

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



# **SPECIALIZED HYPERTENSION CLINICS**

**Joint EHS-Astra Zeneca Program**

**Two-Year Experience  
(2014-2016) and Future Plans**

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*Prof. of Cardiology- Cairo University*

*HTN Clinics Program Director*

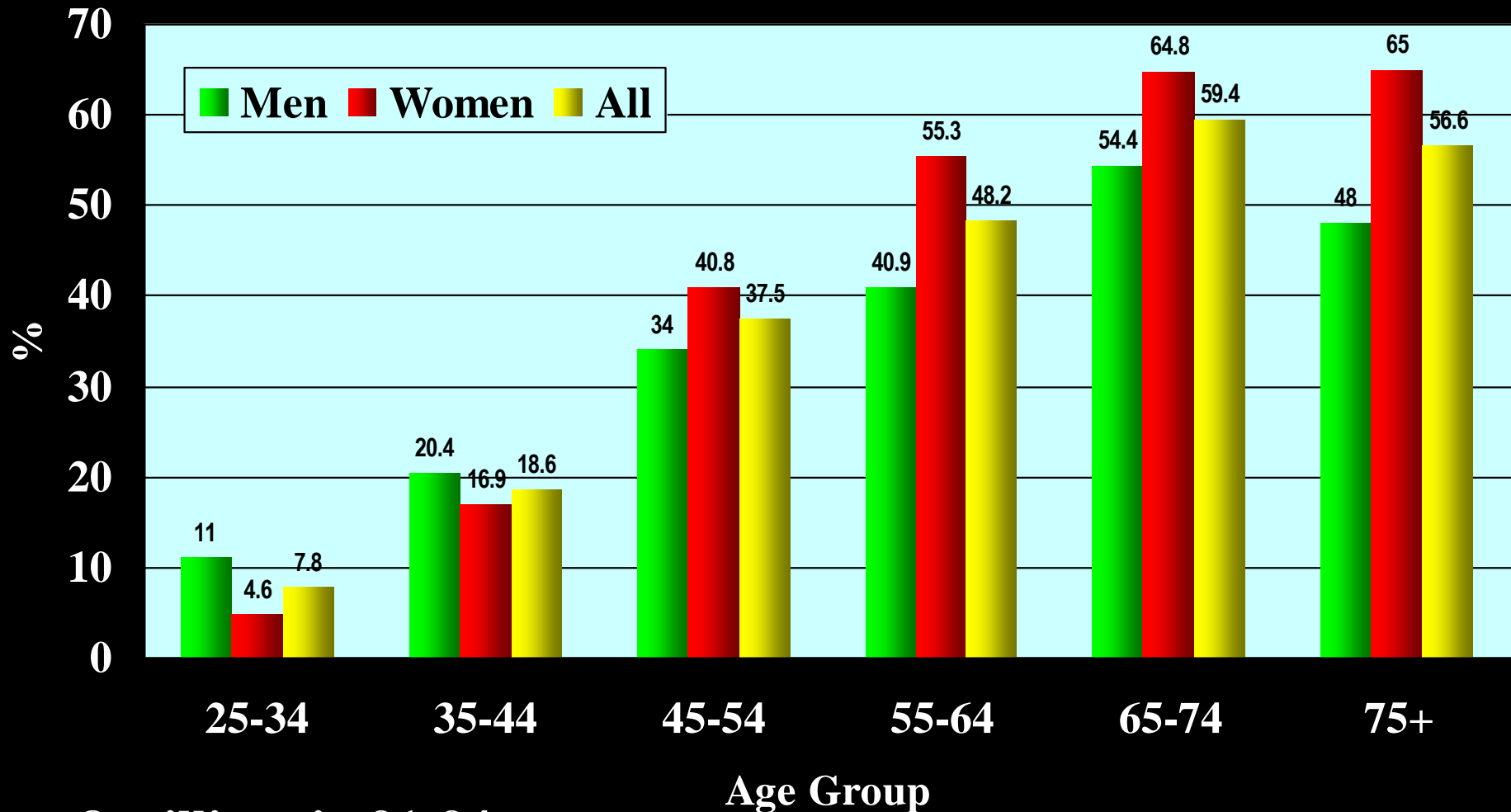
**Table 1. Estimated Number of Individuals Aged  $\geq 20$  Years With Blood Pressure  $> 140/90$  mm Hg in 2000 and Predicted Number of Affected Individuals in 2025**

Region	Prevalence 2000, Millions	Predicted Prevalence 2025, Millions	Increase, Millions
Established market economies	239.5	309.7	70.2
Latin America and the Caribbean	114.3	200.6	86.3
Former socialist economies	93.1	103.7	10.6
□ Middle East crescent	73.8	152.6	78.8
China	181.6	299.2	117.6
India	118.2	213.5	95.3
Other Asia and islands	71.4	129.4	58.0
Sub-Saharan Africa	79.8	150.7	70.9
<b>Total</b>	<b>971.7</b>	<b>1559.4</b>	<b>587.7</b>

Adapted from Kearney et al<sup>13</sup> with permission from Elsevier.

# PREVELANCE OF HYPERTENSION IN EGYPTIANS

Egyptian NHP Data (1991-1994)

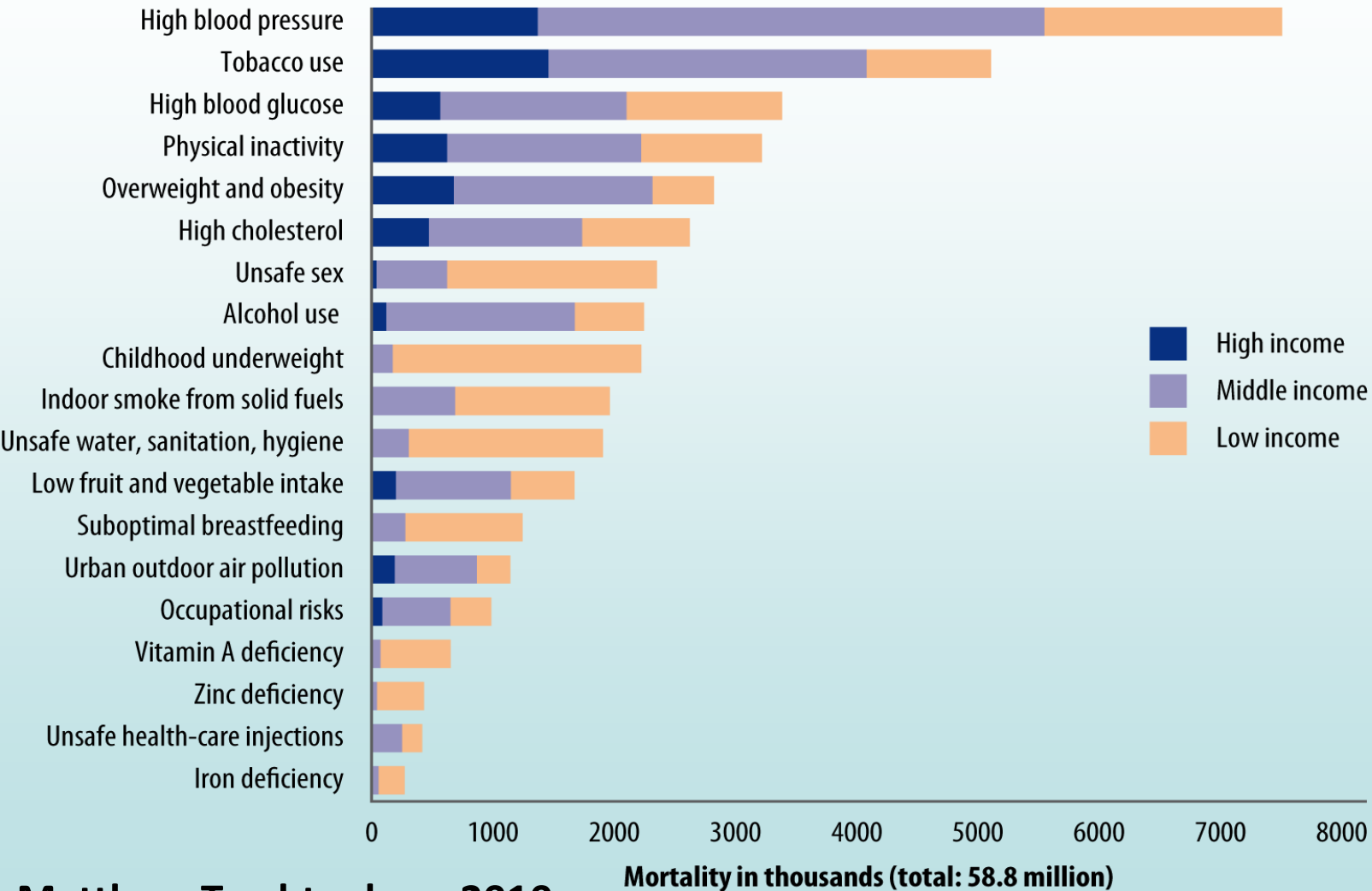


8 millions in 91-94

# Problem of Hypertension in EGYPT

- More than 50% of Egyptians older than 60 y have high BP
- It is predicted that with an Egyptian population of more than 90 millions, there are more than 15 millions with hypertension.

