HỘI TIM MẠCH HỌC VIỆT NAM

HỘI NGHỊ TĂNG HUYẾT ÁP VIỆT NAM LẦN THỨ III

HYPERTENSION AND THEIR RISK FACTORS IN THUA THIEN HUE PROVINCE

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TRƯỜNG ĐẠI HỌC Y DƯỢC HUẾ
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HUE FMC

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INTRODUCTION

- Hypertension is an **important health problem** in the world.
- Complication of hypertension accounts for **9.4 million deaths** worldwide every year [1].
- **Vietnam:** Prevalence of adult hypertension accounted for **25.1% in 2008** [2].
- Lack of information about hypertension and their risk factors in T.T. Hue Province

1. WHO (2008). Cause of Death 2008 ; 2. Son P. T., Việt N. L. et al (2009)

OBJECTIVES

- To describe the prevalence, awareness, treatment and control of hypertension
- To describe the association between the prevalence, awareness, treatment and control of hypertension and their risk factors

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METHODOLOGY

- **Study design: Cross - sectional study**
- **Population:** Local people from 40-69 years of age
- **Sample size:** $$n = Z^2_{1-\alpha/2} \frac{p(1-p)}{(p.\varepsilon)^2}$$

- (p = 34,3%[1] , $Z_{1-\alpha/2}$ = 1,96, ε = 0,16) → n = 287 (≈ 300)
- Three different areas: Urban, rural & mountainous areas

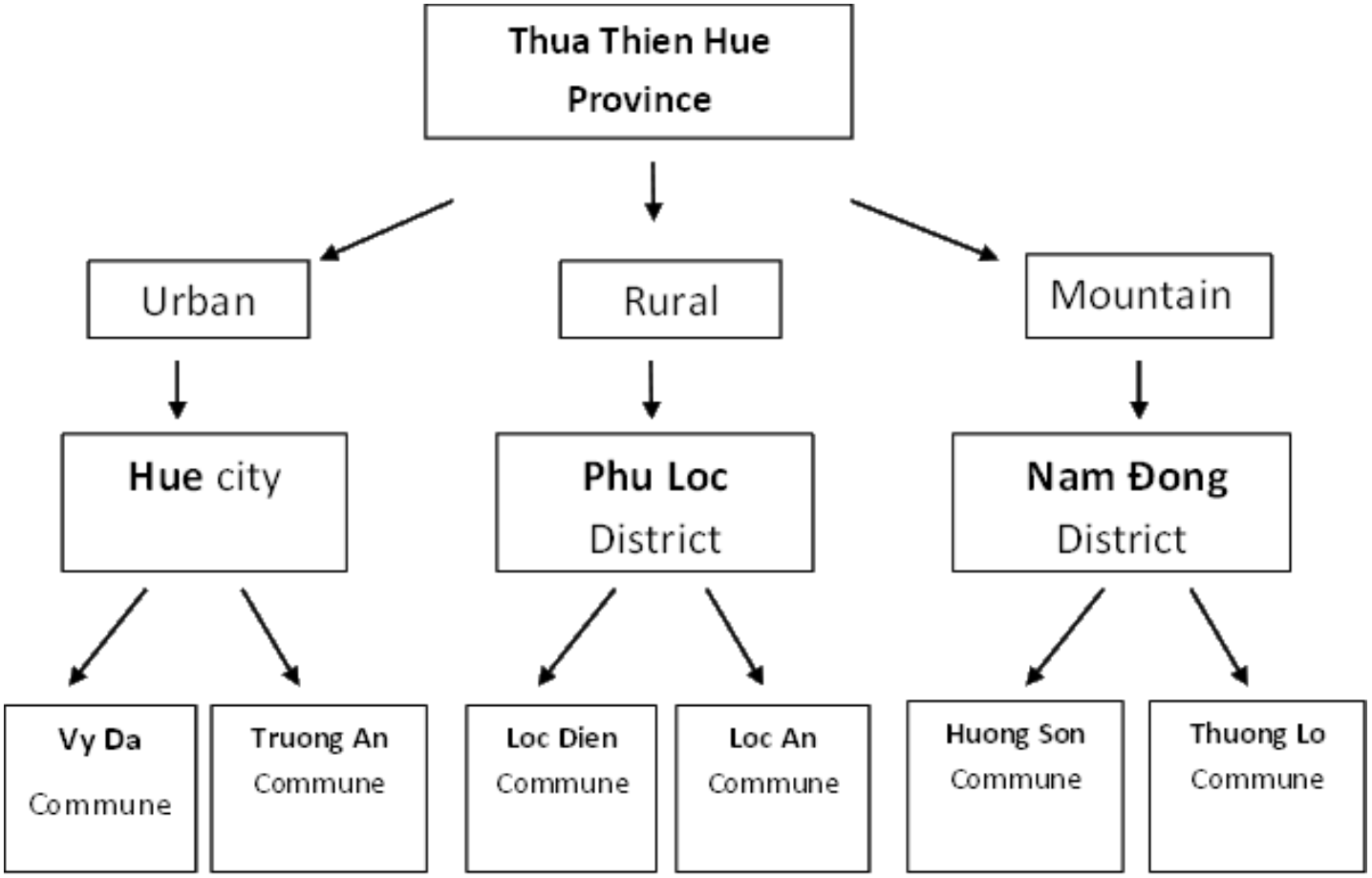
Estimated 20% will not participate → **n = n1 x 20% + n1 = 1080**

