

Preventive Health Behaviors

WORLD HEALTH SURVEY
SAUDI ARABIA (KSAWHS)

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FOREWORD

This report takes the overall findings of 2019 World Health Survey of Saudi Arabia further into details specifically around preventive health behaviors.

Within preventive health behaviors of the population of Saudi Arabia, there are two such measures we have collected data on and discussed in detail and these are nutrition and physical activity.

Firstly, we have explored the nutrition activities such as intake of healthy and unhealthy food and drink. We looked across the demographics and assess the intake of vegetables, fruits, meat, snacks and many other nutrition related behavior. This has helped us identify the population segments that are below the average benchmark and need motivation to change their behaviour towards a more healthy nutrition.

Secondly, we look across the demographics for the various physical activities they take. These are further classified into vigorous, moderate and walking activities. All these are also explored in detail by the various demographics of population to identify the strong and weak areas.

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1. SURVEY BACKGROUND

1.1 OBJECTIVES

A second round of WHS+ was implemented in 2019. The Saudi Arabian Ministry of Health (MoH) implemented the survey during 2019 in collaboration with the General Authority for Statistics (GASTAT) and the Saudi Health Council.

The main objective of the Kingdom of Saudi Arabia World Health Survey (KSAWHS 2019) is to provide up-to-date, timely and relevant information on SDGs health-related indicators and WHO indicators, framework programmatic indicators, and socio-demographic stratifies.

1.2 METHODOLOGY

The 2019 Kingdom of Saudi Arabia World Health Survey (KSAWHS 2019) was implemented by the MoH and designed to provide up-to-date and reliable

measurement of priority health-related indicators at national level by urban and rural residence, and for each of the 13 administrative areas. The Master Sample Frame (MSF) used for the 2019 KSAWHS was based on the Population and Housing Census of the Kingdom, which was conducted in 2010 by the General Authority of Statistics (GASTAT).

A nationally representative sample of completed interviews with 9,339 households was conducted from the 13 administrative regions according to population size. The KSAWHS 2019 followed a stratified three-stage sample design with a probability proportional to population size, as follows: sampling PSUs at the first stage, then a systematic sampling of households of a fixed size of eight households per PSU at the second stage, and at the third stage, an adult member of the household aged 15+ was selected using a random number generated by the tablet computer at the end of the household interview. A total of 8,912 individual interviews were conducted as a result of stage 3 selection.

All analyses were performed using the survey design and the normalized weights of the households and individuals, so that the results would be representative at the national level as well as the domain level.

Two questionnaires were used in this survey: household, and individual. The questionnaires were based on the WHO's World Health Survey (WHS) questionnaires and the Tunisian 2015 WHS questionnaires (4, 5). Survey indicators were mapped to the Sustainable Development Goals (SDGs) and the WHO Global Reference List of 100 Core Health Indicators, and the questionnaires were further adopted to cover further indicators to meet national priorities.

Field supervisors and interviewers were recruited based on the following criteria: 1-Being a physician or nurse (i.e. having a bachelor's degree or above in medicine or nursing); 2-Being proficient in English and Arabic; 3-Having knowledge of the dialects of the region where they will work.

The household questionnaire was administered to the head of the household or the most knowledgeable person of the house if the head of the household was not present at the time of the interview.

Use of tablets/CAPI helped reduce errors and prevent missing data, remove the manual data entry steps and allow for timely monitoring of the quality of the data.

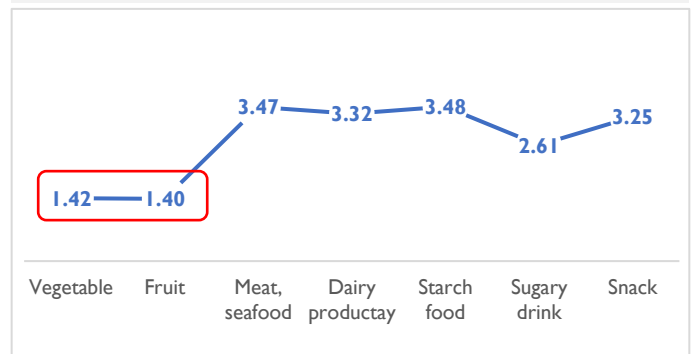
2. NUTRITION

2.1 OVERALL RESULTS

Fruits and vegetables are an important source of micronutrients and dietary fibre and are essential components of a healthy diet. Lack of sufficient intake of fruits and vegetables could lead to poor health and is associated with chronic diseases including cardiovascular disease and cancer. However, we see that a staggering 93% respondents have insufficient intake of fruit and vegetables since they have less than 5 servings of fruit or vegetables on a typical day.