# Leading Causes of Deaths, by Country Income Level



Matthew Trachtenberg 2010

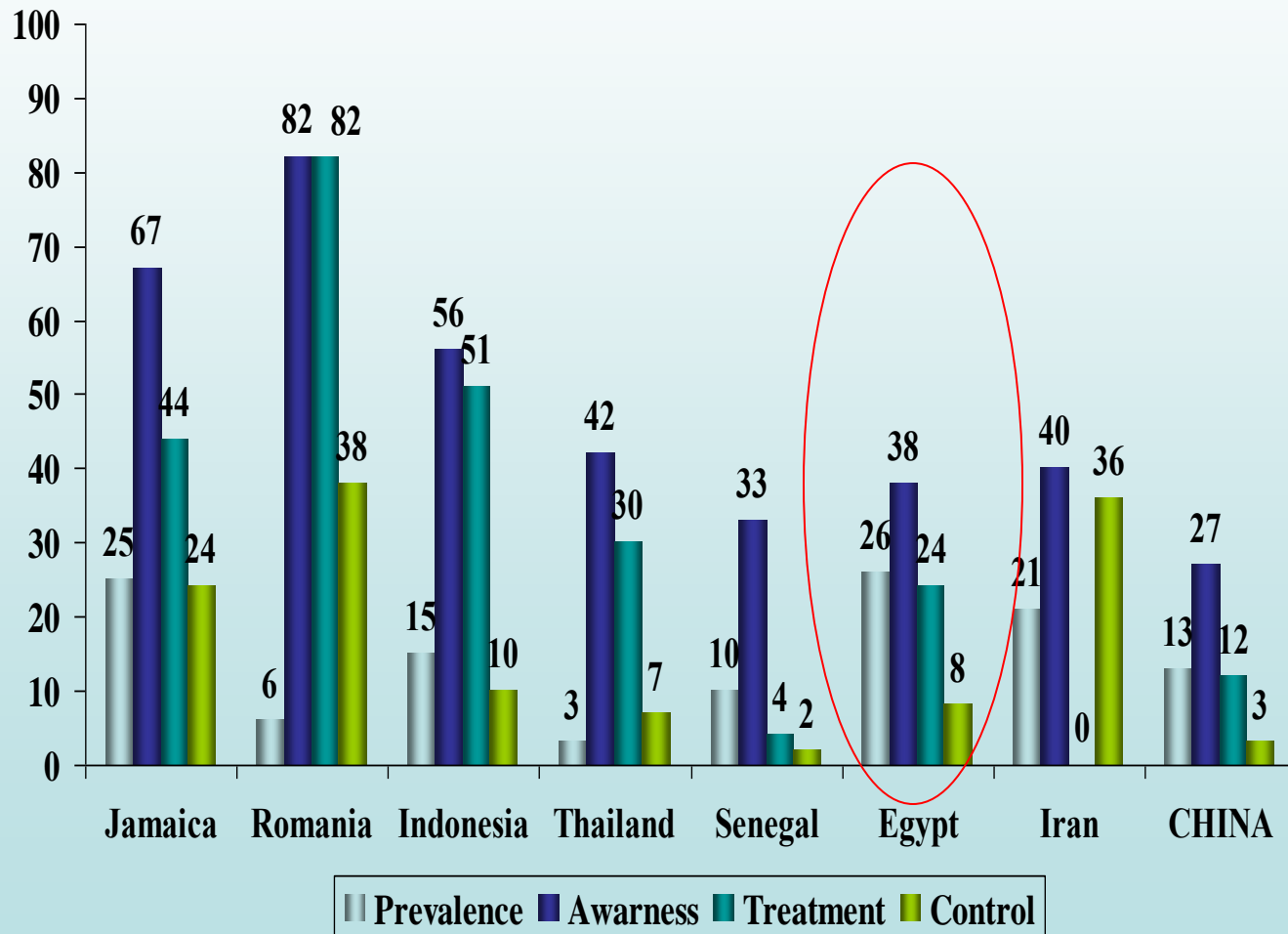
"Global Health Risks: Selected Figures and Tables." (2004).

[http://www.who.int/entity/healthinfo/global\\_burden\\_disease/global\\_health\\_risks\\_report\\_figures.p](http://www.who.int/entity/healthinfo/global_burden_disease/global_health_risks_report_figures.p)

# **Rates of Awareness, Treatment and Control**

# HYPERTENSION –Developing World

Prevalence, Awareness, Treatment and Control





# Why focus on high blood pressure?

- **Main risk factor for heart disease, stroke and kidney failure**
- **Aging population will lead to an increase in these conditions**
- **Common health problem (26.3% of adults)**
- **Potential for reducing negative effects through prevention and control measures**

# The beginning of Ideas.....

**WHL day 14/5/2014**

اليوم العالمى لارتفاع ضغط الدم

**Cardiology Department**

**Zagazzig University**

# Why Hypertension Clinics

- Hypertension is a major health problem in Egypt
- Rates of awareness, treatment and control are low
- Limited information and training of Egyptian physicians in the field of HTN
- No specialized hypertension clinics are established in Egypt
- The scientific approach based upon the recent Egyptian guidelines will limit cost of patients care while achieving a better BP control
- Under and over-diagnosis of HTN will be avoided

# Why Hypertension Clinics ?

## Problems of Over-diagnosis

- Prescribing unnecessary medications
- Psychological impact of a wrong diagnosis of HTN
- Costs & side effects of medications
- Ordering unnecessary laboratory tests
- Financial burden on Egyptian health care system.

# Why Hypertension Clinics ?

## Problems of under-diagnosis

- No treatment or follow-up for truly HTN Pts
- Risks of HTN complications
  - HF
  - Stroke
  - Renal failure
  - CAD
  - Aortic aneurysms
  - Aortic dissection
  - Arrhythmias

# Why Hypertension Clinics

- Correct diagnosis of HTN: follow the GLs
- Proper evaluation of hypertensive pts: clinical & laboratory
- Define HTN severity
  - Assess associated CVRFs
  - Diagnose TOD:
    - LVH, proteinuria, RF, aortic aneurysms, carotid & vertebrobasilar dis,
  - Identify & manage co-morbid conditions: obesity, DM, OSA, CAD, PAD

# Why Hypertension Clinics ?

## Proper & Optimal Treatment

- Initiate treatment at the right time
- Correct choice of initial drug ttt
- Pt education
- BP monitoring & follow-up

# Cost Containment

- **Limit lab workup**
- **Stress LSM as essential element**
- **No drug therapy in low risk patients**
- **Initiate therapy**
- **Avoid prescribing unnecessary medications**
- **Limit office visits to the necessary**



# **Why Hypertension Clinics ?**

## **Factors influencing choice of antihypertensive drugs**

- **Patient's age**
- **Drug cost and patient's socioeconomic status**
- **Previous experience of the patient**
- **Previous experience of the physician**
- **Presence of**
  - **CV risk factors,**
  - **Subclinical organ damage,**
  - **Clinical cardiovascular disease,**
  - **Comorbid conditions**
  - **Use of drugs that may interact with antihypertensive agents.**

# Why Hypertension Clinics ?

- **Data collected from clinics will provide the bases for new epidemiologic information**
  - **Prevalence of HTN**
  - **Patients demographic characteristics**
  - **Rates of awareness, treatment, control and adherence to therapy**
  - **Reasons for failure of BP control**
  - **Prevalence of hypertensive complications**
  - **Associated cardiovascular risk factors**
  - **Secondary HTN**
- **Increase public and community awareness of HTN**
- **Create and increase interest and knowledge about hypertension among young Egyptian physicians**

**PROCESS**

# Clinics

Site	Date of beginning
1.Cairo	22/12/2014
2.Ain Shams	13/1/2015
3.Helwan	8/12/2014
4.Zagazig	11/1/2015
5.Alexandria	14/1/2015
6.Suez Canal	1/1/2015
7.Beni Suef	(6/8/2014)
8.Menia	18/1/2015
9.Assiut	18/1/2015

- Personnel
- BP Technique

الجمعية المصرية لإرتفاع ضغط الدم  
 مشروع عيادات إرتفاع ضغط الدم  
 جدول بتقارير زيارات لجنة المراقبة والمتابعة للمحافظات المختلفة

	Zagazig	Cairo	Suez canal	Ain Shams	Assiut	Helwan
<b>I. Site preparation:</b>						
<b>Appropriateness</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Suitability</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Equipments:</b>						
<b>Present on site:</b>						
1. <b>AMB</b>	Yes	No	Yes	No	Yes	No
2. <b>Digital Device</b>	Yes	Yes	Yes	Yes	Yes	Yes
3. <b>Scale</b>	Yes	Yes	Yes	Yes	Yes	Yes
4. <b>Measuring Tape</b>	No	Yes	Yes	No	No	Yes
5. <b>Laptop/PC</b>	Yes	Yes	Yes	No	Yes	Yes
<b>Used correctly</b>						
1. <b>AMB</b>		No	No		Yes	No
2. <b>Digital Device</b>		Yes	Yes	Yes	Yes	Yes
3. <b>Scale</b>	No	Yes	Yes	Yes	Yes	Yes
4. <b>Measuring Tape</b>		Yes		Yes	No	Yes
5. <b>Laptop/PC</b>		Yes		Yes	Yes	Yes
<b>Stored accurately</b>						

## Equipment:-

- AMBPM
- Digital device
- Scale
- Measuring tape
- Laptop/PC/ net

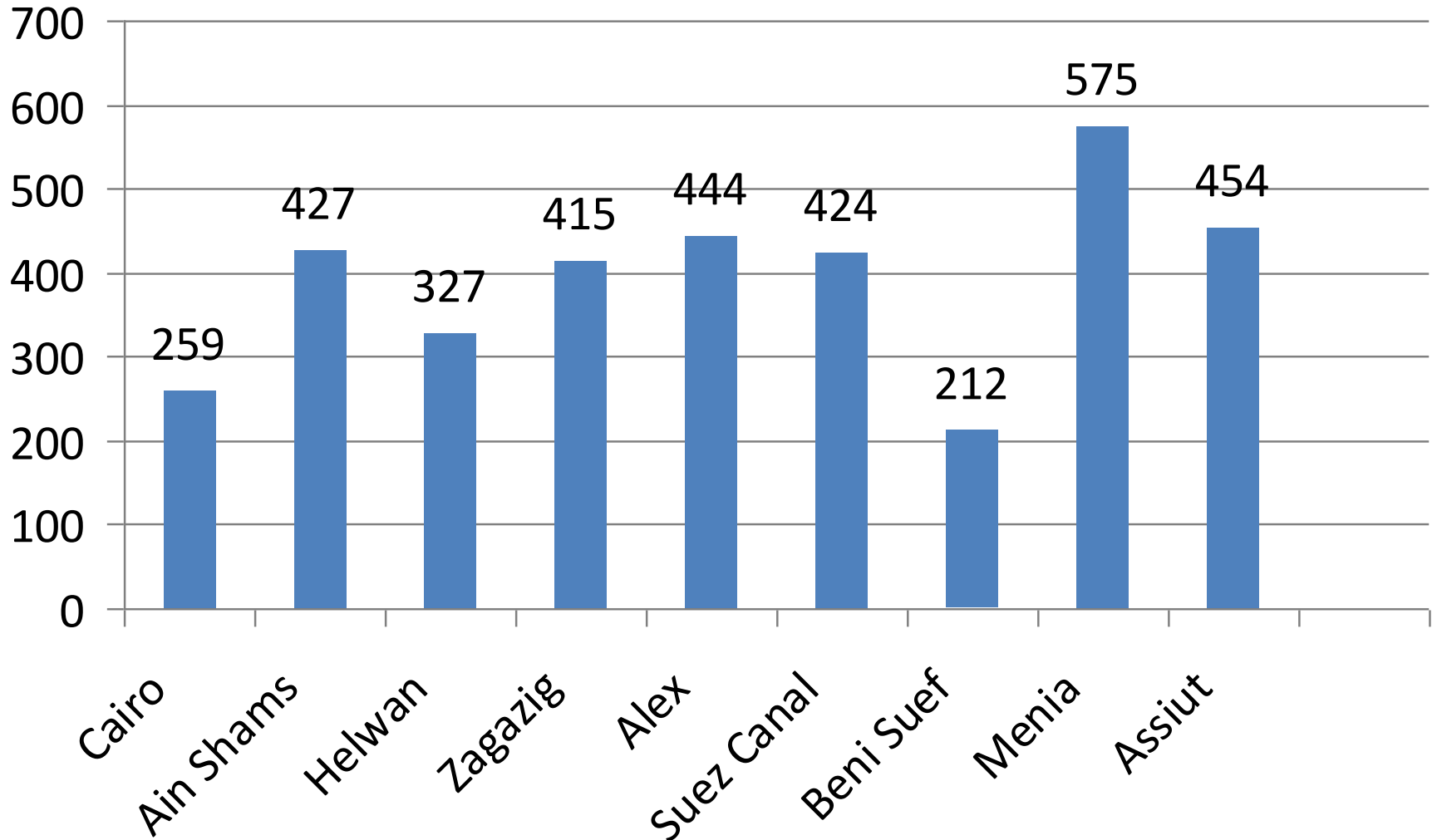
الجمعية المصرية لإرتفاع ضغط الدم  
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# Main Results

