



# Tonga STEPS Survey 2004

## Fact Sheet

The STEPS survey of chronic disease risk factors in Tonga was carried out from August 2004 to October 2004. Tonga 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. The STEPS survey in Tonga was a population-based survey of adults aged 15-64. A multi-stage cluster sample design was used to produce representative data for that age range in Tonga. A total of 958 adults participated in the Tonga STEPS survey.

Results for adults aged 15-64 years (incl. 95% CI)	Both Sexes	Males	Females
<b>Step 1 Tobacco Use</b>			
Percentage who currently smoke tobacco	<b>31.0%</b> (26.9 – 35.1)	<b>46.2%</b> (39.4 – 52.9)	<b>16.3%</b> (11.1 – 21.5)
Percentage who currently smoke tobacco daily	<b>27.6%</b> (23.0 – 32.2)	<b>41.9%</b> (33.6 – 50.3)	<b>13.8%</b> (10.4 – 17.2)
<i>For those who smoke tobacco daily</i>			
Average age started smoking (years)	<b>18.2</b> (17.4 – 19.0)	<b>17.5</b> (16.7 – 18.3)	<b>20.3</b> (19.0 – 21.6)
Percentage smoking manufactured cigarettes	<b>84.0%</b> (84.0 – 89.9)	<b>83.7%</b> (77.1 – 90.4)	<b>84.7%</b> (74.2 – 95.2)
Mean number of manufactured cigarettes smoked per day	<b>12.4</b> (8.6 – 16.1)	<b>13.1</b> (8.4 – 17.7)	<b>10.3</b> (6.7 – 13.9)
<b>Step 1 Alcohol Consumption</b>			
Percentage who are lifetime abstainers	<b>81.0%</b> (74.1 – 87.9)	<b>68.9%</b> (55.9 – 82.0)	<b>92.7%</b> (90.2 – 95.2)
Percentage of current drinkers (who drank alcohol in the past 12 months)	<b>13.4%</b> (7.7 – 19.0)	<b>22.2%</b> (10.8 – 33.5)	<b>4.8%</b> (2.5 – 7.1)
<i>Among current drinkers</i>			
Percentage who drank alcohol on 4 or more days in the last week	*	*	*
Percentage who binge drink (men who had 5 or more / women who had 4 or more drinks on any day in the last week)	--	*	*
<b>Step 1 Fruit and Vegetable Consumption (in a typical week)</b>			
Mean number of days fruit consumed	<b>2.6</b> (2.5 – 2.8)	<b>2.5</b> (2.2 – 2.8)	<b>2.8</b> (2.4 – 3.1)
Mean number of servings of fruit consumed on average per day	<b>1.3</b> (1.1 – 1.4)	<b>1.4</b> (1.1 – 1.7)	<b>1.2</b> (1.1 – 1.3)
Mean number of days vegetables consumed	<b>4.2</b> (3.4 – 5.0)	<b>3.8</b> (2.9 – 4.8)	<b>4.6</b> (3.8 – 5.3)
Mean number of servings of vegetables consumed on average per day	<b>1.1</b> (0.9 – 1.4)	<b>1.1</b> (0.8 – 1.4)	<b>1.2</b> (0.9 – 1.4)
Percentage who ate less than 5 servings of fruit and/or vegetables on average per day	<b>92.8%</b> (90.4 – 95.1)	<b>92.3%</b> (88.9 – 95.7)	<b>93.2%</b> (90.9 – 95.6)
<b>Step 1 Physical Activity</b>			
Percentage with low levels of activity (<600 MET-minutes/week)*	<b>43.9%</b> (36.5 – 51.3)	<b>32.4%</b> (22.7 – 42.2)	<b>54.8%</b> (44.5 – 65.1)
Percentage with high levels of activity (≥3000 MET-minutes/week)*	<b>34.9%</b> (28.4 – 41.5)	<b>49.0%</b> (41.6 – 56.4)	<b>21.7%</b> (13.8 – 29.5)
Median time spent in physical activity per day (minutes)	<b>51.4</b> (2.9 – 214.3)	<b>117.1</b> (15.0 – 308.6)	<b>30.0</b> (0.0 – 111.4)
Percentage not engaging in vigorous physical activity	<b>75.0%</b> (69.5 – 80.4)	<b>57.1%</b> (50.7 – 63.5)	<b>91.8%</b> (86.9 – 96.7)

\* For full definitions of low and high levels of physical activity, please see the GPAQ Analysis Guide, available at: <http://www.who.int/chp/steps/GPAQ/en/index.html>



