

Hypertension, Obesity and Diabetes in Lebanon: a cross sectional study and management plans

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Table 1.

	Parameter	Prevalence (%)
Hypertension	BP \geq 140/90mmHg	25
Obesity	BMI \geq 30 kg/m ²	34
Diabetes Mellitus	Fasting Glucose (>126mg/dl)	8-13
Hypertension/Obesity	BP \geq 140/90mmHg BMI \geq 30 kg/m ²	22

To evaluate prevalence rates of obesity, diabetes, dyslipidemia and target organ involvement in 347 never medicated (group I) and 417 inadequately treated (group II) patients with grade I essential hypertension

➤ Evaluation procedures

- ★ Complete Medical Examination
- ★ Biochemical Profile
- ★ Echocardiography (LVMI)
- ★ Renal Functional Parameters
(Creatinine Clearance)
- ★ Arterial Dynamics (AI),
(Sphygmocardiography)

Table 2. BMI and prevalence in never treated hypertension GI

	Group I	
Patient Classification	BMI (kg/m²)	Frequency (%)
Lean	23.1±0.2	24.5
Overweight	27.1±0.1	54
Obese	34.1±0.4	21.4

Table 3. BMI and prevalence in inadequately treated hypertension GII)

Patient Classification	BMI (kg/m²)	Frequency (%)
Lean	22.9 ±0.1	22.9
Overweight	27.6±0.1	46.7
Obese	33.2±0.3	30.4