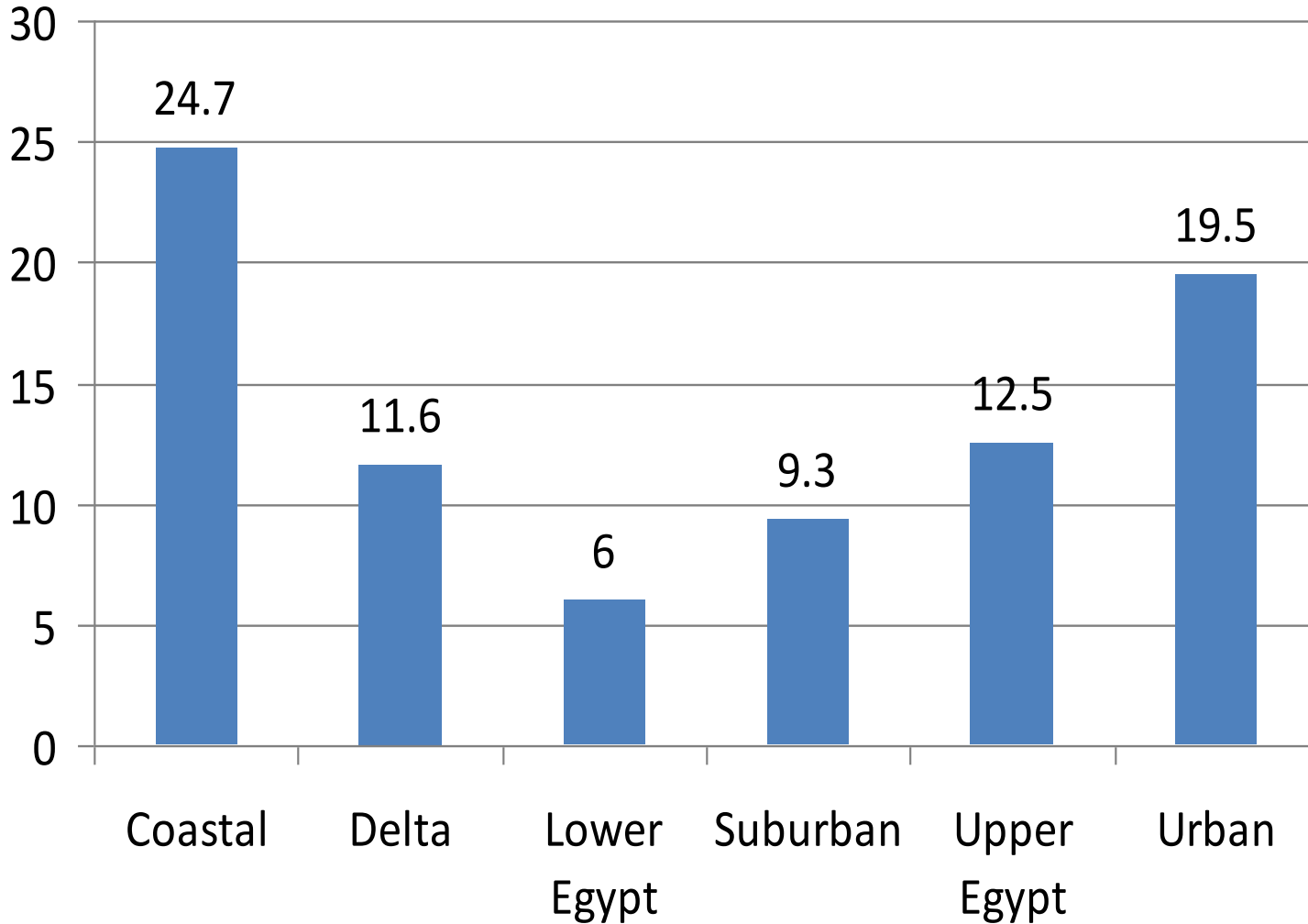
**n = 3505**

## Population





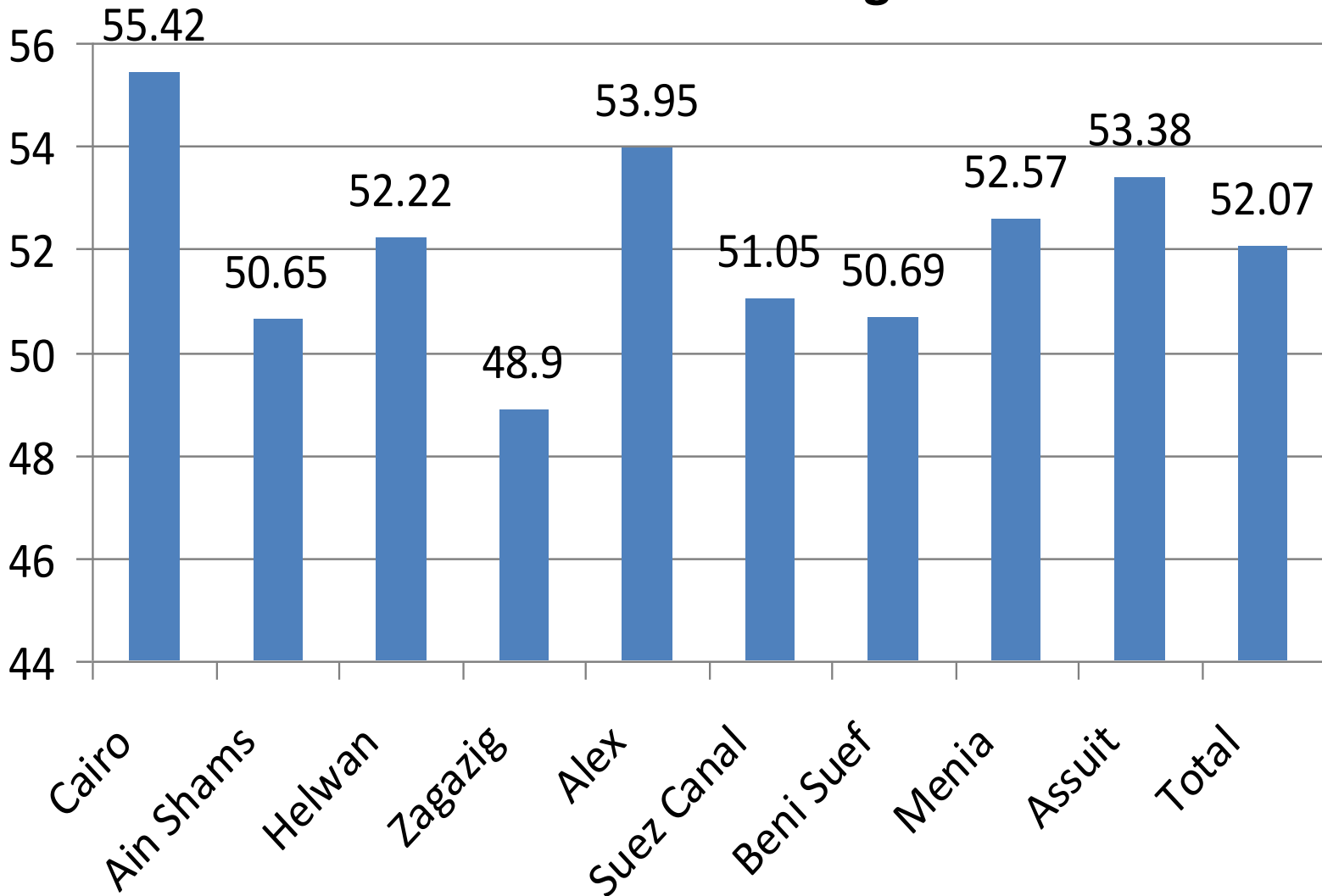
# Geographical Distribution



# Age Distribution

