



# Sudan STEPS Survey 2016

## Fact Sheet Urban Rural distribution

The STEPS survey of noncommunicable disease (NCD) risk factors in Sudan was carried out from February to December 2016. Sudan carried out Step 1, Step 2 and Step 3. Socio demographic and behavioural information was collected in Step 1. Physical measurements such as height, weight and blood pressure were collected in Step 2. Biochemical measurements were collected to assess blood glucose and cholesterol levels in Step 3. Furthermore, urine was collected in one region in Khartoum state only with a sample representative to this region. The survey was a population-based survey of adults aged 18-69. A four stage stratified cluster sampling was used to produce representative data for that age range at country and regional level. The total sample size was 8145 participants; the response rate was 95% in step 1&2 and 88% in step 3. All results were weighted by gender and age. A repeat survey is planned after implementation of updated mutli-sectoral action plan 2019-2023 if funds permit.

Results for adults aged 18-69 years (incl. 95% CI) (adjust if necessary)	Rural			Urban		
	Males	Females	Both Sexes	Males	Females	Both Sexes
<b>Step 1 Tobacco Use</b>						
Percentage who currently smoke tobacco	14.4% (12.8- 16.0)	0.3% (0.2- 0.6)	8.0% (7.3- 8.8)	21.7% (18.9- 24.5)	1.3% (0.7 -1.8)	12.4% (11.1- 13.62)
Percentage who currently smoke tobacco daily	11.5% (10.0 -12.9)	0.3% (0.1-0.5)	6.4% (5.7- 7.1)	17.8% (15.3 - 20.4)	0.7% (0.3- 1.1)	10.0% (8.8- 11.1)
<b>For those who smoke tobacco daily</b>						
Average age started smoking (years)	19.4 (18.5-20.4)	21.6 (18.9-24.3)	19.5 (18.5-20.5)	19.1 (17.8-20.4)	18.0 (13.0-23.0)	19.1 (17.8-20.4)
Percentage of daily smokers smoking manufactured cigarettes	97.2% (94.9- 99.4)	0	97.2% (95.0-99.4)	91.8% (87.2 -96.4)	33.3% (8.6 -58.0)	90.0% (85.1- 94.7)
Mean number of manufactured cigarettes smoked per day (by smokers of manufactured cigarettes)	9.6 (8.1-11.1)	8.8 (6.3-11.2)	9.6 (8.1-11.0)	7.3 (6.4-8.3)	2.0 (0.1-4.2)	7.2 (6.2-8.1)
<b>Step 1 Alcohol Consumption</b>						

