

Relevance of overweight and obesity to prevalence of type 2 diabetes mellitus and adverse cardiovascular risk factors in UAE patients

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Background: The epidemic of obesity is a major public health issue worldwide and in the UAE which ranks seventh in obesity prevalence in the world in the latest study by the World Health Organisation. Relative contribution of obesity to prevalence of diabetes and cardiovascular risk factors among the UAE population merits further elucidation.

Method: ICLDC database includes data on patients attending for consultation over the last 6 years. Data were extracted and included information on glucose tolerance status, blood pressure, waist and hip circumference and lipid profile as well as body mass index recorded on patients' last clinic visit.

Results: Group characteristics for all adult patients and those with BMI 20-25 kg/m² and patients with BMI $\geq$ 30 kg/m² are summarized in table 1. Prevalence of type 2 diabetes mellitus and impaired fasting glycaemia in patients with a normal BMI were 27.7 % and 6.8% respectively. Corresponding figures for patients with BMI $\geq$ 30 kg/m² were 57% and 11.2 %. There was a highly significant steady increase ($p < 0.0001$) in systolic and diastolic blood pressure, LDL and triglyceride, whereas HDL reduced with increasing BMI (one way ANOVA for all patients).

	BMI $\geq$ 30 kg/m ²	BMI 20-25 kg/m ²	All adult Patients
n	456	9535	56031
Male : female	24.1/75.9	48.5/51.5	45.7/54.3
Arab Emirati ethnicity	72.1%	64.7%	68.0%
Age (years)	43.5 $\pm$ 13.7	40.1 $\pm$ 15.9	42.1 $\pm$ 13.9
BMI (kg/m ²)	55.0 $\pm$ 5.2	23.1 $\pm$ 1.4	29.4 $\pm$ 6.8
Systolic BP (mm Hg)	125.1 $\pm$ 18.5	114.5 $\pm$ 18.3	119.0 $\pm$ 18.5
Diastolic BP (mm Hg)	69.1 $\pm$ 11.1	67.4 $\pm$ 9.8	69.0 $\pm$ 11.4
Waist circumference (cm)	133.4 $\pm$ 14.5	82.4 $\pm$ 8.8	96.8 $\pm$ 14.2
Hip circumference (cm)	148.0 $\pm$ 12.6	92.7 $\pm$ 5.8	105.4 $\pm$ 12.7
Waist to Hip Ratio	0.91 $\pm$ 0.01	0.89 $\pm$ 0.18	0.92 $\pm$ 0.20
HDL (mmol/l)	1.15 $\pm$ 0.26	1.27 $\pm$ 0.32	1.20 $\pm$ 0.29
LDL (mmol/l)	3.02 $\pm$ 0.81	3.1 $\pm$ 0.85	3.09 $\pm$ 0.87
Triglycerides (mmol/l)	1.71 $\pm$ 0.92	1.3 $\pm$ 0.94	1.6 $\pm$ 1.08

Conclusion:

In the population studied, prevalence of diabetes mellitus and adverse cardiovascular risk factors increased steadily with increasing BMI. Female subjects were more preferentially affected by morbid obesity. Public health measures are urgently needed to curb the obesity epidemic.