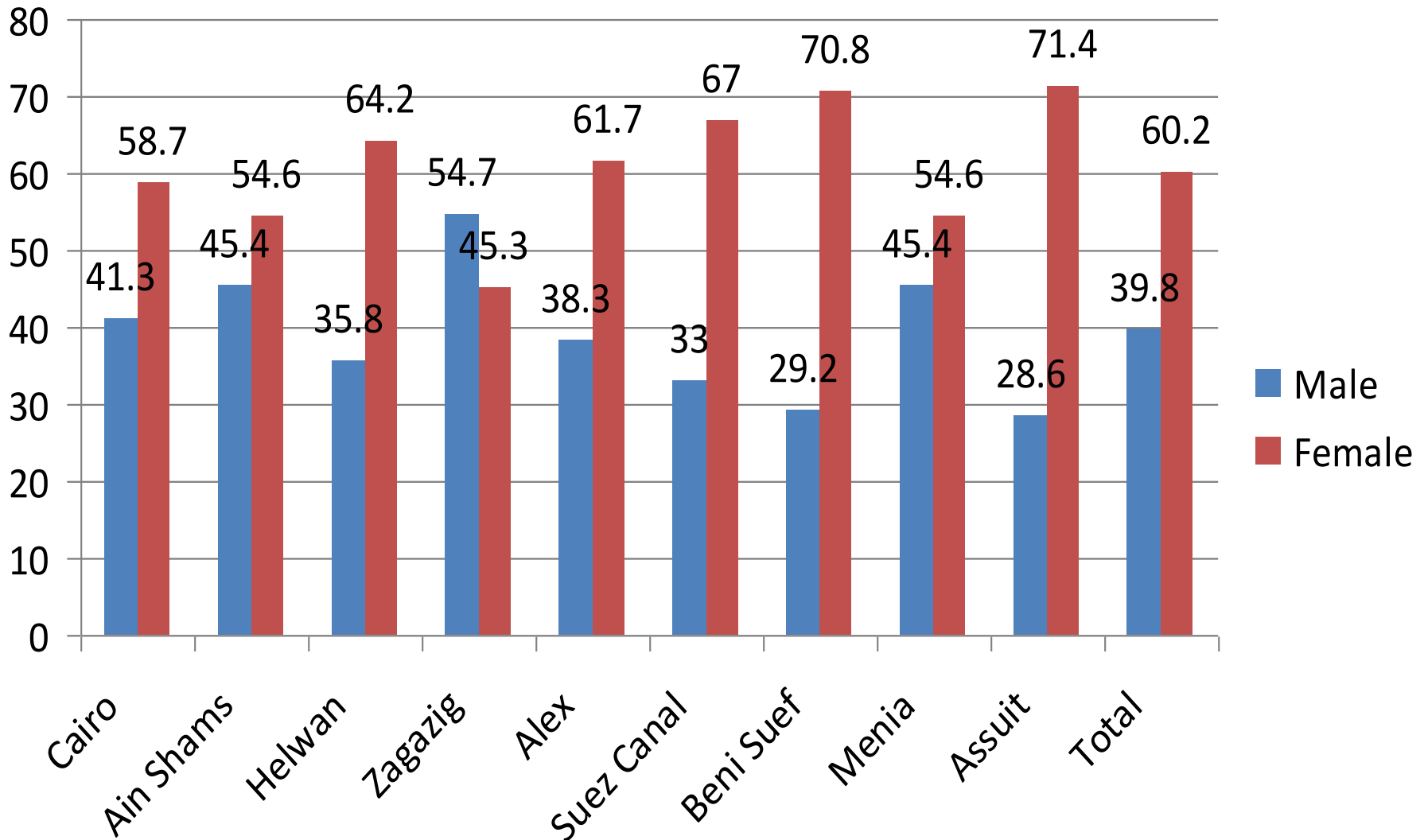
(range 17 – 91y m  $52.1 \pm 11.6$ )

## Mean Age



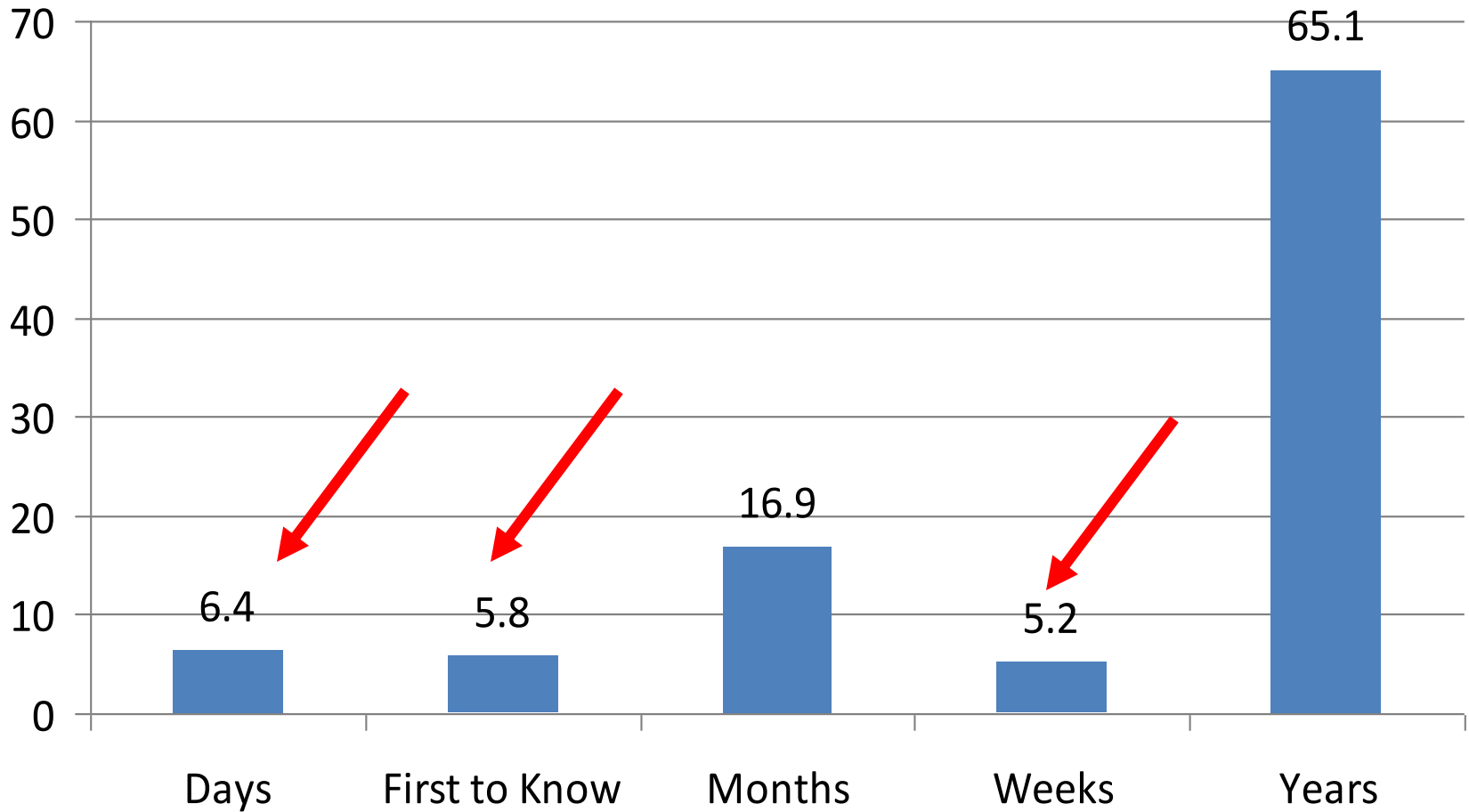
# Gender Distribution

(60% F , 40% M)

