



**Is weight reduction induced by metformin higher among diabetic obese than non diabetic obese patients.**

**By: Sanad Wanes  
and Fatma Mansor**



# Introduction:

**Metformin has become one of the most widely used drugs in the treatment of type 2 diabetes mellitus (T2DM) since its approval in the United Kingdom in 1958 and in the United States in 1995, with doses ranging from 500 to 2,500 mg/day.[1](#)**



# Introduction:

**It is the first-line therapy for patients with T2DM according to the American Diabetes Association/European Association for Study of Diabetes guidelines.[2](#)**



# Introduction:

**Metformin works by decreasing intestinal glucose absorption, improving peripheral glucose uptake, lowering fasting plasma insulin levels and increasing insulin sensitivity, which result in a reduction of blood glucose concentrations without causing overt hypoglycemia.**[3](#)



# Introduction:

**Additionally, Metformin used for diabetes prevention is safe and well tolerated.**

**Weight loss is related to adherence to metformin and is durable for Years treatment.4**



# Introduction:

**Metformin is an effective drug to reduce weight in a Naturalistic outpatient setting in insulin sensitive and insulin resistant overweight and obese patients.5**



# Introduction:

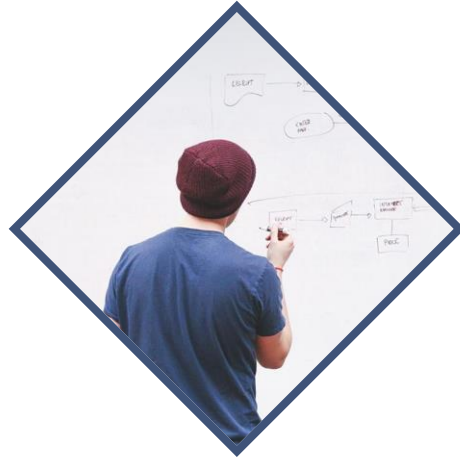
**Metformin may also have a positive effect on metabolic parameters such as waist circumference, fasting insulin and glucose levels, and triglycerides.5**



# Introduction:

**we will Comprise weight reduction induced by metformin between diabetic and non-diabetic obese patient in Benghazi city by use interventional experimental research design.**





# Objective:

**Comparison the mean of weight reduction induced by metformin between diabetic obese and non-diabetic obese patient in Benghazi city**



# Method

How?



# Method:

**In this study the design was interventional experimental research design .**

**Patients who were applied for this research are diabetic obese and non-diabetic obese patient .**



# Method:

**Samples of patients (during the period from 2020 to 2023) at hospital will be taken include (adult males and females).**



# Method:

**About 200 diabetic obese and 200 non-diabetic obese patients will be given metformin (adult dose 850mg) once daily for three years then the weight (kg) will be measured every month by (Weighting device), age and gender will be also collected .**



# Method:

**The Ethical considerations was CONSORT.**

**In addition, the statistical method which will be used is (P value).**



# References:

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# References:

- 3. Grzybowska M, Bober J, Olszewska M. Metformin – mechanisms of action and use for the treatment of type 2 diabetes mellitus. *Postepy Hig Med Dosw (Online)* 2011;65:277–285. [[PubMed](#)] [[Google Scholar](#)]
- 4. Matthaei S, Greten H. Evidence that metformin ameliorates cellular insulin-resistance by potentiating insulin-induced translocation of glucose transporters to the plasma membrane. *Diabete Metab.* 1991;17(1 Pt 2):150–158. [[PubMed](#)] [[Google Scholar](#)]





# References:

- 5. Zhang BB, Zhou G, Li C. AMPK: an emerging drug target for diabetes and the metabolic syndrome. *Cell Metab.* 2009;9(5):407–416. [[PubMed](#)] [[Google Scholar](#)]
- 6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5574599/>
- 7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3308305/>



# THANKS!

**Any questions?**