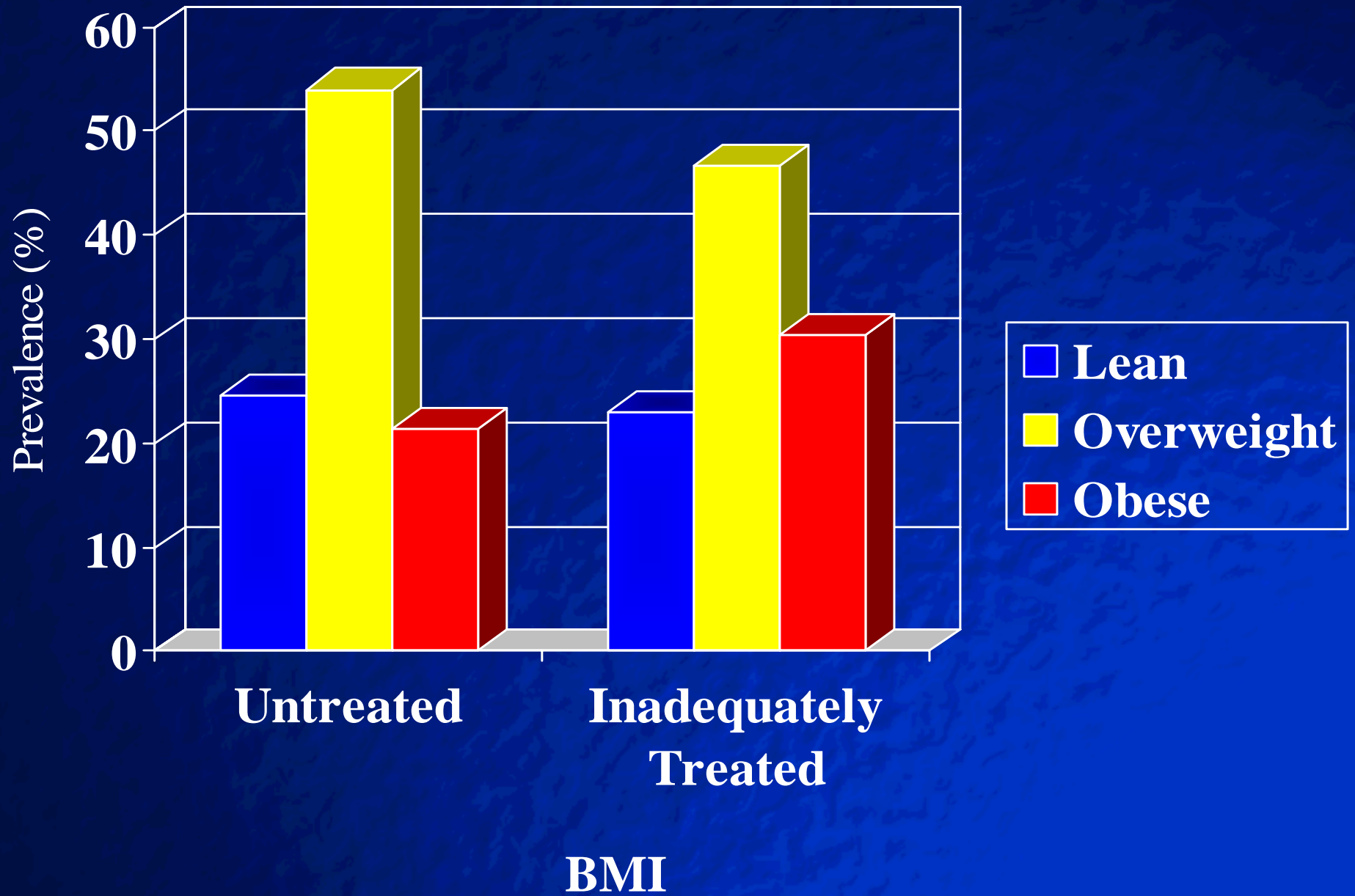


Table4. Never treated hypertensive patients (GI)

Parameter	Lean	Overweight	Obese
Age (Years)	44.9±1.7	47.4 ±0.9	46.5 ±1.5
SBP (mmHg)	137.2 ±2.4	141.7 ±1.6	144.4 ±2.6
DBP (mmHg)	85.6 ±1.5	90 ±0.9	91.5 ±1.5
PP (mmHg)	51.6 ±2	51.6 ±1.3	52.1 ±2.2

Table 5. Inadequately treated hypertensive patients (GII)

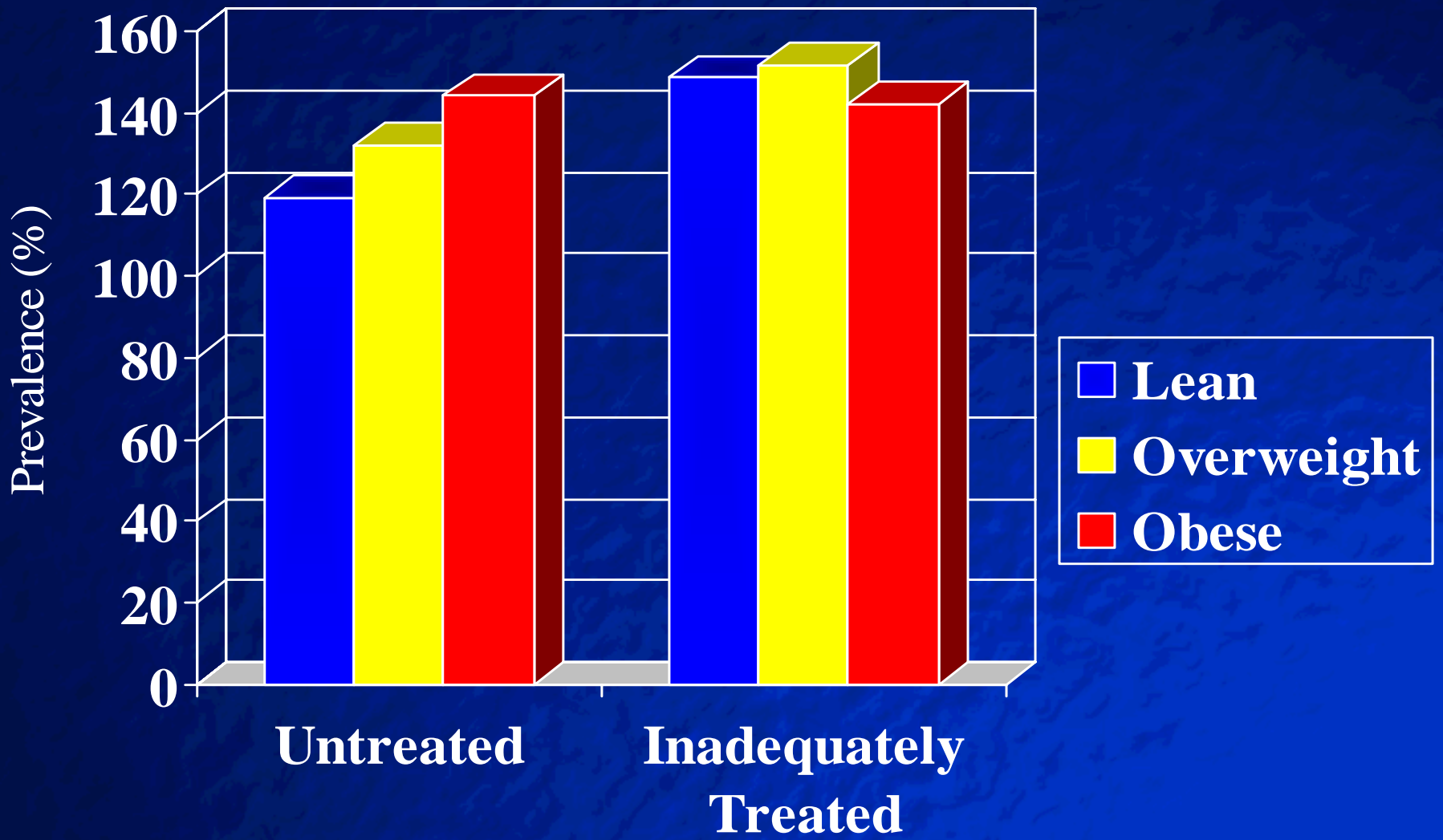
Parameter	Lean	Overweight	Obese
Age (Years)	55.7±1.5	56.3 ±0.9	57.1 ±0.9
SBP (mmHg)	145.6 ±2.6	144.4 ±1.7	144.8 ±2.1
DBP (mmHg)	87.3 ±1.2	85.7 ±0.9	86 ±1.1
PP (mmHg)	58.3 ±2.3	58.7 ±1.7	58.4 ±1

