

Table 3 Prevalence of obesity-linked type 2 diabetes mellitus (T2DM) among Arabs

Author (reference)	Country	Year	Sample size	Main findings	Notes
Bacchus (126)	Saudi Arabia	1982	1385	Prevalence of diabetes: 2.4% 65% of diabetics were overweight 26% of non-diabetics were overweight	Male subjects from rural area
Fatani (131)	Saudi Arabia	1987	5222	Prevalence of diabetes: 4.3% Prevalence of obesity in T2DM: 41.2% Prevalence of obesity in non-diabetics: 29.3% (P < 0.001)	Rural area only Obesity defined as BMI \geq 27 kg/m ² for men and \geq 25 kg/m ² for women
AlNuaim (127)	Saudi Arabia	1997	13 177	Prevalence of diabetes in urban males and females: 12%, 14% Prevalence of diabetes in rural males and females: 7%, 7.7% BMI > 30 kg/m ² associated with T2DM in urban population (OR 1.5; 95% CI: 1.0-2.3) BMI > 30 kg/m ² associated with T2DM in rural population (OR 3.0; 95% CI: 1.7-5.3)	Age, family history, residential area and BMI significantly associated with diabetes
AlNuaim (130)	Saudi Arabia	1997	2059	Prevalence of T2DM in obese males: 26.0% Prevalence of T2DM in non-obese males: 8.6% (P < 0.001) Prevalence of T2DM in obese females: 23.5% Prevalence of T2DM in non-obese females: 4.4% (P < 0.0001)	Obesity defined as BMI \geq 30 kg/m ²
ElHazmi (49)	Saudi Arabia	2000	14 660	Prevalence of obesity in males: 13.05% Prevalence of obesity in females: 20.26% Prevalence of obesity in diabetics: 29.98% Prevalence of obesity in non-diabetics: 15.87% (P < 0.0001)	-
AlNozha (128)	Saudi Arabia	2004	16 917	Prevalence of diabetes: 23.7% Mean BMI in diabetics: 29.6 kg/m ² Mean BMI in non-diabetics: 28 kg/m ² (P < 0.05) Prevalence of T2DM among centrally obese women: 27.0% Prevalence of T2DM among normal women: 13.4% (P < 0.0001 vs obese women) Prevalence of T2DM among centrally obese men: 33.1% Prevalence of T2DM among normal men: 23.7% (P < 0.0001)	Central obesity defined as waist circumference \geq 102 cm for males and \geq 88 cm for females
Ali (132)	Saudi Arabia	2009	195 851	Prevalence of diabetes: 17.2% Risk of diabetes increased significantly with increased BMI T2DM at BMI 30 kg/m ² (OR 3.35; 95% CI: 2.87-3.92)	Cross-sectional study There is no cut-off BMI level with high predictive value for development of T2DM
AlShahrani (50)	Saudi Arabia	2013	14 252	Prevalence of obesity in diabetics: 46% 50% of obese diabetics had poor diabetic control	Descriptive records-based study 98% of participants were Saudi citizens
AlRubeaan (129)	Saudi Arabia	2014	18 034	Prevalence of diabetes: 25.4% Mean BMI in newly diagnosed T2DM: 30.68 kg/m ² Mean BMI in non-diabetics: 29.02 kg/m ² (P < 0.0001) Mean waist circumference in newly diagnosed T2DM: 93.51 cm Mean waist circumference in non-diabetics: 88.99 cm (P < 0.0001) Obesity risk factor for diabetes (OR 1.53; 95% CI: 1.36-1.71)	Saudi subjects aged \geq 30 years Obesity defined as BMI \geq 30 kg/m ²