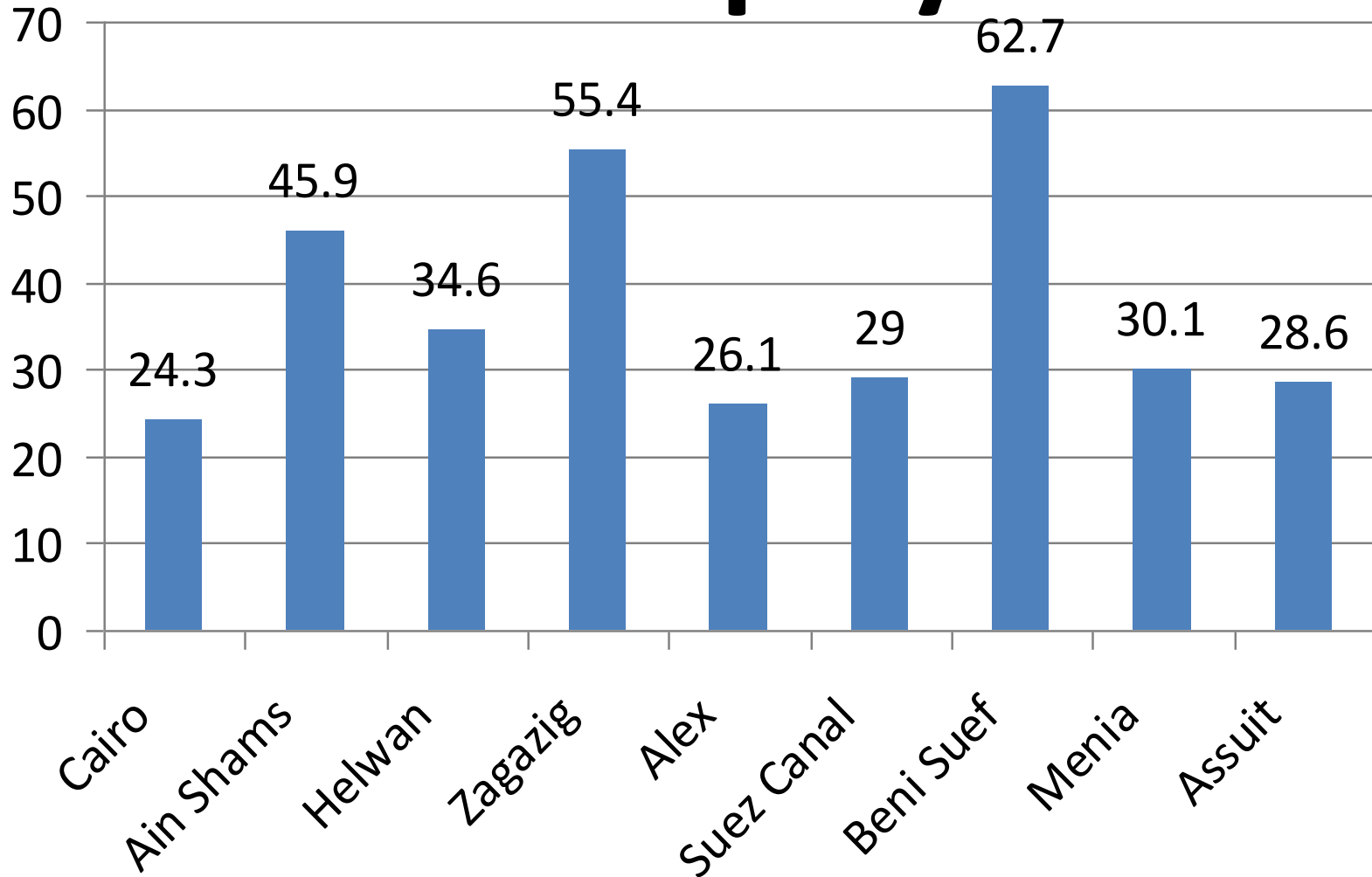


# Duration of HTN

%

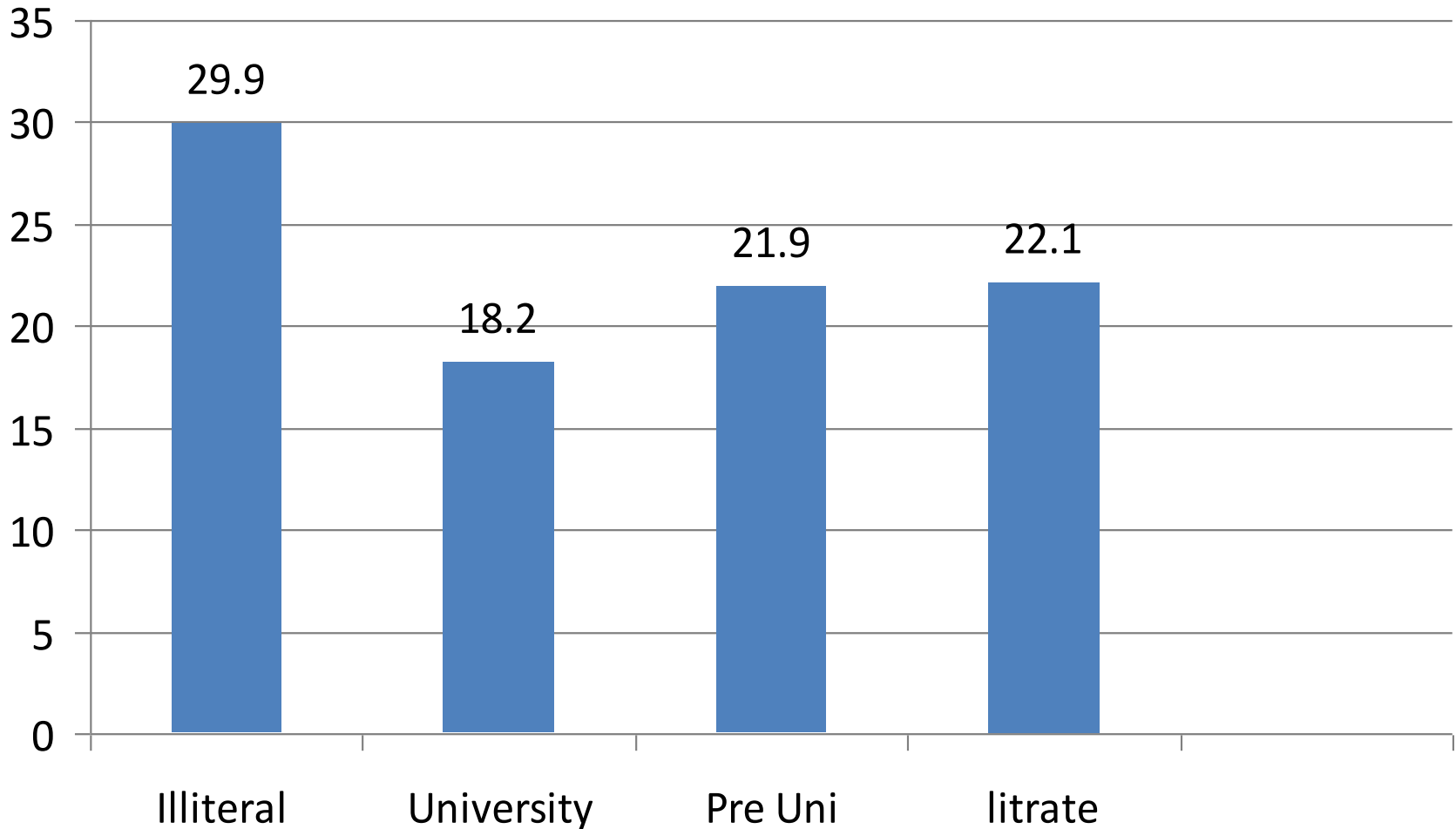


# Employment

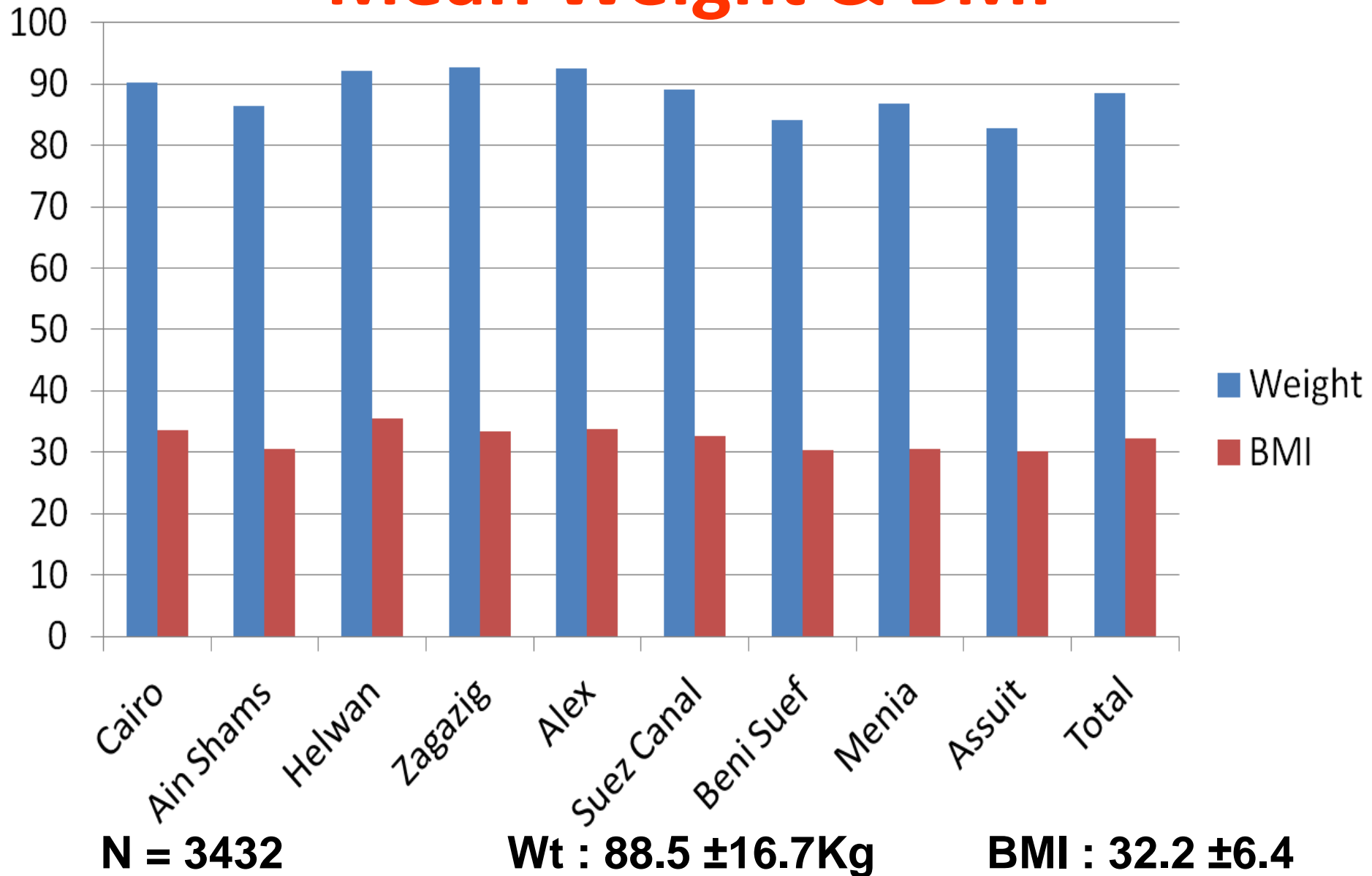


# Education of Total Population

%

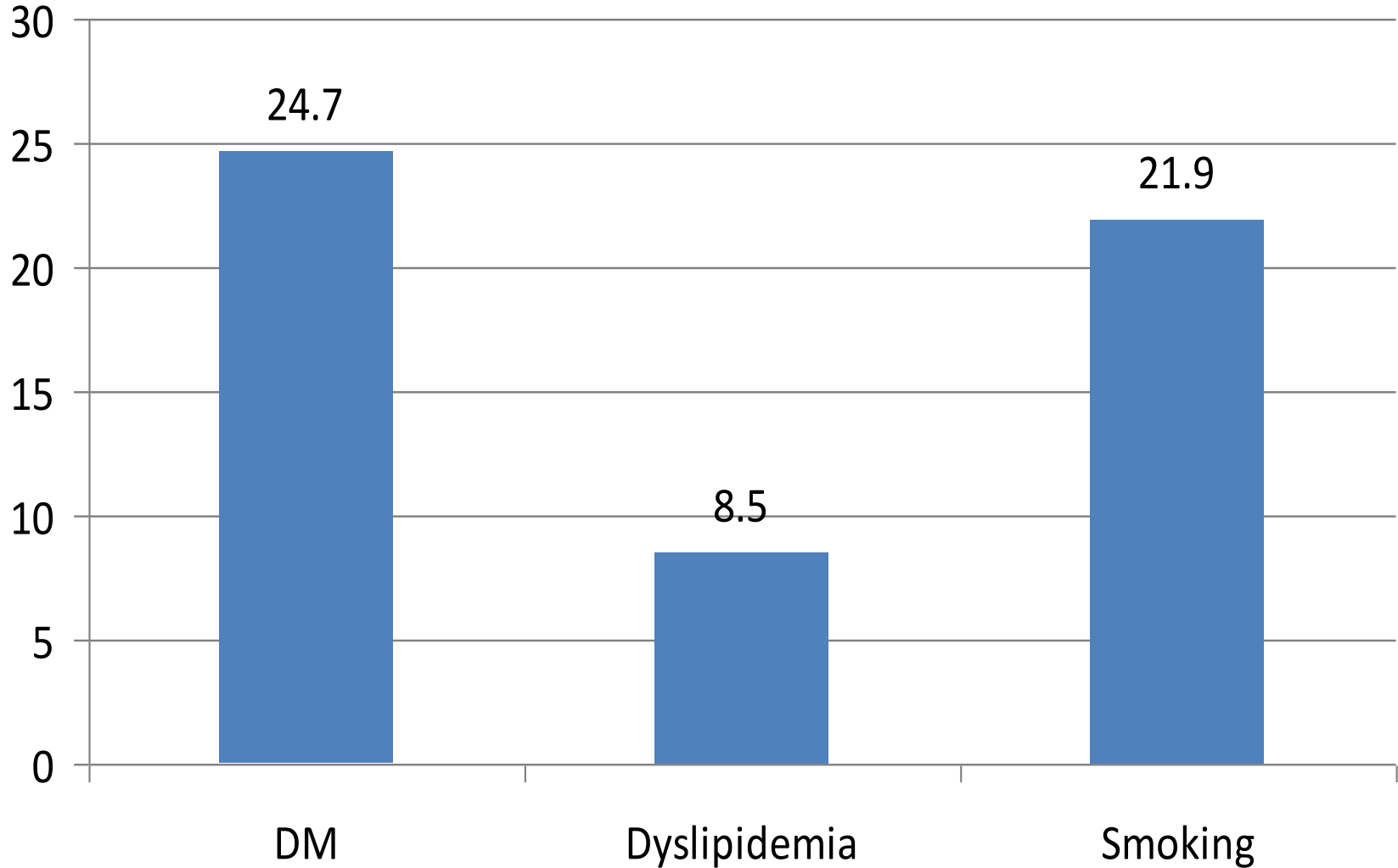


# Mean Weight & BMI



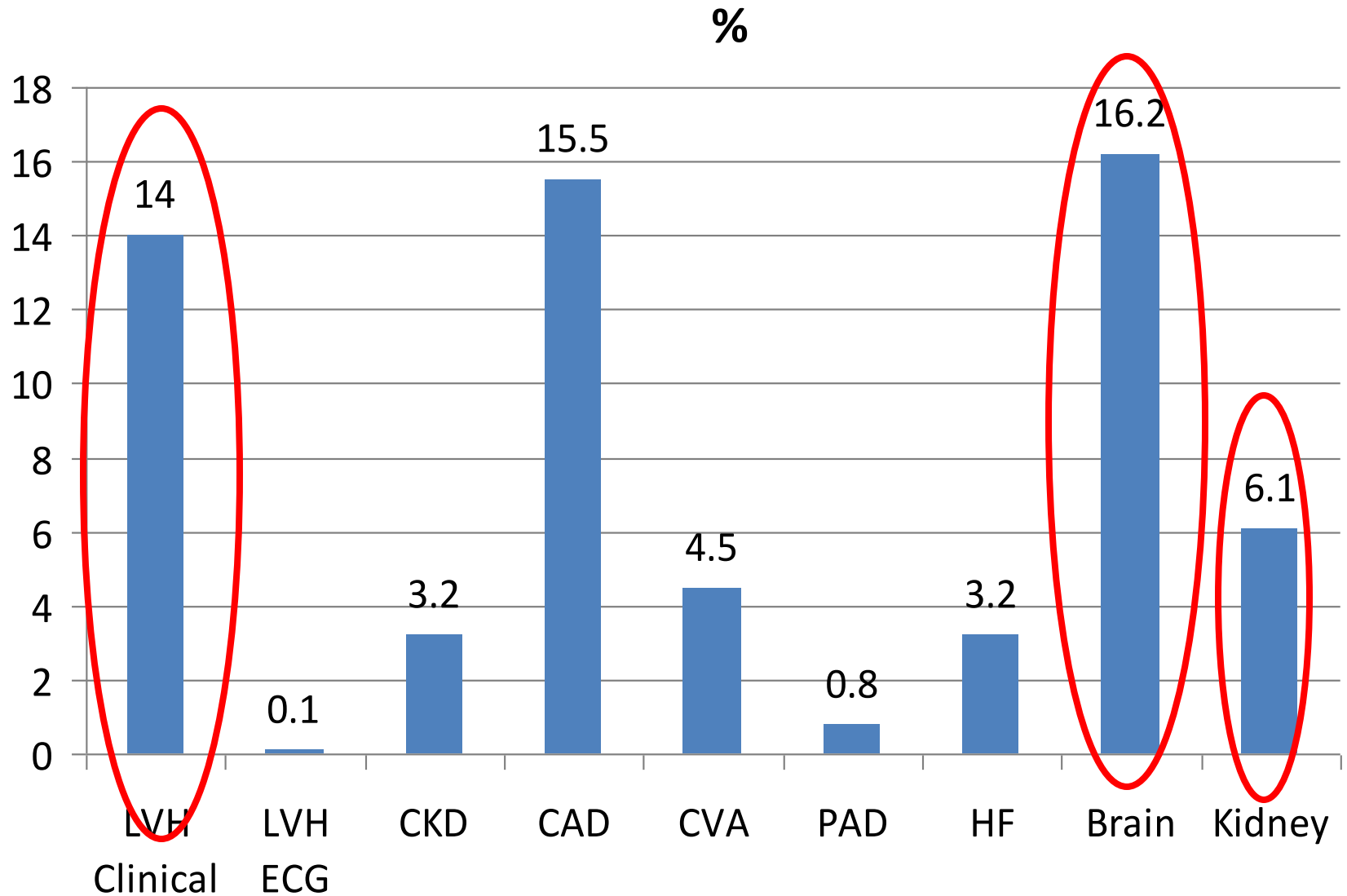
# Cardiovascular Risk Factors

%

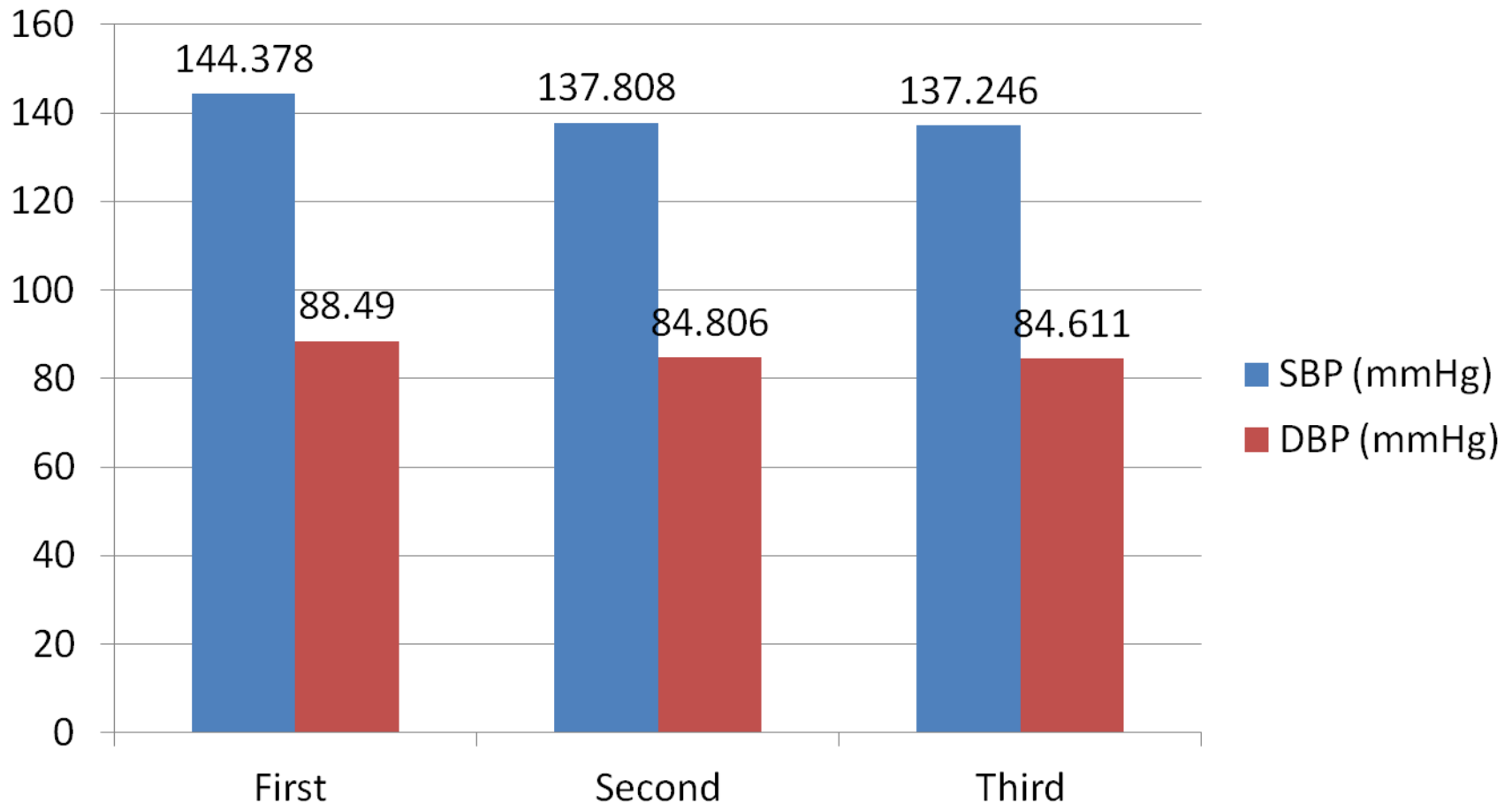




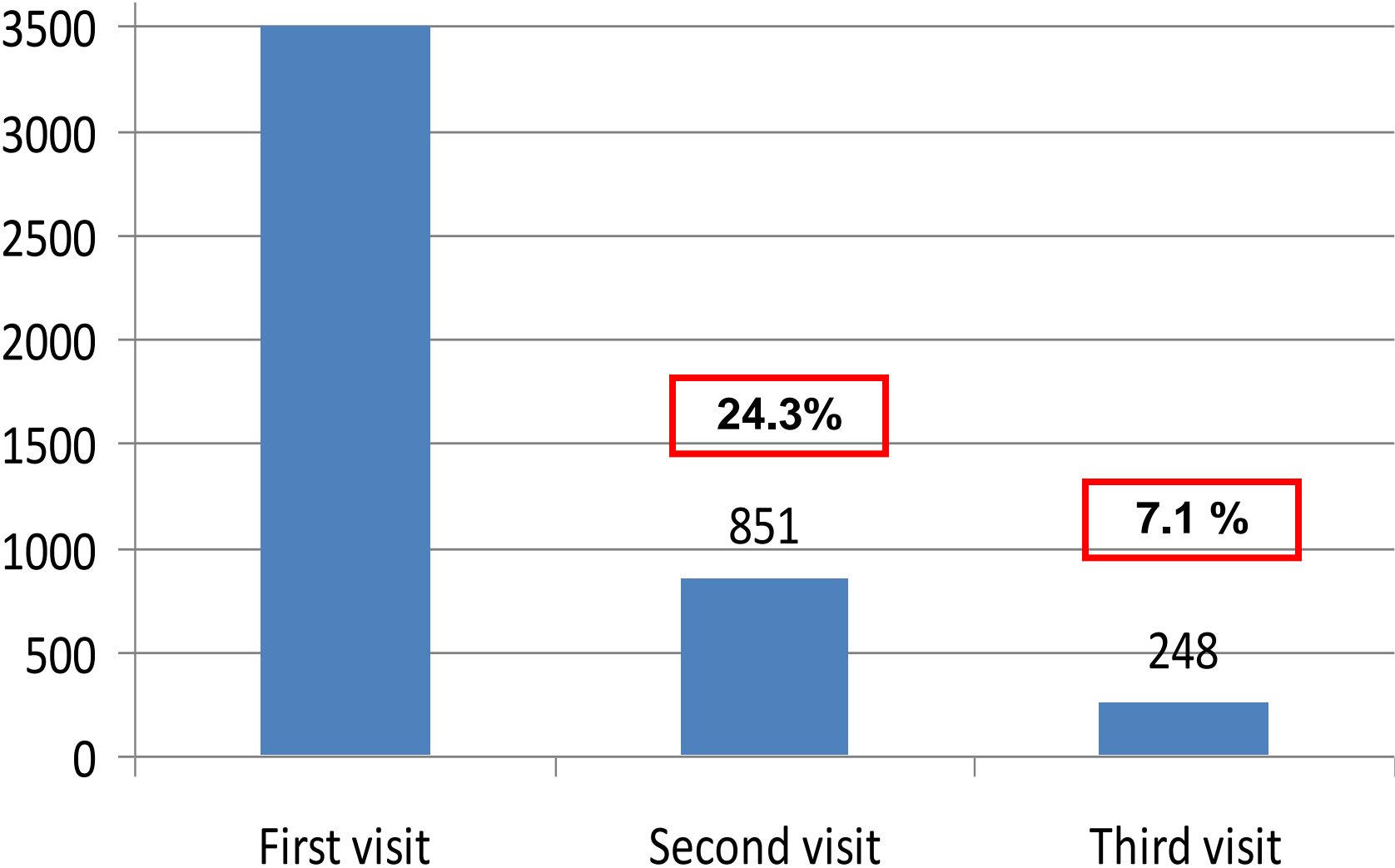
# Target Organ Damage



# BP on First, Second & Third Visit

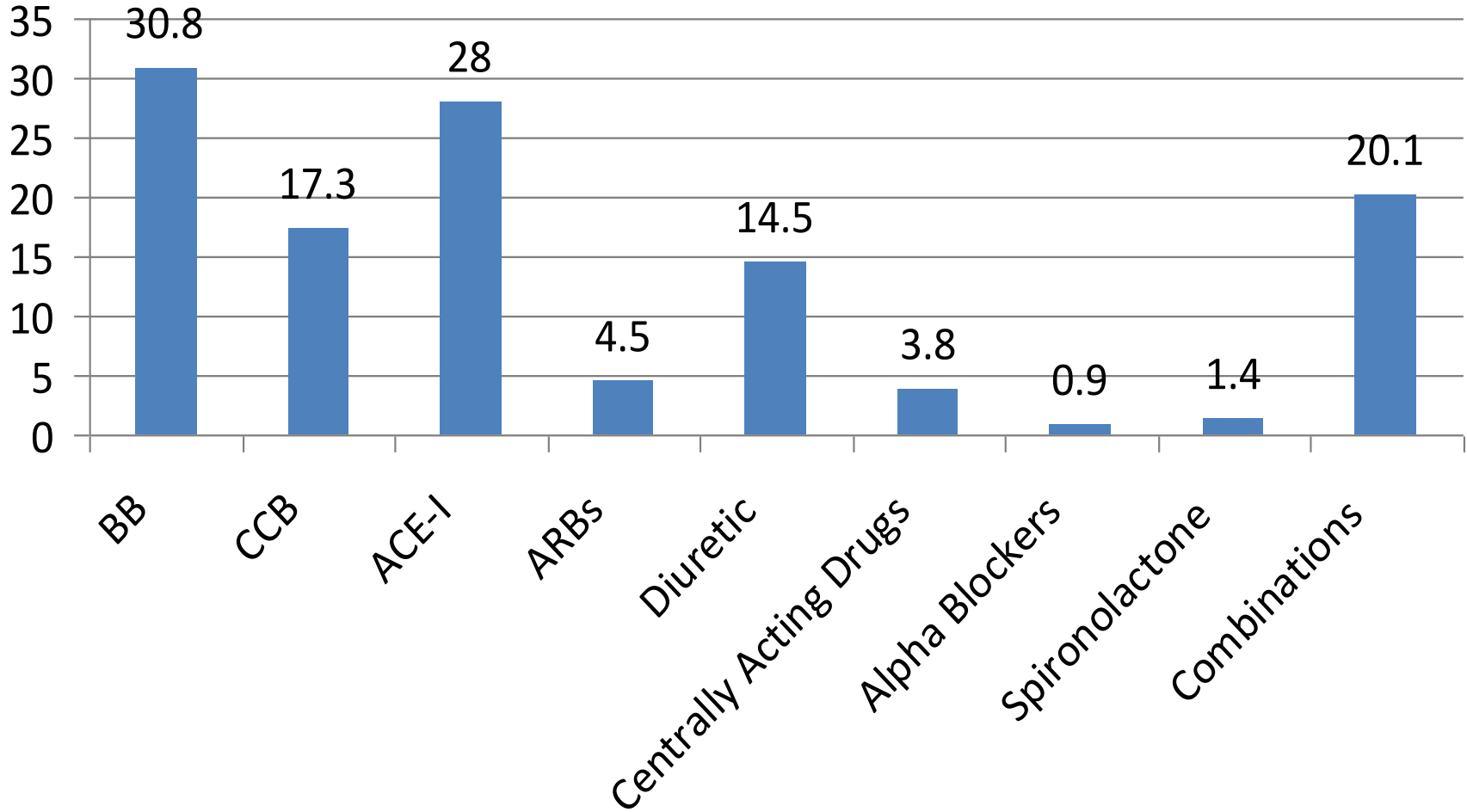


