	3 (21.4%)	3 (21.4%)	6 (42.9%)	0	1 (7.1%)	0	0	14
	30.00	0	0	0	4 (44.4%)	3 (33.3%)	2 (22.2%)	0	0	0	9
	31.00	0	1 (12.5%)	3 (37.5%)	1 (12.5%)	3 (37.5%)	0	0	0	0	8
	32.00	0	0	1 (11.1%)	4 (44.4%)	2 (22.2%)	2 (22.2%)	0	0	0	9
	33.00	0	0	1 (16.7%)	2 (33.3%)	3 (50%)	0	0	0	0	6
	34.00	0	0	1 (14.3%)	2 (28.6%)	2 (28.6%)	2 (28.6%)	0	0	0	7
	35.00	0	0	0	0	4 (80%)	1 (20%)	0	0	0	5
	36.00	0	1 (11.1%)	2 (22.2%)	1 (11.1%)	2 (22.2%)	2 (22.2%)	0	0	1 (11.1%)	9
37.00	0	0	0	1 (50%)	0	1 (50%)	0	0	0	2	
38.00	0	0	2 (22.2%)	2 (22.2%)	3 (33.3%)	1 (11.1%)	1 (11.1%)	0	0	9	

Table 9 illustrates the majority of males sleep 8 hours (34.4%) and the minority sleep more than 10 hours (4.8%) and the majority of females sleep 8 hours (42.4%) and the minority sleep 5 hours (4%). We found the Relationship between Gender and Sleep pattern is not statistically significant (P-Value: - 0.146).

39.00	0	0	0	4 (57.1%)	1 (14.3%)	0	2 (28.6%)	0	0	7
40.00	0	0	1 (14.3%)	2 (28.6%)	0	4 (57.1%)	0	0	0	7
41.00	0	1 (20%)	2 (40%)	0	0	2 (40%)	0	0	0	5
42.00	0	0	1 (11.1%)	2 (22.2%)	5 (55.6%)	0	1 (11.1%)	0	0	9
43.00	0	0	0	1 (25%)	3 (75%)	0	0	0	0	4
44.00	0	0	2 (66.7%)	0	1 (33.3%)	0	0	0	0	3
45.00	0	0	0	2 (100%)	0	0	0	0	0	2
46.00	0	0	0	0	3 (100%)	0	0	0	0	3
48.00	0	0	1 (20%)	2 (40%)	2 (40%)	0	0	0	0	5
49.00	0	0	0	0	1 (33.3%)	2 (66.7%)	0	0	0	3
50.00	0	1 (100%)	0	0	0	0	0	0	0	1
51.00	0	0	0	0	0	2 (100%)	0	0	0	2
52.00	0	0	0	0	1 (50%)	1 (50%)	0	0	0	2
53.00	0	0	0	0	0	1 (50%)	0	1 (50%)	0	2
54.00	0	0	0	1 (100%)	0	0	0	0	0	1
55.00	0	0	0	0	3 (100%)	0	0	0	0	3
56.00	0	0	0	0	1 (100%)	0	0	0	0	1
59.00	0	0	0	0	2 (100%)	0	0	0	0	2
63.00	0	0	0	0	1 (100%)	0	0	0	0	1
69.00	0	0	0	0	2 (100%)	0	0	0	0	2
79.00	0	0	0	0	2 (100%)	0	0	0	0	2
80.00	0	0	0	0	2 (100%)	0	0	0	0	2
Total	1	13	46	64	106	40	13	1	1	285

Table 10 (Relations between Education and Physical activity)

		what type of physical activity that you often do					
		no physical ac- tivity	bicycling	jogging	swimming	walking	Total
education	Primary	4 (40%)	3 (30%)	0	0	3 (30%)	10
	secondary	21 (23.3%)	15 (16.7%)	14 (15.6%)	14 (15.6%)	26 (28.9%)	90
	university	65 (35.1%)	22 (11.9%)	21 (11.4%)	19 (10.3%)	58 (31.4%)	185
Total		90	40	35	33	87	285

Table 10 illustrates the most of the participants with primary education do not perform any physical activity (40%) and most of the participants with secondary education preform walking physical activity (28.9%) and most of the participants with university education preform no physical activity (35.1%). We found the Relationship between Education and Physical activity is not statistically significant (P-Value: - 0.194).

Table 11: shows the Relations between Age and Physical activity the majority of age group 18 – 80 preform no physical activity 90 followed by walking 87 and the minority preform swimming physical activity. We found the Relationship between Age and Physical activity is not statistically significant (P-Value:- 0.902)



Table 12: shows the relations between Gender and Physical activity the majority of males preform no physical activity and the minority preform bicycling physical activity and the majority of females preform walking physical activity and the minority preform swimming. We found the Relationship between Gender and Physical activity is not statistically significant (P-Value: - 0.244).

		what type of physical activity that you often do					
		no physical activity	bicycling	jogging	swimming	walking	Total
gender	male	60 (32.3%)	19 (10.2%)	25 (13.4%)	30 (16.1%)	52 (28%)	186
	female	30 (30.3%)	21 (21.2%)	10 (10.1%)	3 (3%)	35 (35.4%)	99
Total		90	40	35	33	87	285

DISCUSSIONS

There is no relation between gender and BMI. The number of males that are overweight are higher as compared to the females, while the females that are of normal weight are higher as compared to the males. This study goes against the study by (Ashley Cooper, America,2011, (12). These findings imply that BMI findings are multifactorial and that the researchers should investigate prevalence of different BMI in both Gender.

