Obesity prevalence ready-reckoner

Tool 2

This tool can be used to estimate the number of adults (aged 16 and above) or the number of children aged 4-10 years within a primary care trust who are obese or overweight.



An electronic version of the *Obesity prevalence ready-reckoner* – which can be completed online – can be found at: www.heartforum.org.uk or www.fph.org.uk

Estimating the prevalence of obesity and central obesity

The ready-reckoner on the next page can be used to estimate:

- the number of people who are obese measured by Body Mass Index (BMI) of more than $30.0 \mbox{kg/m}^2$
- the number of people with central obesity as measured by a raised waist circumference. A raised waist circumference has been taken to be 102cm (40 inches) or more in men and 88cm (35 inches) or more in women. These levels have been used to identify people at risk of the metabolic syndrome, a disorder characterised by increased risk of developing diabetes and cardiovascular disease. Central obesity, as measured by waist circumference, is reported to be more highly correlated with metabolic risk factors (high levels of triglycerides and low HDL cholesterol) than is elevated BMI.¹

How to use the ready-reckoner

- 1 In cells A1 to A7 and B1 to B7, enter the actual numbers of residents in each age group, based on latest population estimates for your area.
- 2 Calculate the other cell values according to the formulae.

Note: The ready-reckoner uses national data and does not take into account local factors such as ethnicity, deprivation or other factors that might affect overweight and obesity prevalence.

D Resources

91

		Α	В	C	D	E	F
		PCT population		Estimate of number of		Estimate of number of people who	
		(Enter actual numbers)		people who are obese		have a raised waist circumference	
				(BMI greater than 30kg/m ²)		(Male 102cm or above. Female 88cm or above)	
	Age	Male	Female	Male	Female	Male	Female
1	16-24	Enter actual number	Enter actual number	A1 x 0.08	B1 x 0.12	A1 x 0.09	B1 x 0.21
2	25-34	Enter actual number	Enter actual number	A2 x 0.19	B2 x 0.19	A2 x 0.20	B2 x 0.30
3	35-44	Enter actual number	Enter actual number	A3 x 0.27	B3 x 0.25	A3 x 0.30	B3 x 0.37
4	45-54	Enter actual number	Enter actual number	A4 x 0.28	B4 x 0.28	A4 x 0.38	B4 x 0.42
5	55-64	Enter actual number	Enter actual number	A5 x 0.29	B5 x 0.28	A5 x 0.41	B5 x 0.51
6	65-74	Enter actual number	Enter actual number	A6 x 0.28	B6 x 0.34	A6 x 0.49	B6 x 0.61
7	75 +	Enter actual number	Enter actual number	A7 x 0.17	B7 x 0.26	A7 x 0.46	B7 x 0.56
8	Sub-total	Sum of A1-A7	Sum of B1-B7	Sum of C1-C7	Sum of D1-D7	Sum of E1-E7	Sum of F1-F7
9	Total	Sum of A8	3 and B8	Sum of C8	and D8	Sum of E8 and F8	

OBESITY PREVALENCE READY-RECKONER: Adults aged 16 and over

Source: The formulae for obesity are based on the Health Survey for England 2005.² The formulae for waist circumference are based on the Health Survey for England 2003.¹

Example – Southwark Primary Care Trust: Adults aged 16 and over

The following is an example of how to use the ready-reckoner, based on 2001 census figures for Southwark Primary Care Trust, London.

		A	В	C	D	E	F
		Southwark PCT population (2001)		Estimate of number of people who are obese (BMI greater than 30kg/m ²)		Estimate of number of people who have a raised waist circumference (Male 102cm or above. Female 88cm or above)	
	Age	Male	Female	Male	Female	Male	Female
1	16-24	17,812	18,011	1,425	2,161	1,603	3,782
2	25-34	25,894	26,865	4,920	5,104	5,179	8,060
3	35-44	21,501	20,998	5,805	5,250	6,450	7,769
4	45-54	11,960	12,478	3,349	3,494	4,545	5,241
5	55-64	8,137	8,831	2,360	2,473	3,336	4,504
6	65-74	6,421	7,213	1,798	2,452	3,146	4,400
7	75 +	4,286	7,434	729	1,933	1,972	4,163
8	Sub-total	96,011	101,830	20,386	22,867	26,231	37,919
9	Total	197,841		43,253		64,150	

Thus, the total estimated number of adults (aged 16 years and above) who are obese in Southwark PCT is 43,253, and the total number who have a greater health risk due to a raised waist circumference is 64,150.

