

Undiagnosed cardiovascular risk factors in overweight and obese individuals: a low income country experience



BACKGROUND

Being overweight and obese are associated with diabetes, hypertension and chronic kidney disease (CKD) and can increase the chances of premature death due to heart and vascular disease.

However, there is little information from lower-income countries about undiagnosed obesity-associated conditions. **In Ecuador, 6 out of 10 adults are overweight or obese.** Early identification and adequate management of risk factors such as diabetes, hypertension and CKD may decrease the burden of disease and healthcare costs **and increase life-expectancy.**

PARTICIPANT SELECTION & EXAMINATION

We assessed the prevalence of obesity-associated conditions in 656 overweight and obese adults from inner-city **Portoviejo (Ecuador), the 8th most populous city in Ecuador.**

Participants involved in the study underwent a physical examination (height, weight, blood pressure), and blood and urine analyses.

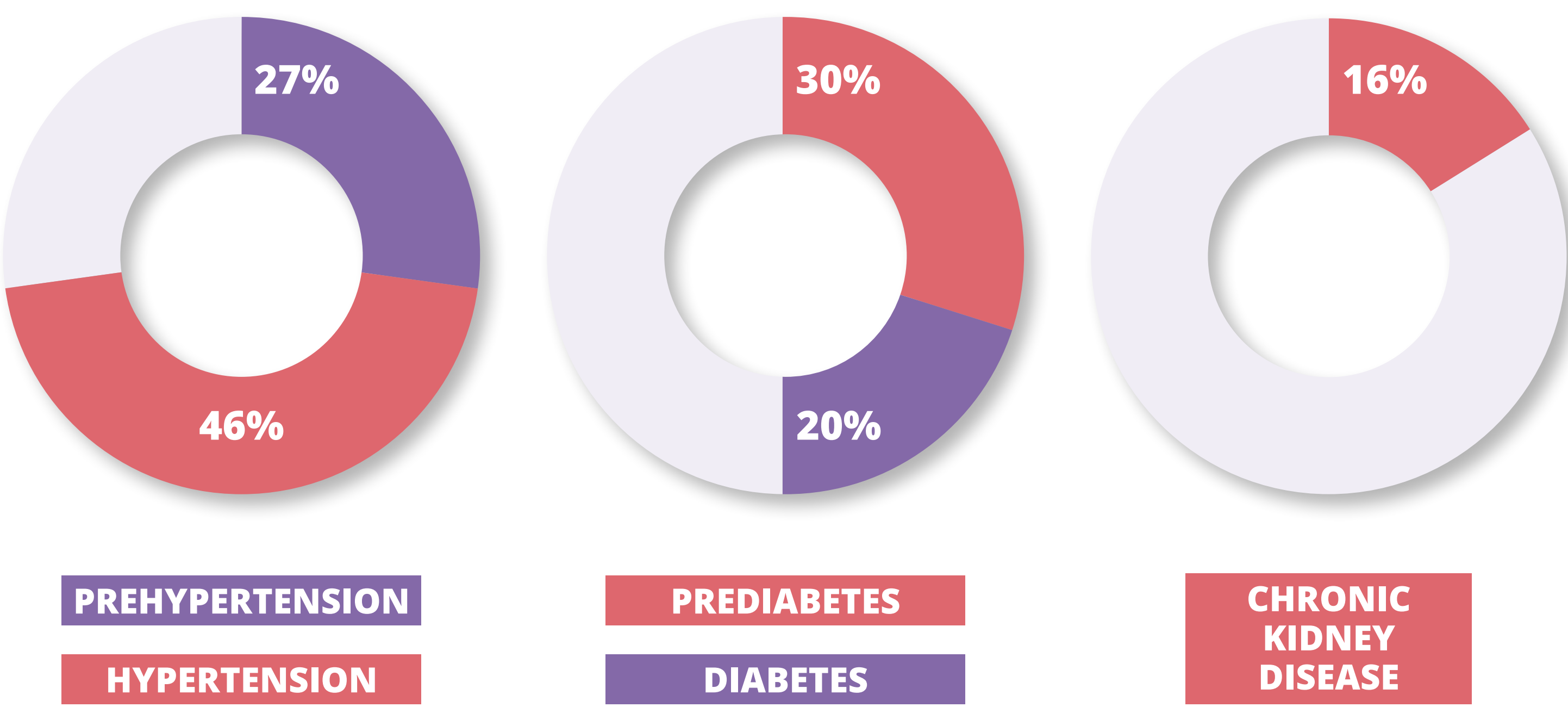
Body mass index (BMI) was calculated from height and weight and overweight and/or obese participants were categorized.