Percentage who are lifetime abstainers	<b>90.8%</b> (89.5-92.1)	<b>99.0%</b> (98.5-99.3)	<b>94.5%</b> (93.9-95.1)	<b>91.9%</b> (90.1-93.7)	<b>99.4%</b> (99.1-99.9)	<b>95.3%</b> (94.5 - 96.1)
Percentage who are past 12 month abstainers	<b>4.6%</b> (3.6 -5.5)	<b>0.5%</b> (0.3-0.8)	<b>2.8%</b> (2.3 -3.2)	<b>3.7%</b> (2.4 - 4.92)	<b>0.4%</b> (0.1 - 0.7)	<b>2.2%</b> (1.6-2.7)
Percentage who currently drink (drank alcohol in the past 30 days)	<b>3.9%</b> (3.0-4.7)	<b>0.5%</b> (0.3-0.7)	<b>2.3%</b> (1.9 -2.8)	<b>3.1%</b> (2.0-4.3)	<b>0.1%</b> (0.0- 0.9)	<b>1.7%</b> (1.2-2.2)
Percentage who engage in heavy episodic drinking (6 or more drinks on any occasion in the past 30 days)	<b>3.5%</b> (2.7- 4.4)	<b>0.4%</b> (0.1- 0.6)	<b>2.1%</b> (1.7-2.5)	<b>2.7%</b> (1.6-3.7)	<b>0.1%</b> (0.0- 0.2)	<b>1.5%</b> (1.0-1.9)
<b>Step 1 Diet</b>						
Mean number of days fruit consumed in a typical week	<b>1.7</b> (1.5-1.9)	<b>1.8</b> (1.6-1.9)	<b>1.7</b> (1.6-1.9)	<b>2.0</b> (1.8-2.2)	<b>2.4</b> (2.2-2.5)	<b>2.2</b> (2.0-2.3)
Mean number of servings of fruit consumed on average per day	<b>0.4</b> (0.4-0.5)	<b>0.5</b> (0.4-0.5)	<b>0.5</b> (0.4-0.5)	<b>0.5</b> (0.4-0.6)	<b>0.6</b> (0.6-0.7)	<b>0.6</b> (0.5-0.6)
Mean number of days vegetables consumed in a typical week	<b>3.3</b> (3.0-3.6)	<b>3.6</b> (3.3-3.8)	<b>3.5</b> (3.2-3.7)	<b>4.9</b> (4.6-5.2)	<b>5.2</b> (5.0-5.5)	<b>5.0</b> (4.3-5.2)
Mean number of servings of vegetables consumed on average per day	<b>0.9</b> (0.8-1.0)	<b>1.1</b> (0.9-1.2)	<b>1.0</b> (0.9-1.1)	<b>1.4</b> (1.2-1.6)	<b>1.6</b> (1.4-1.8)	<b>1.5</b> (1.4-1.6)
Percentage who ate less than 5 servings of fruit and/or vegetables on average per day	<b>96.5%</b> (95.7- 97.4)	<b>95.6%</b> (94. 9- 96.3)	<b>96.1%</b> (95.6- 96.6)	<b>93.4%</b> (91.7- 95.0)	<b>91.3%</b> (90.0- 92.6)	<b>92.4%</b> (91.4- 93.4)
Percentage who always or often add salt or salty sauce to their food before eating or as they are eating	<b>34.4%</b> (32.2- 36.6)	<b>35.3%</b> (33.6- 36.9)	<b>34.8%</b> (33.5- 36.1)	<b>28.9%</b> (25.9- 32.0)	<b>27.5%</b> (25.4- 29.6)	<b>28.3%</b> (26.6- 30.0)
Percentage who always or often eat processed foods high in salt	<b>8.3%</b> (7.0- 9.6)	<b>8.4%</b> (7.5- 9.1)	<b>8.3%</b> (97.9 - 9.3)	<b>19.3%</b> (16. 7- 22.0)	<b>17.8%</b> (15.9- 19.6)	<b>18.6%</b> (17.1- 20.1)
<b>Step 1 Physical Activity</b>						
Percentage with insufficient physical activity (defined as < 150 minutes of moderate-intensity activity per week, or equivalent)*	<b>9.3%</b> (8.0- 10.7)	<b>14.4%</b> (13.3 - 15.7)	<b>11.6%</b> (10.7- 12.5)	<b>14.8%</b> (12.4 - 17.2)	<b>21.9%</b> (19.9-23.8)	<b>18.0%</b> (16.5- 19.5)
Median time spent in physical activity on average per day (minutes) (presented with inter-quartile range)	<b>192.9</b> (85.7-357.9)	<b>102.9</b> (40.0-205.7)	<b>145.7</b> (60.0-291.4)	<b>136.4</b> (42.9-347.1)	<b>62.9</b> (25.7-137.1)	<b>91.4</b> (30.0-230.0)
Percentage not engaging in vigorous activity	<b>40.6%</b> (38.3 -42.8)	<b>82.6%</b> (81.2 -83.9)	<b>59.5%</b> (58.2 - 60.9)	<b>46.3%</b> (42.9- 49.6)	<b>91.8%</b> (90.5 - 93.1)	<b>67.0%</b> (65.2 - 68.9)