		A	В	C	D	E	F
		PCT population Estimate of number of		Estimate of number of			
		(Enter actual numbers)		children who are obese		children who are obese	
				(International Classification)		(UK National BMI Percentile Classification)	
	Age	Boys	Girls	Boys	Girls	Boys	Girls
1	4	Enter actual number	Enter actual number	A1 x 0.046	B1 x 0.073	A1 x 0.138	B1 x 0.118
2	5	Enter actual number	Enter actual number	A2 x 0.049	B2 x 0.072	A2 x 0.139	B2 x 0.104
3	б	Enter actual number	Enter actual number	A3 x 0.043	B3 x 0.076	A3 x 0.120	B3 x 0.131
4	7	Enter actual number	Enter actual number	A4 x 0.044	B4 x 0.073	A4 x 0.111	B4 x 0.147
5	8	Enter actual number	Enter actual number	A5 x 0.056	B5 x 0.079	A5 x 0.177	B5 x 0.165
6	9	Enter actual number	Enter actual number	A6 x 0.059	B6 x 0.108	A6 x 0.177	B6 x 0.219
7	10	Enter actual number	Enter actual number	A7 x 0.064	B7 x 0.066	A7 x 0.179	B7 x 0.184
8	Sub-total	Sum of A1-A7	Sum of B1-B7	Sum of C1-C7	Sum of D1-D7	Sum of E1-E7	Sum of F1-F7
9	Total	Sum of A8 and B8		Sum of C8 and D8		Sum of E8 and F8	

OBESITY PREVALENCE READY-RECKONER: Children aged 4 – 10 years

Source: The formulae are based on the Health Survey for England 2002: The health of children and young people. ³

Estimating the prevalence of obesity and central obesity among adults in ethnic groups

To model for ethnicity, using the results from the ready-reckoner as a base, apply the ethnicity breakdown for each age/gender group, and for each cell apply the following adjustment factors (derived from Table 3 on page 17) to calculate the prevalence of obesity and central obesity by age/gender/ethnicity. The resulting prevalence estimates can be summed whichever way you choose. These adjustment factors represent the national prevalence of obesity and central obesity in adults (aged 16 and over) by ethnic group compared to the general population (= 1.0).

Ethnic group	Obe	sity	Central obesity		
	Men	Women	Men	Women	
Black Caribbean	1.11	1.38	0.71	1.15	
Black African	0.75	1.66	0.61	1.29	
Indian	0.61	0.87	0.65	0.93	
Pakistani	0.67	1.21	0.97	1.17	
Bangladeshi	0.26	0.74	0.39	1.05	
Chinese	0.26	0.33	0.26	0.39	

Adjustment factors

Estimating the prevalence of overweight among adults

A modified version of the ready-reckoner can be used to estimate the number of overweight people – those with a BMI more than 25.0kg/m² – using the data on prevalence of overweight in different age groups from the Health Survey for England 2005. To estimate the prevalence of overweight for ethnic groups, follow the same procedure as described above. Use Table 3 on page 17 to calculate the adjustment factors.

D Resources

References

- 1 Sproston K, Primatesta P (eds.) (2004) *Health Survey for England 2003. Volume 2: Risk factors for cardiovascular disease.* London: TSO. www.dh.gov.uk/assetRoot/04/09/89/11/04098911.pdf
- 2 The Information Centre for Health and Social Care (2006) *Health Survey for England 2005: Updating of trend tables to include 2005 data.* London: The Information Centre for Health and Social Care. www.ic.nhs.uk/pubs/hseupdate05
- 3 Sproston K, Primatesta P (eds.) (2003) *Health Survey for England 2002: The health of children and young people.* London: TSO. www.archive2.official-documents.co.uk/document/deps/doh/survey02/hse02.htm