There is no relation between age and Sleep pattern according to our results, even though it has been documented in various researches that age and sleep are inversely proportional. Most of the participants aged 18-30 years sleep 8 hours or less while a majority of the participants aged 30 – 50 years sleep 7 or less and additionally most of the participants aged 50 – 80 years sleep 8 hours. These findings go against the study (Mander BA,America,2017,(17). This difference might because different population the researchers should conduct further studies to determine the effects aging has on the normal sleep cycle along with studying other factors that could alter the normal sleep-wake cycle.

There is no relationship between gender and sleep duration. Majority of males sleep 8 hours and a minority sleep more than 10 hours while the majority of females also sleep 8 hours and the minority sleep 5 hours. These findings concur with the study (Carrier J,Canada, 2017,(18). Researchers need to do more studies regarding the effect of female hormonal cycle on sleep cycle and then compare it to the effect of the male hormone on the sleep cycle. There is no relation between age and physical activity.

Majority of applicants from all age groups did not perform any physical activity and a smaller section of the applicants across all ages did minimal physical activity such as walking and only a small minority of applicants across all ages did physically intensive activities such as cycling or swimming. This is in line with the study (Spiteri K,United Kingdom,2019,(16).This implies that the Ministry health must investigate further into barriers and motivators of performing physical activity and work to make progress in increasing the physical activity across the from adolescent population to elderly population. There is no relation between gender and physical activity. The number of males who perform no physical activity is slightly higher than females, while the number of females who perform physical activity like walking is slightly higher in females as compared to males. This is in line with the study by(Jun HJ,Korea,2019,(15).This implies that the ministry of health should promote increased performance of physical activity, especially walking, among the general population.

CONCLUSIONS

The results of many researches on the Saudi Arabian community's lifestyle were not very encouraging. The implementation of healthy lifestyles must be addressed if the Saudi population's health is to be improved. A sedentary way of life is the risk factor for heart disease-a very common cause of death in the Saudi Arabia that can be avoided. Regular physical activity lowers the risk of diabetic mellitus, cancer, hypertension, obesity, among other health issues. In addition to lower mortality rates, regular exercise has been linked to improved general well-being and life expectancy. decades of research has proven that sleep is essential for human health and even survival. The Saudi population will benefit from guidelines that encourage a change from harmful behaviors to healthier behaviors (e.g., physical exercise and sleep duration), leading in enhanced overall health, wellbeing, quality of life, regardless of age. This would also assist in comprehending what a healthier day entails by moving their focus from adding physical exercise solely during waking hours to comprehending what a healthy 24-hour period entails. Health professionals and policymakers will benefit from the guidelines as they endeavor to help Saudis of all ages achieve optimal health.

RECOMMENDATIONS

Researchers should further investigate the causes of prevalence of different BMI in both males and females. These findings go against the study (Mander BA, America,2017,17). The researchers should conduct further studies to determine the effects aging has on the normal sleep cycle along with studying other factors that could alter the normal sleep-wake cycle. Researchers need to do more studies regarding the effect of female hormonal cycle on sleep cycle and then compare it to the effect of the male hormone on the sleep cycle. This implies that the Ministry health must investigate further into barriers and motivators of performing physical activity and work to make progress in increasing the physical activity across the from adolescent population to elderly population. The ministry of health should promote increased performance of physical activity, especially walking, among the general population.

Data Availability

Previously reported data were used to support this study and are available at DOI. These previous studies (and datasets) are cited in relevant places in the text as references.

Conflicts of interest

The authors have no conflict of interest to declare regarding the publication of this paper.

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Ethical approval

The study was reviewed and approved by the Institutional Review Board (IRB) of AlMareefa University on 01/09/2022 (KACST/NCBE Registration No HA-01-R-064) (Ref. No: IRB07-01092022-66).

Authors' contributions

AFM contributed to the conceptualization, supervision, and validation of the study. NSA contributed to the writing of the methodology, the involvement of software, formal analysis, gathering resources, data collection, original draft, writing - review & editing, visualization, and project administration. HMM contributed to writing the methodology, involvement of software, investigation, gathering resources, data curation, writing - original draft, writing - review & editing, visualization. BAS contributed to involvement in software, investigation, gathering resources, data curation, and writing - Review & Editing. HHA contributed to the participation in software, investigation, and resource collection. AYA, MKO, FYM, OZZ, MAA, ASN contributed to involvement in software, investigation, and gathering of resources. All authors have critically

reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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