\* For complete definitions of insufficient physical activity, refer to the GPAQ Analysis Guide

(<http://www.who.int/chp/steps/GPAQ/en/index.html>) or to the WHO Global recommendations on physical activity for health ([http://www.who.int/dietphysicalactivity/factsheet\\_recommendations/en/index.html](http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/index.html))

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	Males	Females	Both Sexes	Males	Females	Both Sexes
<b>Step 1 Cervical Cancer Screening</b>						
Percentage of women aged 30-49 years who have ever had a screening test for cervical cancer		<b>1.0%</b> (0.63-1.35)			<b>2.6%</b> (1.29-2.62)	
<b>Step 2 Physical Measurements</b>						
Mean body mass index - BMI (kg/m <sup>2</sup> )	<b>21.9</b> (21.5-22.3)	<b>22.5</b> (22.1-22.9)	<b>22.2</b> (21.8-22.5)	<b>23.0</b> (22.4-23.6)	<b>26.2</b> (25.6-26.8)	<b>24.4</b> (23.9-24.9)
Percentage who are overweight (BMI ≥ 25 kg/m <sup>2</sup> )	<b>18.8%</b> (17.0-20.6)	<b>24.9%</b> (23.3-26.5)	<b>21.4%</b> (20.2 - 22.6)	<b>29.0%</b> (26.0-32.1)	<b>52.6%</b> (50.1-55.0)	<b>39.5%</b> (37.6 -41.6)
Percentage who are obese (BMI ≥ 30 kg/m <sup>2</sup> )	<b>4.5%</b> (3.5-5.4)	<b>8.6%</b> (7.6 - 9.6)	<b>6.2%</b> (5.6 -6.9)	<b>10.5%</b> (8.4-12.54)	<b>25.0%</b> (22.9- 27.1)	<b>17.0%</b> (15.5- 18.4)
Average waist circumference (cm)	<b>81.3</b> (80.2-82.4)	<b>80.8</b> (79.7-81.8)		<b>83.7</b> (81.6-85.8)	<b>87.8</b> (86.3-89.4)	
Mean systolic blood pressure - SBP (mmHg), including those currently on medication for raised BP	<b>129.6</b> (128.4-130.7)	<b>125.2</b> (124.3-126.2)	<b>127.6</b> (126.8-128.4)	<b>129.5</b> (128.2-130.7)	<b>125.7</b> (124.3-127.2)	<b>127.8</b> (126.8-128.8)
Mean diastolic blood pressure - DBP (mmHg), including those currently on medication for raised BP	<b>82.0</b> (81.3-82.7)	<b>82.6</b> (81.9 - 83.2)	<b>82.3</b> (81.7-82.8)	<b>82.9</b> (81.9-84.0)	<b>84.8</b> (83.9-85.6)	<b>83.8</b> (83.0-84.5)
Percentage with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)	<b>29.5%</b> (27.4 - 31.6)	<b>28.6%</b> (27.0 - 30.1)	<b>29.1%</b> (27.8 - 30.3)	<b>33.5%</b> (30.3-36.9)	<b>38.0%</b> (35.6- 40.2)	<b>35.5%</b> (33.7-37.4)
Percentage with raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg) who are not currently on medication for raised BP	<b>93.3%</b> (90.5-96.1)	<b>90.3%</b> (87.8-92.8)	<b>92.0%</b> (89.8-94.1)	<b>85.2%</b> (80.8-89.5)	<b>73.4%</b> (68.8-78.0)	<b>79.4%</b> (76.2-82.5)
<b>Step 3 Biochemical Measurement</b>						
Mean fasting blood glucose, including those currently on medication for raised blood glucose [choose accordingly: mmol/L or mg/dl]	<b>4.3</b> (4.1-4.4)	<b>4.4</b> (4.3-4.6)	<b>4.4</b> (4.2-4.5)	<b>4.6</b> (4.4-4.9)	<b>4.9</b> (4.7-5.1)	<b>4.8</b> (4.6-5.0)
Percentage with impaired fasting glycaemia as defined below • plasma venous value ≥6.1 mmol/L (110 mg/dl) and <7.0 mmol/L (126 mg/dl) • capillary whole blood value ≥5.6 mmol/L (100 mg/dl) and <6.1 mmol/L (110 mg/dl)	<b>2.5</b> (1.7- 3.2)	<b>2.8</b> (2.2- 3.4)	<b>2.7</b> (2.2 - 3.1)	<b>4.4</b> (2.9 - 5.9)	<b>5.0</b> (3.9- 6.1)	<b>4.7</b> (3.9- 5.6)
Percentage with raised fasting blood glucose as defined below or currently on medication for raised blood glucose	<b>4.2</b> (3.3- 5.2)	<b>4.7</b> (3.9- 5.4)	<b>4.4</b> (3.8- 5.0)	<b>6.5</b> (4.7- 8.3)	<b>11.2</b> (9.6- 12.8)	<b>8.7</b> (7.5- 9.8)