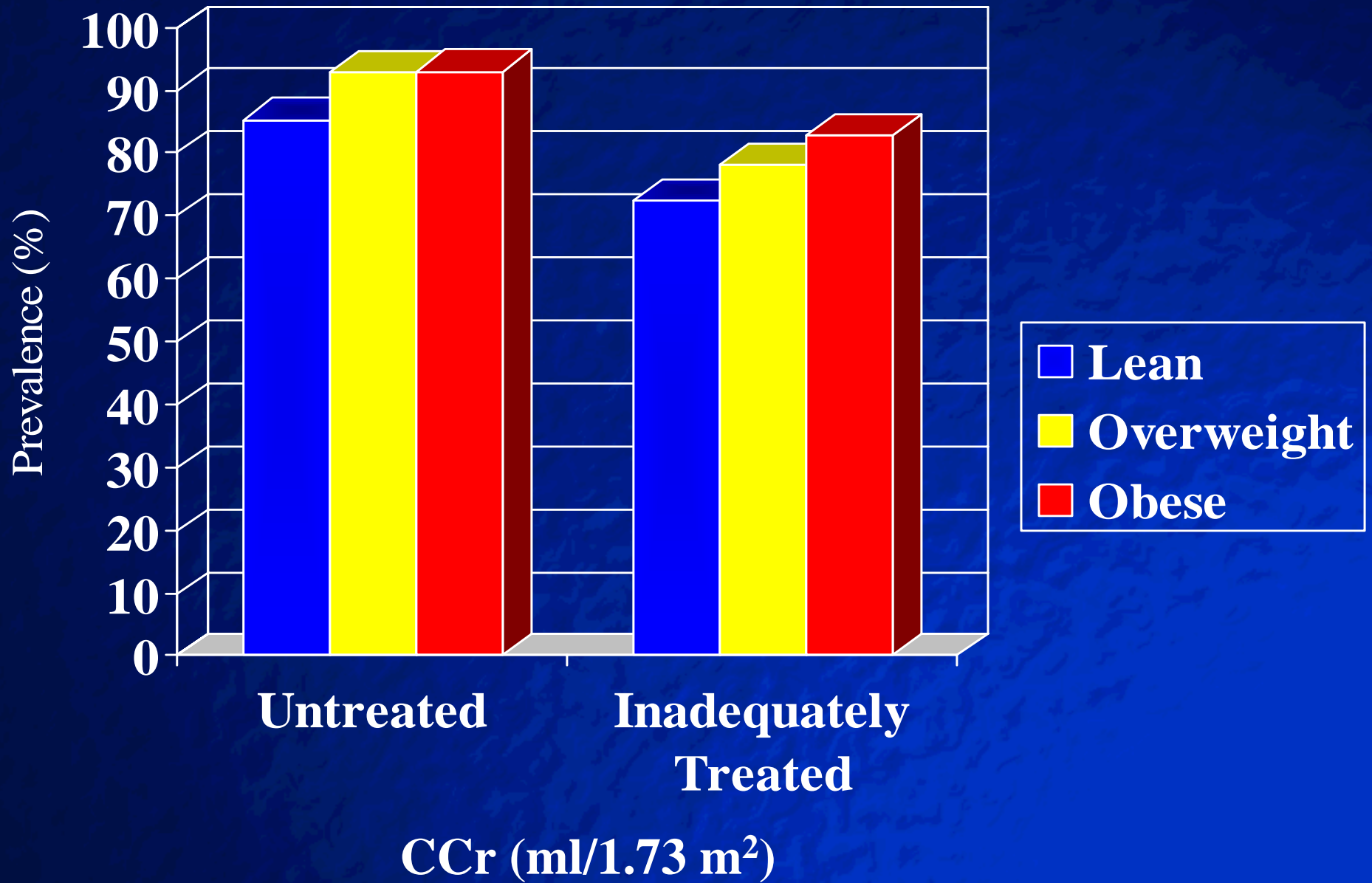
Table 6. Never treated hypertensive patients (GI)