As shown in Exhibit 1, consumption serving per day is the lowest for fruits and vegetables and highest for more unhealthy foods like starch, sugary drinks and snacks. Overall, 70.6% respondents mentioned they take one or less vegetable servings per day. And 81.9% respondents mentioned having intake of one or less fruit servings per day.

Exhibit 1: Serving consumption per day, Overall



2.2 VEGETABLES INTAKE

On average, Vegetable intake is 4.34 days per week and 1.42 servings per day, which is below the health benchmark of 5 servings per day. Although certain demographics perform higher than average, the intake of vegetable services per day is still much lower than required. Certain demographics lag behind in both days per week and servings per day for vegetable intake and these include Saudi nationals, never married, males and never worked before demographics.

Table 2.1 Vegetable Consumption

	Average Days Per Week	Average Servings Per Day
Overall	4.34	1.42
REGION		
Central	4.53	1.36
Western	4.35	1.43
Eastern	3.82	1.51
Southern	4.38	1.36
Northern	4.32	1.53
NATIONALITY		
Saudi	4.27	1.40
Non Saudi	4.83	1.50
MARITAL STATUS		
Never married	4.08	1.36
Currently married	4.42	1.43
Separated/ Divorced	4.59	1.31
Widowed	4.46	1.62
GENDER		
Male	4.21	1.39
Female	4.49	1.44
EMPLOYMENT STATUS		
Employed	4.33	1.42
Unemployed	4.44	1.46
Never worked before	4.32	1.38

Higher than overall average Lower than overall average

2.3 FRUITS INTAKE

On average, fruit intake is 3.72 days per week and 1.40 servings per day, which is below the health benchmark of 5 servings per day. Fruit intake per week is even less than vegetables and is lesser for Western and Northern regions. Fruit consumption is at concerning level across the demographics and there is a need to raise awareness about healthy aspects of fruit consumption such as dietary fiber and vitamins and so on.

Table 2.2

Fruits Consumption

	Average Days Per Week	Average Servings Per Day
Overall	3.72	1.40
REGION		
Central	3.93	1.37
Western	3.39	1.48
Eastern	4.03	1.43
Southern	3.91	1.19
Northern	3.49	1.59
NATIONALITY		
Saudi	3.68	1.34
Non Saudi	3.96	1.85
MARITAL STATUS		
Never married	3.45	1.38
Currently married	3.79	1.42
Separated/ Divorced	3.99	1.17
Widowed	3.92	1.41
GENDER		
Male	3.65	1.39
Female	3.79	1.42
EMPLOYMENT STATUS		
Employed	3.81	1.37
Unemployed	3.86	1.48
Never worked before	3.51	1.43

Higher than overall average Lower than overall average

2.4 MEAT INTAKE

Majority of 85.1% respondents mentioned consuming two or less servings of meat or seafood per day. Meat or seafood consumption is higher in Western region potentially due to more availability of seafood. Meat consumption is higher amongst males, never married and non-Saudi nationals.

Table 2.3

Meat, seafood Consumption Average Servings Per Day

Overall	3.47
REGION	
Central	2.26
Western	5.37
Eastern	2.91
Southern	2.94
Northern	2.25
NATIONALITY	
Saudi	3.02
Non Saudi	6.58
MARITAL STATUS	
Never married	3.57
Currently married	3.38
Separated/ Divorced	4.77
Widowed	3.10
GENDER	
Male	3.99
Female	2.90
EMPLOYMENT STATUS	
Employed	3.65
Unemployed	4.23
Never worked before	2.84

Higher than overall average Lower than overall average

2.5 DAIRY PRODUCT INTAKE

Overall, 85% respondents mentioned that they take two or less servings of dairy products per day. Dairy product consumption is higher in Western region, amongst males, non-Saudi nationals and never married group.