<ul style="list-style-type: none"> <li>plasma venous value <math>\geq 7.0</math> mmol/L (126 mg/dl)</li> <li>capillary whole blood value <math>\geq 6.1</math> mmol/L (110 mg/dl)</li> </ul>							
Mean total blood cholesterol, including those currently on medication for raised cholesterol [choose accordingly: mmol/L or mg/dl]		<b>3.4</b> (3.4-3.5)	<b>4.0</b> (3.9-4.0)	<b>3.7</b> (3.6-3.7)	<b>3.7</b> (3.6-3.8)	<b>4.3</b> (4.2-4.4)	<b>4.0</b> (3.8-4.1)
Percentage with raised total cholesterol ( $\geq 5.0$ mmol/L or $\geq 190$ mg/dl or currently on medication for raised cholesterol)		<b>5.4</b> (4.3- 6.4)	<b>16.3</b> (15.0 - 17.6)	<b>10.4</b> (9.5- 11.2)	<b>14.6</b> (12.1 - 7.0)	<b>25.0</b> (22.8 - 7.1)	<b>19.2</b> (17.6 - 0.8)
Mean intake of salt per day (in grams)		<b>8.2 (7.9-8.4)for Khartoum only</b>					
<b>Summary of combined risk factors</b> <ul style="list-style-type: none"> <li>current daily smokers</li> <li>less than 5 servings of fruits &amp; vegetables per day</li> <li>insufficient physical activity</li> <li>overweight (BMI <math>\geq 25</math> kg/m<sup>2</sup>)</li> <li>raised BP (SBP <math>\geq 140</math> and/or DBP <math>\geq 90</math> mmHg or currently on medication for raised BP)</li> </ul>							
Percentage with none of the above risk factors		<b>1.4</b> (0.8- 1.9)	<b>1.9</b> (1.4 - 2.4)	<b>1.6</b> (1.2 - 2.0)	<b>1.4</b> (0.6 - 2.2)	<b>2.0</b> (1.3 -2.6)	<b>1.6</b> (1.1- 2.1)
Percentage with three or more of the above risk factors, aged 18 to 69 years		<b>14.4</b> (12.8- 16.0)	<b>17.6</b> (16.2 - 9.0)	<b>15.8</b> (14.7- 16.8)	<b>24.0</b> (21.1 - 6.9)	<b>34.1</b> (31.7- 36.4)	<b>28.4</b> (26.6 - 0.2)

\*\* A 10-year CVD risk of  $\geq 30\%$  is defined according to age, sex, blood pressure, smoking status (current smokers OR those who quit smoking less than 1 year before the assessment), total cholesterol, and diabetes (previously diagnosed OR a fasting plasma glucose concentration  $>7.0$  mmol/l (126 mg/dl)).

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