Parameter	Lean	Overweight	Obese
Glucose (mg/dl)	98.6 ±2.6	99.5 ±1.3	103.3 ±2.3
Triglycerides (mg/dl)	126.1 ±9.3	156.8 ±6.9	174.8 ±11.8
HDL (mg/dl)	52.7 ±1.7	45.5 ±1.1	45.1 ±1.2
CCr (ml/1.73 m²)	85.3 ±3.2	92.8 ±1.9	93 ±3.5
AI (%)	17.5 ±2.5	18.5 ±1.6	17.3 ±2.4
LVMl (g/m²)	119.2 ±5.3	131.9 ±2.8	144.1 ±4.3

Table 7. Inadequately treated hypertensive patients (GII)

Parameter	Lean	Overweight	Obese
Glucose (mg/dl)	102.5 ±2.9	108.8±2.4	121.3 ±3.3
Triglycerides (mg/dl)	145.8 ±9.7	169.7 ±8.4	173.5 ±8.8
HDL (mg/dl)	49.25 ±1.8	46.6 ±0.98	45.9 ±1.2
CCr (ml/1.73 m²)	72.4 ±4.8	78.1 ±3.6	82.8 ±3.8
AI (%)	27 ±2.3	20.7 ±1.7	22.7 ±2.3
LVMi g/m²	148.5 ±7.9	151.6 ±4.3	142.1 ±5.7





