Disorders of glucose tolerance and obesity
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Introduction
Type 2 diabetes is one of the most common NCDs in the world. Obesity is the main risk factor for type 2 diabetes, its causes that increase diabetes. These two diseases are responsible for a significant increase in morbidity and mortality.

The aim of our study was to determine the prevalence of diabetes and fasting hyperglycemia in the general population and to compare this prevalence in obese and non-obese.

Methodology
This is a descriptive cross-sectional study and analytical conducted among a sample of residents of the province of Algiers. The target population consisted of subjects aged between 18 and 64 years of both sexes living in the wilaya of Algiers. The diabetes is defined by blood glucose > 1.26 g/l in fasting blood sugar twice or > 2 g/l whatever the time of day. The IFG is defined as fasting glucose between 1.10 and 1.26 g/l.

Results:
Our survey covered a sample of 2210 individuals (1583 women and 627 men). The average blood glucose is 1.023 g/l (0.24 to 1.8).
- A moderate fasting hyperglycemia found a prevalence of 15.52%.
- A history of known diabetes are found in 7.65% of individuals.
- Diabetes mellitus was detected in 11.45% of the representative sample.

Discussion:
The prevalence of the glucose tolerance disorders were significantly higher in obese (overall obesity and android IDF) compared to non-obese, with a male predominance. This difference is noted for the detected diabetes and prediabetes in overall obesity and android.

Multivariate analysis of overall obesity (BMI > 30 kg/m²) shows that the known diabetics are more obese than non-diabetics: OR 1.17 (95% CI 0.77 to 1.78) p = 0.471. The pre-diabetic and diagnosed with diabetes during our survey are more obese than non-diabetics. Pre-diabetes: OR = 1.4 (95% CI 1.04 to 1.87) p < 0.02. Diabetes screened: OR = 1.4 (95% CI 1.67 to 3.17) p < 0.001. About android obesity (IDF criteria) the same observation is made for known diabetics than overall obesity OR = 1.22 (95% CI 0.66 to 1.88) p = 0.05. For detected diabetics pre-we have not found that they were more at risk for obesity than non-diabetic android OR = 1.2 (95% CI 0.91 to 1.72) p > 0.05 Unlike diagnosed with diabetes OR = 1.62 (95% CI 1.68 to 2.42) p = 0.018. The fact that the known diabetics are not more obese than non-diabetic can probably be explained by the fact that the known diabetics often diet and therapeutic (biguanide) often for weight loss.

The duration of diabetes was not analyzed.

The link between diabetes and obesity was highlighted by our national studies and studied by international studies. The STEPWISE study reported in subjects with general obesity prevalence of diabetes 8.7% in men and 12.1% in women.

For people with central obesity (BMI/TH) rates were 18.8% for men and 12.3% among women. In TAHINA study the prevalence of diabetes was 18.5% for men and 17.76% women. In individuals with abdominal obesity rate was 15.27% (16.84% for men versus 14.56% for women) for the IDF and 17.45% (15.75% of men and 16.96% of women) for ATP III. A. Tlemcen, YAHIA - BEROUGUIET found a prevalence of 20.7% diabetes in subjects with abdominal obesity (NCEP-ATP III) and 13.4 % among people with general obesity.

Internationally multiple studies have shown that obesity was a powerful risk factor for type 2 diabetes. In a 2009 study that followed a cohort of 12,814 white and African American subjects Steves reported that waist circumference, BMI and WHR were equivalent in their ability to predict diabetes type 2. Pour android obesity thresholds 102 cm (H), 86 cm (F) for waist circumference and 0.95 (H), 0.88 (F) to hip circumference waistline report were recommended by the American Heart Association, thresholds of 94 cm (H) and 80 cm (F) have been proposed by other authors. Wang et al followed a large cohort of men (27270) for 13 years of incidence for diabetes and has demonstrated that the three parameters (TB, BMI, WHR) are significant predictors of the risk of type 2 diabetes, even after adjusting on other potential confounding variables.

In this cohort of men, it was found that overall obesity and central adiposity predict risk of type 2 diabetes, but the waist seemed to be a better predictor than BMI or WHR. Several other studies also advocate the use of TT in clinical practice rather than WHR, as they have demonstrated a strong association between the TT and the cardiovascular and metabolic risk.

The investigations also showed that the TT was a better predictor of visceral fat assessed by CT and photon absorptiometry to the WHR. In addition the extent TT is simpler than the WHR and is also subject to fewer measurement errors.

Finally, the biological mechanisms of the association between WHR and cardiometabolic risks are more difficult to explain than the TT. But controversies remain on waist circumference thresholds that should be used in clinical practice, as these thresholds are arbitrary knowing that the risk of type 2 diabetes is an ongoing process.

In these studies, subjects with both a high BMI and high waist circumference had twice the risk of type 2 diabetes than BMI alone or if the only waistlines were high. Although BMI and waist circumference are highly correlated, they measure different aspects of body fat. BMI suggests the overall fat distribution but does not separate lean mass fat mass while waist circumference assess abdominal fat. Finally an analytical transversal study in 1797 subjects (941 M and 856 F) aged between 25 and 65, aimed to evaluate the association between the TT and fasting glucose has shown a positive correlation between the TT and fasting glucose.

Conclusion:
Obesity plays a key role in the pathophysiology of type 2 diabetes, early treatment of obesity is essential in the prevention and treatment of type 2 diabetes.