# Number of Patients



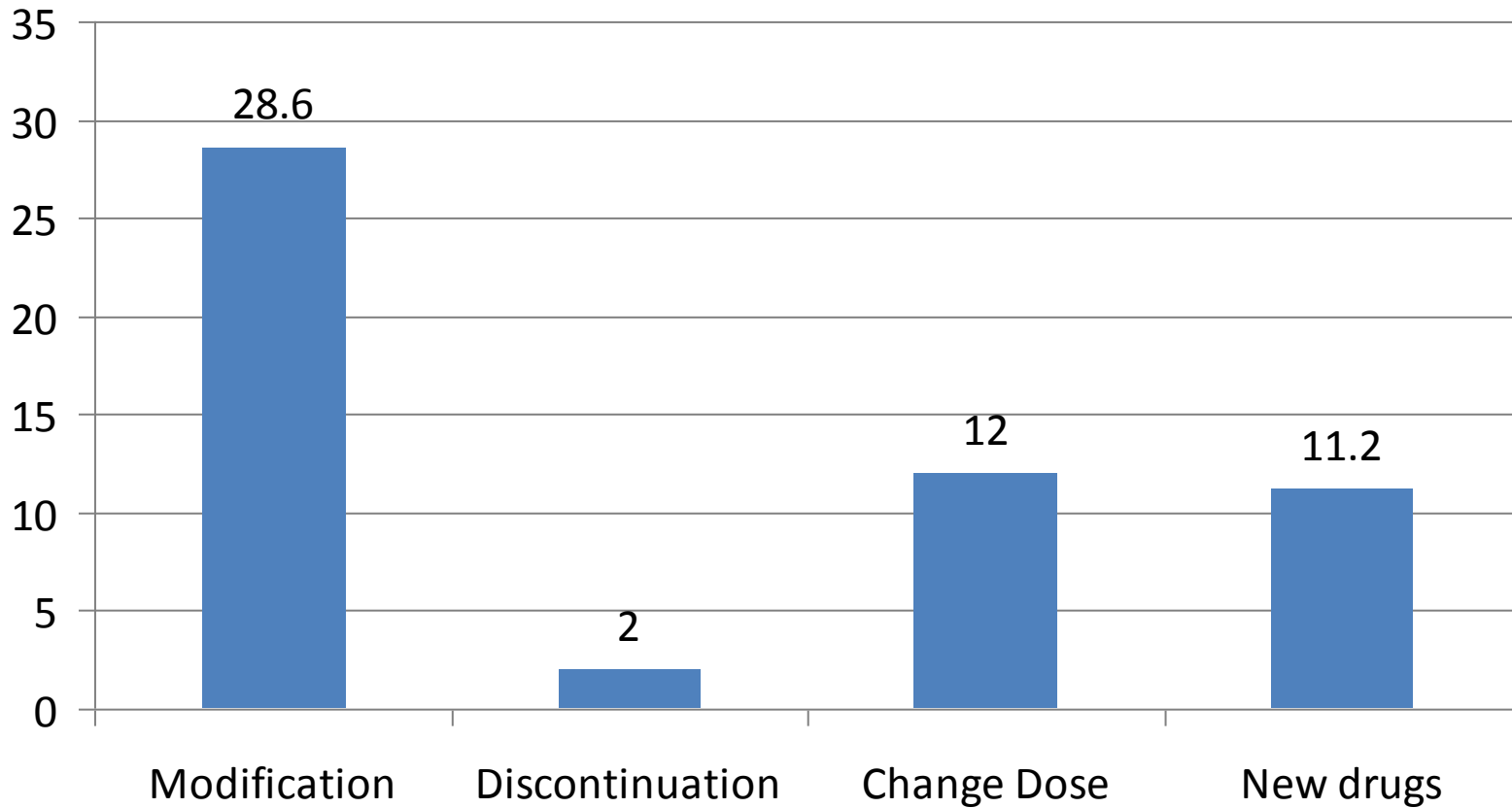
# Classes Drug Therapy

%

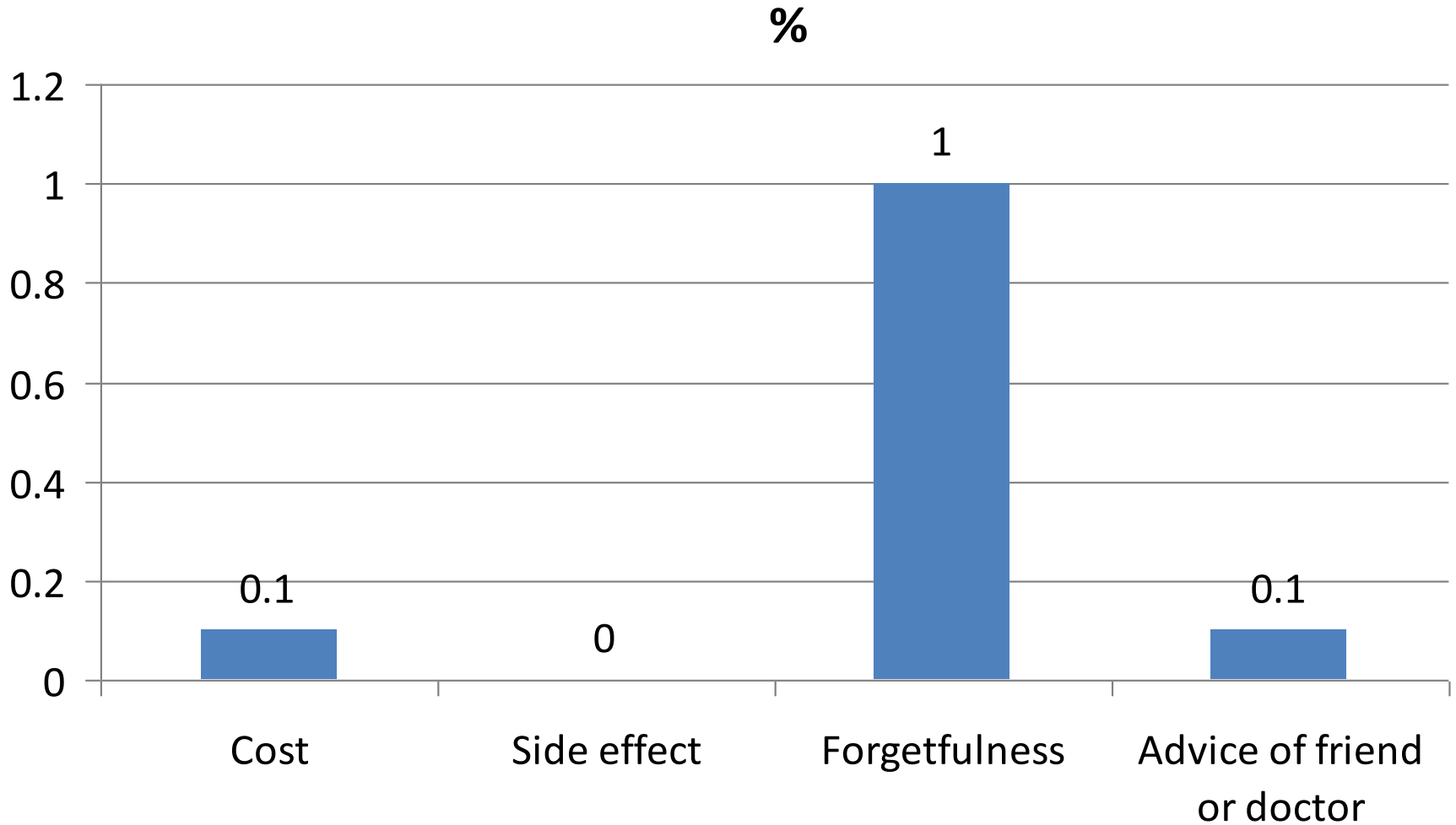


# Drug Therapy

%



# Reasons of Non-Compliance



# Future Plans

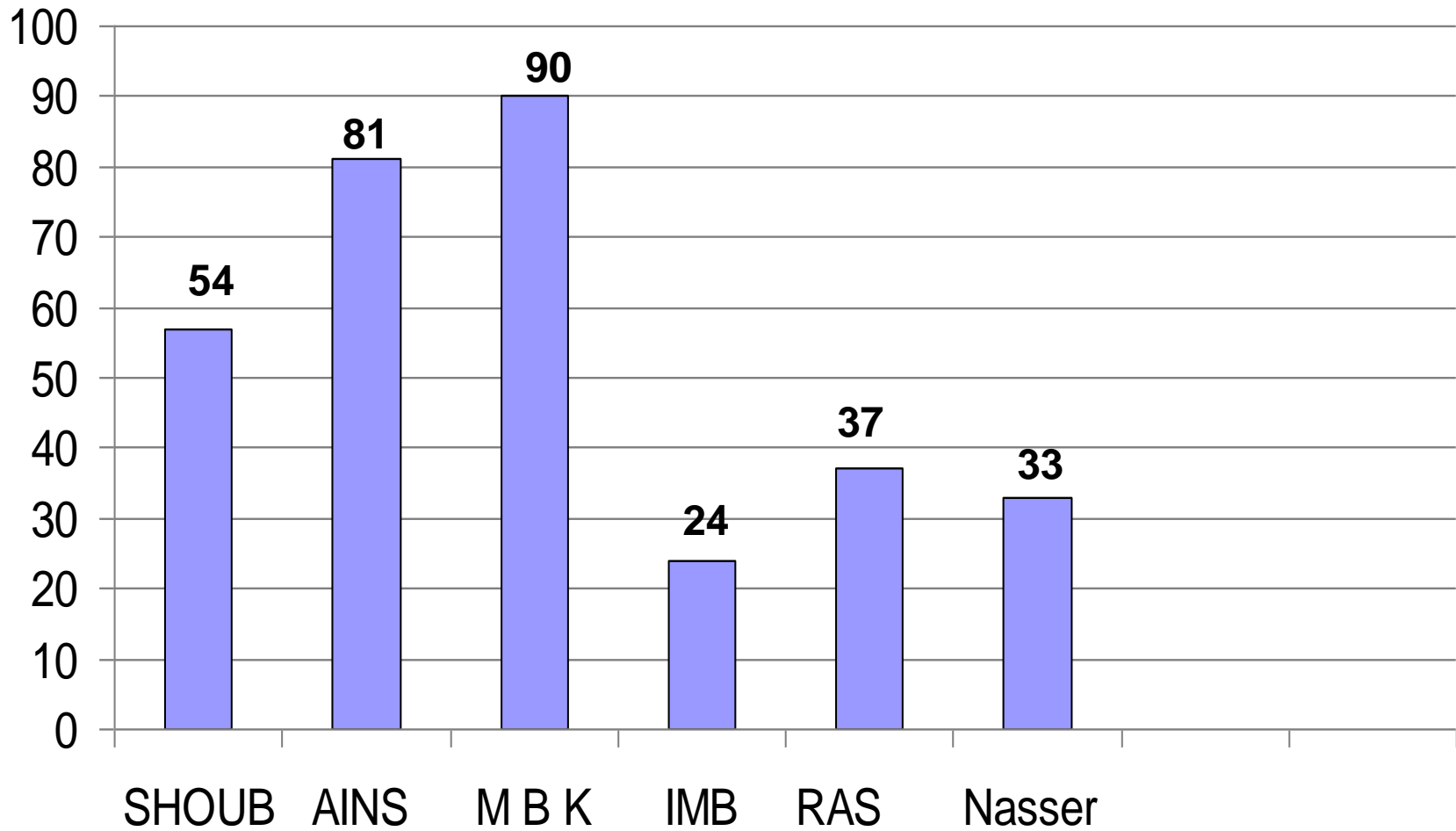
# MOH Specialized HTN Clinics

*August 2016 .....*



# Population

**N = 322**



# Clinics of MOH

<b>C O D E</b>	<b>Governorate</b>	<b>University</b>	<b>Principal investigator</b>	<b>Co. invest igator</b>
<b>1</b>	<b><u>Cairo</u> Governorate</b>	<b>Shubra El-Aam Hospital</b>	<b>Dr. Vinous Fransis</b>	<b>Mr. Ahmed Galal</b>