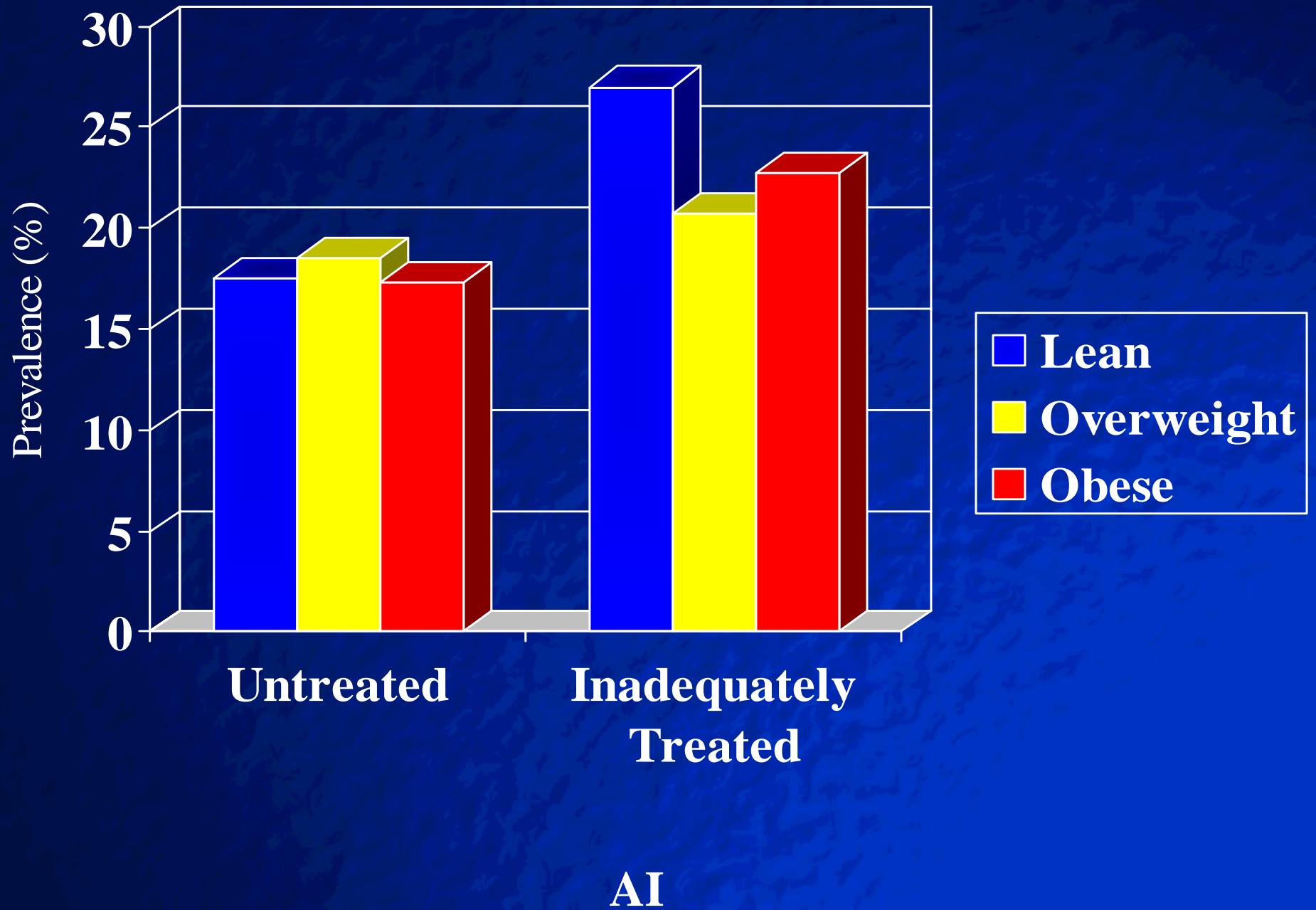
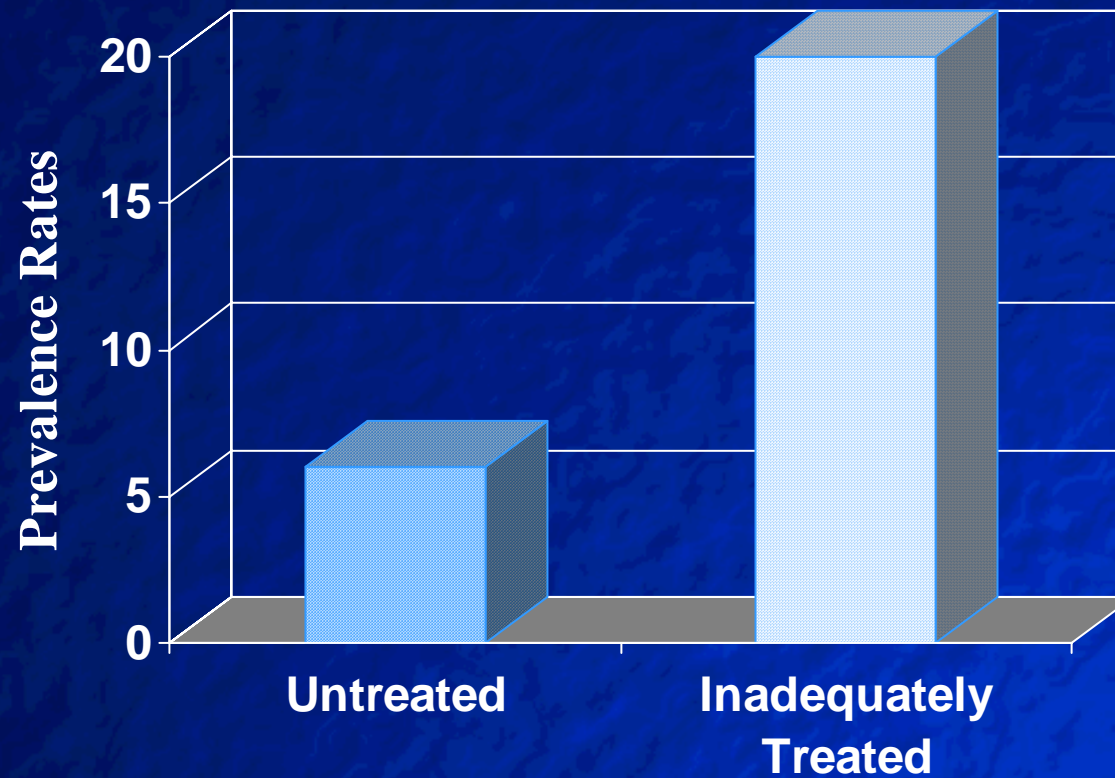


Table 8. Prevalence of diabetes in never treated vs inadequately treated hypertensives

Patient category	Prevalence rates (%)
Untreated	6
Inadequately Treated	20



Prevalence of diabetes in treated vs inadequately treated hypertensive patients

Conclusion

1. In Lebanon, high prevalence of increased body weight and increased incidence of cardiovascular risk factors in middle aged patients with GRI essential hypertension, becoming worse with age
2. Increasing trend in obesity and diabetes due to adoption of westernized lifestyle
3. BP control improving with availability of effective antihypertensive agents
4. Unsuccessful reduction in obesity with lifestyle modification alone
5. Better control of obesity requires development of effective and safe pharmacological agents