# Fact Sheet

Results for adults aged 15-64 years (incl. 95% CI)	Both Sexes	Males	Females
<b>Step 2 Physical Measurements</b>			
Mean body mass index - BMI (kg/m <sup>2</sup> )	<b>31.7</b> (30.7 – 32.7)	<b>29.9</b> (28.6 – 31.1)	<b>33.4</b> (32.6 – 34.2)
Percentage who are overweight (BMI ≥25 kg/m <sup>2</sup> )	<b>84.1%</b> (78.2 – 90.0)	<b>79.9%</b> (71.6 – 88.2)	<b>88.3%</b> (82.5 – 94.1)
Percentage who are obese (BMI ≥30 kg/m <sup>2</sup> )	<b>57.0%</b> (50.5 – 63.6)	<b>46.5%</b> (38.4 – 54.7)	<b>67.3%</b> (62.1 – 72.4)
Average waist circumference (cm)	--	<b>97.4</b> (93.8 – 101.1)	<b>100.4</b> (98.2 – 102.6)
Mean systolic blood pressure - SBP (mmHg), including those currently on medication for raised BP	<b>123.6</b> (122.2 – 125.1)	<b>127.2</b> (125.1 – 129.4)	<b>120.1</b> (118.7 – 121.5)
Mean diastolic blood pressure - DBP (mmHg), including those currently on medication for raised BP	<b>73.0</b> (71.9 – 74.2)	<b>73.0</b> (71.3 – 74.7)	<b>73.1</b> (71.4 – 74.7)
Percentage with raised BP (SBP ≥140 and/or DBP ≥90 mmHg or currently on medication for raised BP)	<b>18.1%</b> (14.5 – 21.7)	<b>21.5%</b> (15.2 – 27.9)	<b>14.7%</b> (12.3 – 17.2)
Percentage with raised BP (SBP ≥160 and/or DBP ≥100 mmHg or currently on medication for raised BP)	<b>4.9%</b> (2.9 – 6.9)	<b>5.4%</b> (2.8 – 8.1)	<b>4.4%</b> (2.7 – 6.2)
<b>Step 3 Biochemical Measurement</b>			
Mean fasting blood glucose (mmol/L)	<b>5.4</b> (5.3 – 5.6)	<b>5.5</b> (5.3 – 5.8)	<b>5.3</b> (5.2 – 5.5)
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>13.0%</b> (9.2 – 16.8)	<b>14.6%</b> (10.0 – 19.3)	<b>11.2%</b> (6.4 – 15.9)
Percentage with raised fasting blood glucose as defined below • plasma venous value ≥ 7.0 mmol/L (126 mg/dl) • capillary whole blood value ≥ 6.1 mmol/L (110 mg/dl)	<b>13.5%</b> (9.4 – 17.6)	<b>15.0%</b> (9.1 – 20.9)	<b>11.9%</b> (8.6 – 15.3)
Mean total blood cholesterol (mmol/L)	<b>4.7</b> (4.6 – 4.9)	<b>5.0</b> (4.8 – 5.2)	<b>4.5</b> (4.5 – 4.6)
Percentage with raised total cholesterol (≥5.0 mmol/L or ≥190 mg/dl)	<b>36.9%</b> (31.5 – 42.2)	<b>47.9%</b> (40.9 – 55.0)	<b>26.1%</b> (20.1 – 32.2)
Percentage with raised total cholesterol (≥6.2 mmol/L or ≥240 mg/dl)	<b>9.6%</b> (7.7 – 11.5)	<b>13.7%</b> (10.1 – 17.3)	<b>5.6%</b> (3.7 – 7.5)
<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 and/or vegetables on average per day</li> <li>• Low level of activity</li> <li>• overweight (BMI ≥ 25 kg/m<sup>2</sup>)</li> <li>• raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)</li> </ul>			
Percentage with none of the risk factors included above	<b>0.1%</b> (0.0 – 0.2)	<b>0.0%</b> (0.0 – 0.0)	<b>0.1%</b> (0.0 – 0.4)
Percentage with at least three of the risk factors included above, aged 15 to 44 years old	<b>53.2%</b> (44.7-61.6)	<b>54.3%</b> (46.8-61.8)	<b>52.1%</b> (38.9-65.2)
Percentage with at least three of the risk factors included above, aged 45 to 64 years old	<b>65.4%</b> (58.8 – 72.0)	<b>65.4%</b> (56.9 – 73.8)	<b>65.4%</b> (57.9 – 72.9)
Percentage with at least three of the risk factors included above, aged 15 to 64 years old	<b>56.0%</b> (49.4-62.6)	<b>56.8%</b> (50.4-63.2)	<b>55.2%</b> (45.5-64.9)

\* indicates less than 50 respondents

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