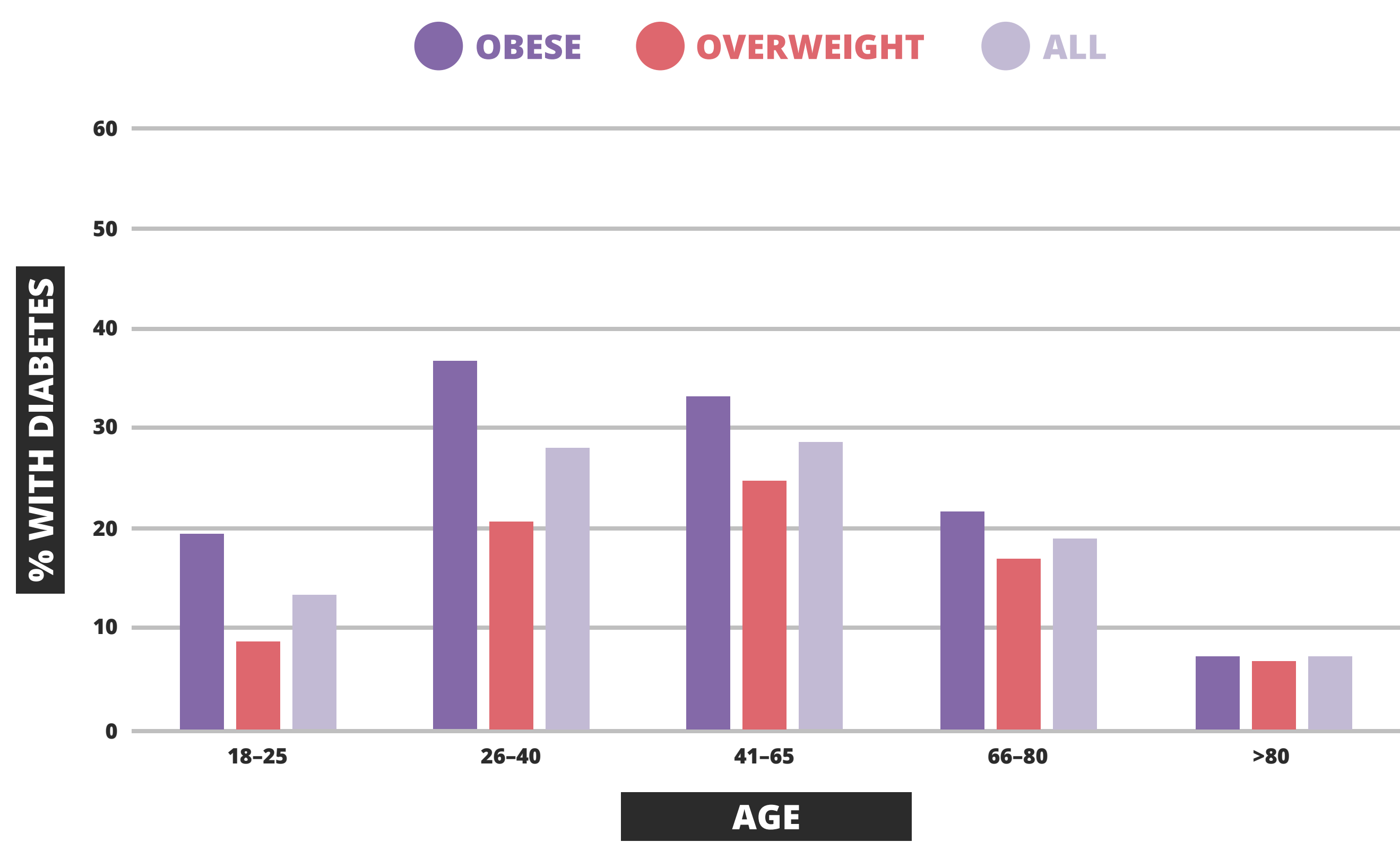
RESULTS

Out of 656 participants, 316 were men and 340 were women. The majority of participants were 41-65 years of age, with 54.9% of participants being overweight and 45.12% obese. **The highest diabetes prevalence was observed in obese men.** Kidney injury (pathological albuminuria) was more frequent among obese individuals across all age categories, while the frequency of low-kidney function increased with age, peaking at 40% of those above age 80 years.