Table 2.4

Dairy product Consumption Average Servings Per Day

Overall	3.32
REGION	
Central	2.35
Western	4.93
Eastern	2.72
Southern	2.96
Northern	2.04
NATIONALITY	
Saudi	2.86
Non Saudi	6.45
MARITAL STATUS	
Never married	3.55
Currently married	3.19
Separated/ Divorced	4.14
Widowed	3.16
GENDER	
Male	3.76
Female	2.82
EMPLOYMENT STATUS	
Employed	3.52
Unemployed	3.94
Never worked before	2.70

2.6 STARCH FOOD INTAKE

On average, Starch food intake is highest than others at 3.48 average servings per day. This is higher in the Western region, amongst non-Saudi nationals, never married, male and employed or currently unemployed demographics. Overall, 80.1% respondents mentioned having 2 or less starch food serving intake per day.

Overall	3.48
REGION	
Central	2.32
Western	5.16
Eastern	2.96
Southern	3.23
Northern	2.33
NATIONALITY	
Saudi	3.07
Non Saudi	6.28
MARITAL STATUS	
Never married	3.77
Currently married	3.35
Separated/ Divorced	4.32
Widowed	3.03
GENDER	
Male	3.91
Female	3.00
EMPLOYMENT STATUS	
Employed	3.63
Unemployed	4.08
Never worked before	2.97

Higher than overall average Lower than overall average

2.7 SUGARY DRINKS INTAKE

On average, Sugary drink intake is 2.61 servings per day which is less than starch food. 90% respondents mentioned that they take 2 or less sugary drink consumptions per day on average. Sugary drink consumption is higher in Western and Southern regions.

Overall	2.61
REGION	
Central	1.70
Western	4.18
Eastern	1.11
Southern	3.06
Northern	1.24
NATIONALITY	
Saudi	2.20
Non Saudi	5.40
MARITAL STATUS	
Never married	3.07
Currently married	2.43
Separated/ Divorced	3.59
Widowed	1.78
GENDER	
Male	2.82
Female	2.38
EMPLOYMENT STATUS	
Employed	2.70
Unemployed	3.00
Never worked before	2.29

Higher than overall average Lower than overall average

2.8 SNACKS INTAKE

On average, snacks intake is 3.25 servings per day.

Overall	3.25
REGION	
Central	2.26
Western	5.03
Eastern	2.56
Southern	2.63
Northern	2.01
NATIONALITY	
Saudi	2.82
Non Saudi	6.17
MARITAL STATUS	
Never married	3.64
Currently married	3.04
Separated/ Divorced	4.47
Widowed	2.99
GENDER	
Male	3.70
Female	2.75
EMPLOYMENT STATUS	
Employed	3.49
Unemployed	3.87
Never worked before	2.58

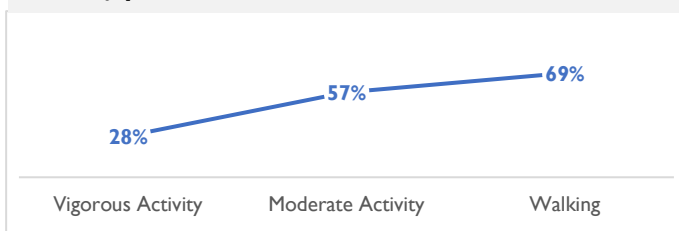
Higher than overall average Lower than overall average

3. PHYSICAL ACTIVITY

3.1 OVERALL RESULTS

In general, 80% of respondents have insufficient physical activity. Insufficient physical activity is defined as less than 150 minutes of moderate-intensity physical activity, 75 minutes of vigorous-intensity physical activity, or an equivalent combination of moderate- and vigorous-intensity activity each week. Exhibit 2 shows the % of overall respondents who mentioned that they do these activities one or more times per week. We can see there are less who do vigorous activity and more incidence of walking.

Exhibit 2: % respondents with one or more times activity per week, overall



3.2 VIGOROUS ACTIVITY

Overall, 67.1% respondents reported having zero level of vigorous activity in the last 7 days and this is significantly higher for females at 72.6% while males are at 62.2%. On average, there is a very little vigorous activity performed in terms of times per week and is only 1.20 times per week. This average is below 2 across the demographics but is particularly lower in Central, Northern, Saudi nationals, females and those who has never worked.