<b>2</b>		<b>Ain Shams EL-Aam Hospital</b>	<b>Dr. Atef Khamis</b>	<b>Miss. Amal Makra m</b>
<b>3</b>		<b>Manshiet EL-Bakry Hospital</b>	<b>Dr. Maha Shafeek</b>	<b>Dr. Manal El- Sonbat y</b>
<b>4</b>	<b><u>Guiza</u> Governorate</b>	<b>Embaba El-Aam Hospital</b>	<b>Dr. Treeza Labeb</b>	<b>----</b>
<b>5</b>	<b><u>Alexandria</u> Governorate</b>	<b>Ras EL-Teen EL-Aam Hospital</b>	<b>Dr. Heba Abdel Salam</b>	<b>----</b>
<b>6</b>	<b><u>Qaliobia</u> Governorate</b>	<b>Nasser EL-Aam Hospital</b>	<b>Dr. Atef Fath Alla</b>	<b>Miss. Sahar El- Sayed</b>

# New MOH Clinics

*February 2017 .....*

# New MOH Clinics - Eight more ...

- 1.Cairo : Almonira
- 2.Ismailia : Elismailia Elaam
- 3.Eldakahleya : Almansoura Elaam
- 4.Elmenoufia : Koweisna Elmarkazi
- 5.Elshakeya : Elkenayat Elmarkazi
- 6.Dameita : Domeit Elaam
- 7.Almenia : Elfekreya Elmarkazi
- 8.Kafr Elsheikh : Kafer Elsheikh Elaam

# Acknowledgment •

*Astra Zeneca Egypt*

# EHS Office Management

- Mr. Hatem Saber
- Mrs Faten Labib
- Mrs Nesma Elashkar

- Mrs Rehab Ashkar

- Dr. Ghada Sayed