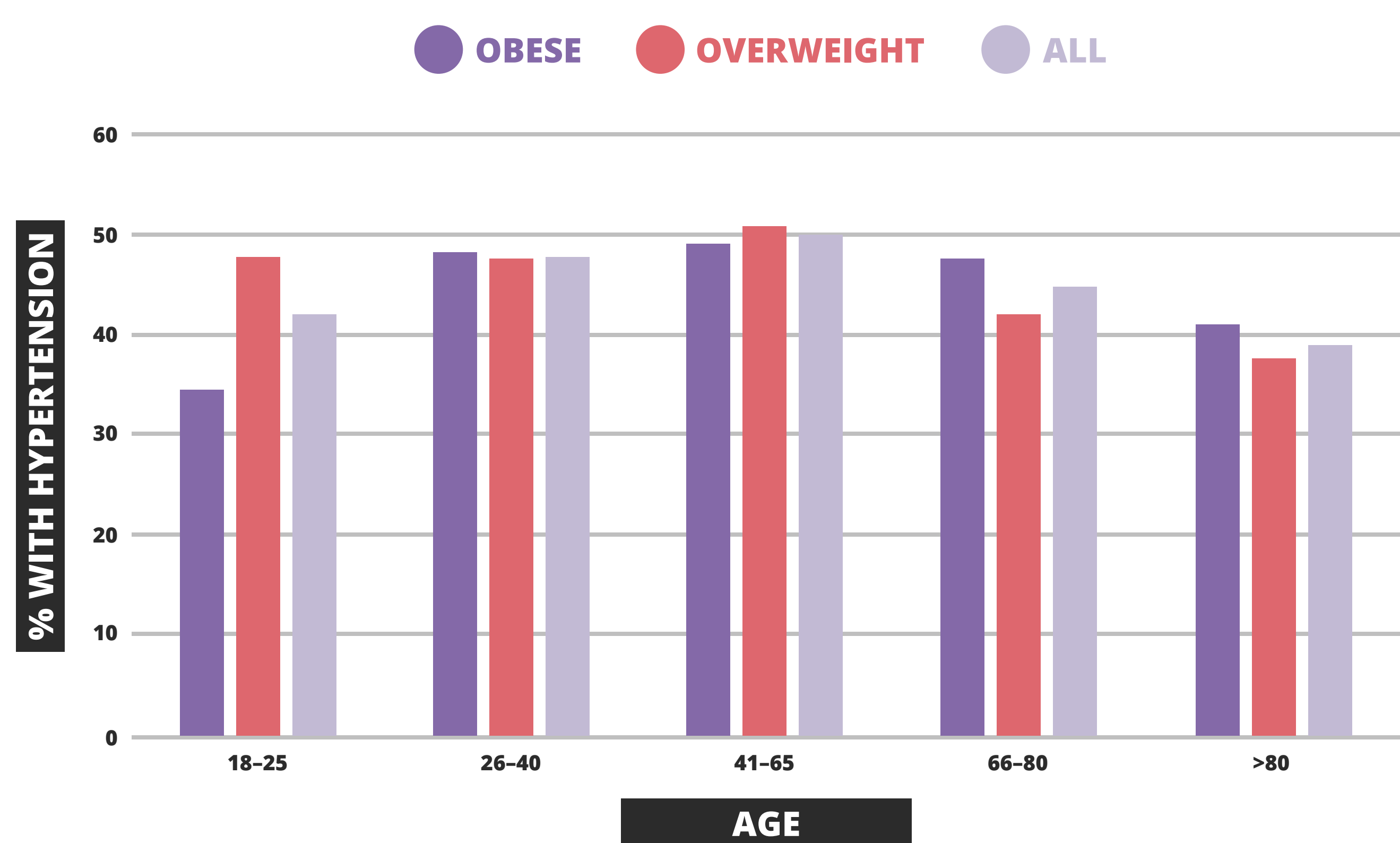
Risk factors identified in 656 participants:



According to age, **the highest prevalence of diabetes was observed in 26-40-year-old obese participants**, closely followed by 41-65-year-old obese participants:



Hypertension followed a similar age-related pattern, although differences between age groups were not as marked as for diabetes. **Peak prevalence of hypertension was observed in 41-65-year-old obese and overweight participants:**



CONCLUSION

Undiagnosed prehypertension, hypertension, prediabetes, diabetes and pathological albuminuria (associated with chronic kidney disease) were **highly prevalent in overweight and obese persons from Ecuador, likely more common than previously suspected**, given the official figures for obesity, diabetes and hypertension.

Using our data as a basis for the entire population of Ecuador, there are likely over 1 million diabetics and over 2.5 million hypertensive persons. While higher than official estimates, these numbers are aligned with global diabetes prevalence estimates, and **screening for diabetes, hypertension and associated complications, such as CKD, may be cost effective and allow for early, unexpensive interventions.**