Table 3.1 **Vigorous Activity**

	Average times/week-7days
Overall	1.20
REGION	
Central	0.91
Western	1.33
Eastern	1.75
Southern	1.21
Northern	0.90
NATIONALITY	
Saudi	1.17
Non Saudi	1.44
MARITAL STATUS	
Never married	1.34
Currently married	1.20
Separated/ Divorced	0.82
Widowed	0.66
GENDER	
Male	1.35
Female	1.04
EMPLOYMENT STATUS	
Employed	1.28
Unemployed	1.20
Never worked before	1.08

Higher than overall average Lower than overall average

3.3 MODERATE ACTIVITY

On average, Moderate activity is 2.71 times per week which is higher than vigorous activity. We see higher average of moderate activity for Eastern and Southern regions, non-Saudi nationals, never married, currently married, females and employed. Overall, 38.6% respondents mentioned they have not had any moderate activity in the last 7 days.

Table 3.2 **Moderate Activity**
Average times/week-7days

Overall	2.71
REGION	
Central	2.52
Western	2.58
Eastern	3.33
Southern	2.89
Northern	2.57
NATIONALITY	
Saudi	2.66
Non Saudi	3.06
MARITAL STATUS	
Never married	2.77
Currently married	2.76
Separated/ Divorced	2.45
Widowed	1.71
GENDER	
Male	2.68
Female	2.74
EMPLOYMENT STATUS	
Employed	2.79
Unemployed	2.19
Never worked before	2.84

Higher than overall average Lower than overall average

Table 3.3 **Walking Activity**
Average times/week-7days

Overall	3.21
REGION	
Central	3.22
Western	3.03
Eastern	3.36
Southern	3.06
Northern	3.95
NATIONALITY	
Saudi	3.21
Non Saudi	3.24
MARITAL STATUS	
Never married	3.38
Currently married	3.23
Separated/ Divorced	2.87
Widowed	2.12
GENDER	
Male	3.46
Female	2.93
EMPLOYMENT STATUS	
Employed	3.38
Unemployed	2.82
Never worked before	3.15

Higher than overall average Lower than overall average

3.4 WALKING ACTIVITY

On average, walking activity is higher than both moderate and vigorous activities. The average is 3.21 times per week and is higher for Central, Eastern and Northern regions. Overall, 27% also mentioned that they have not had any walking activity in the last 7 days and this is significantly higher for Females at 30.6% while Males are at 24.6%.

3.5 SITTING/RECLINING

On average, a very high average of 9.56 is recorded for sitting and reclining activity. Central and Southern regions have mentioned having above average times per week for sitting and reclining.

Table 3.4 **Sitting/Reclining**
Average times/week-7days

Overall	9.56
REGION	
Central	10.72
Western	9.15
Eastern	8.86
Southern	11.03
Northern	5.13
NATIONALITY	
Saudi	9.23
Non Saudi	11.79
MARITAL STATUS	
Never married	10.69
Currently married	9.33
Separated/ Divorced	6.41
Widowed	9.23
GENDER	
Male	9.89
Female	9.18
EMPLOYMENT STATUS	
Employed	9.30
Unemployed	8.85
Never worked before	10.29

Higher than overall average Lower than overall average

LIST OF TABLES

For more information on preventive health behaviors, see the following tables:

Table 1: Intake of fruit and vegetables

Table 2: Physical activity

Table 1: Intake of fruit and vegetables
 Insufficient and sufficient intake of fruit and vegetables, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	FRUIT AND VEGETABLE INTAKE		TOTAL	NUMBER OF RESPONDENTS
	INSUFFICIENT ¹	SUFFICIENT		
Age				
15-29	94.1	5.9	100.0	3,353
30-44	92.6	7.4	100.0	3,755
45-59	91.8	8.2	100.0	1,256
60-69	93.7	6.3	100.0	362
70-79	94.1	5.9	100.0	135
80+	97.0	3.0	100.0	52
Sex				
Male	93.3	6.7	100.0	4,694
Female	92.9	7.1	100.0	4,218
Nationality				
Saudi	93.5	6.5	100.0	7,777
Non-Saudi	90.9	9.1	100.0	1,135
Residence				
Urban	93.2	6.8	100.0	7,687
Rural	93.0	7.0	100.0	1,225
Marital Status				
Never married	94.0	6.0	100.0	2,250
Currently married	92.7	7.3	100.0	5,982
Formerly married	94.2	5.8	100.0	680
Education				
No formal education	92.1	7.9	100.0	490
Less than secondary school	91.2	8.8	100.0	1,338
Secondary school	93.1	6.9	100.0	3,449
More than secondary school	94.1	5.9	100.0	3,635
Wealth Quintile				
Lowest	92.7	7.3	100.0	2,169
Second	93.6	6.4	100.0	1,918
Middle	92.0	8.0	100.0	1,694
Fourth	93.5	6.5	100.0	1,626
Highest	94.0	6.0	100.0	1,505
Region				
Riyadh	95.3	4.7	100.0	2,345
Makkah	93.9	6.1	100.0	2,257
Madinah	85.4	14.6	100.0	664
Qasim	96.2	3.8	100.0	364
Eastern Province	90.7	9.3	100.0	1,149
Asir	95.3	4.7	100.0	644
Tabuk	87.3	12.7	100.0	300
Hail	98.0	2.0	100.0	179
Northern Borders	88.7	11.3	100.0	87
Jizan	94.9	5.1	100.0	410
Najran	97.0	3.0	100.0	194
Bahah	95.3	4.7	100.0	153
Jawf	82.5	17.5	100.0	165
Total	93.1	6.9	100.0	8,912

Table 2: Physical activity
Insufficient and sufficient physical activity, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PHYSICAL ACTIVITY		TOTAL	NUMBER OF RESPONDENTS
	INSUFFICIENT ¹	SUFFICIENT		
Age				
15-29	78.9	21.1	100.0	3,353
30-44	79.1	20.9	100.0	3,755
45-59	82.9	17.1	100.0	1,256
60-69	88.8	11.2	100.0	362
70-79	95.4	4.6	100.0	135
80+	99.6	0.4	100.0	52
Sex				
Male	79.2	20.8	100.0	4,694
Female	81.6	18.4	100.0	4,218
Nationality				
Saudi	80.9	19.1	100.0	7,777
Non-Saudi	76.2	23.8	100.0	1,135
Residence				
Urban	79.8	20.2	100.0	7,687
Rural	83.7	16.3	100.0	1,225
Marital Status				
Never married	79.3	20.7	100.0	2,250
Currently married	79.8	20.2	100.0	5,982
Formerly married	88.4	11.6	100.0	680
Education				
No formal education	91.0	9.0	100.0	490
Less than secondary school	82.9	17.1	100.0	1,338
Secondary school	79.2	20.8	100.0	3,449
More than secondary school	79.0	21.0	100.0	3,635
Wealth Quintile				
Lowest	81.3	18.7	100.0	2,169
Second	75.6	24.4	100.0	1,918
Middle	81.3	18.7	100.0	1,694
Fourth	80.9	19.1	100.0	1,626
Highest	83.2	16.8	100.0	1,505
Region				
Riyadh	83.5	16.5	100.0	2,345
Makkah	79.1	20.9	100.0	2,257
Madinah	89.6	10.4	100.0	664
Qasim	87.7	12.3	100.0	364
Eastern Province	76.0	24.0	100.0	1,149
Asir	79.6	20.4	100.0	644
Tabuk	64.2	35.8	100.0	300
Hail	90.6	9.4	100.0	179
Northern Borders	74.0	26.0	100.0	87
Jizan	76.1	23.9	100.0	410
Najran	80.2	19.8	100.0	194
Bahah	65.4	34.6	100.0	153
Jawf	77.3	22.7	100.0	165
Total	80.3	19.7	100.0	8,912

¹ Insufficient physical activity: less than 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity or an equivalent combination of moderate- and vigorous-intensity physical activity, not achieving at 600 MET-minutes per week (MET: Metabolic equivalent is the ratio of a person's working metabolic rate relative to the resting metabolic rate)



وزارة الصحة
Ministry of Health