- After studying: 983 participants, 14 excluded (missing data)
- Sample size for analysis: **969**

(1. Tran Van Huy et al. (2007))

METHODOLOGY

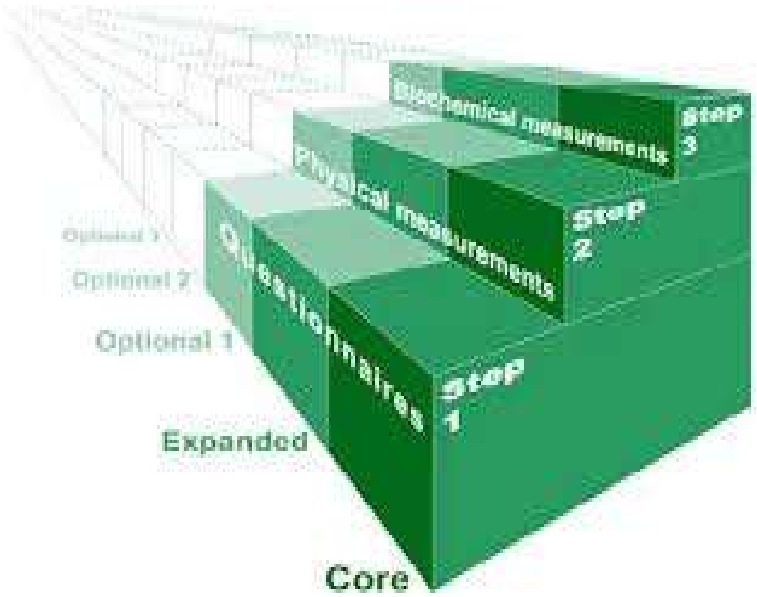
- **Sample selection:** multistage sampling



METHODOLOGY

- **Data collection: WHO-stepwise Questionnaire (1)**

- Using automatic sphygmomanometers (OMRON HEM 7322) for blood pressure (BP) measurement



1. WHO (2005). WHO STEPS Surveillance Manual

METHODOLOGY

➢ Definition of variables

- **Hypertension** → History of diagnosed hypertension by a physician or systolic BP ≥ 140 or/and diastolic BP ≥ 90mmHg (1)
- **Awareness** → Patients knew they had hypertension.
- **Treatment** → Intake of medication at least during 2 weeks around the survey
- **Control** → Systolic BP < 140mmHg & Diastolic BP < 90mmHg

1. Ministry of Health (2010), Guidelines of diagnosis and treatment of hypertension

METHODOLOGY

➢ **Definition of variables**

- **Current smokers** → currently consuming tobacco products
- **Excessive alcohol consumption** → men > 14 and women > 7 standard units of drink per day
- **Physical activity** → categorized by metabolic equivalent tasks per minute per week (MET/min/week)
- **BMI** → WHO Regional Office for Western Pacific (2000)

METHODOLOGY

➢ **Statistics soft-wares**

- Epidata (ver. 3.1 Denmark) was used to entry the data.
- IBM SPSS (ver. 20.0 The US) was used to analyze the data.
- Multivariate logistic regression analysis was used to test the relationship between the prevalence of hypertension and their risk factors.
- *P*-value < 0.05 was considered statistical significant.

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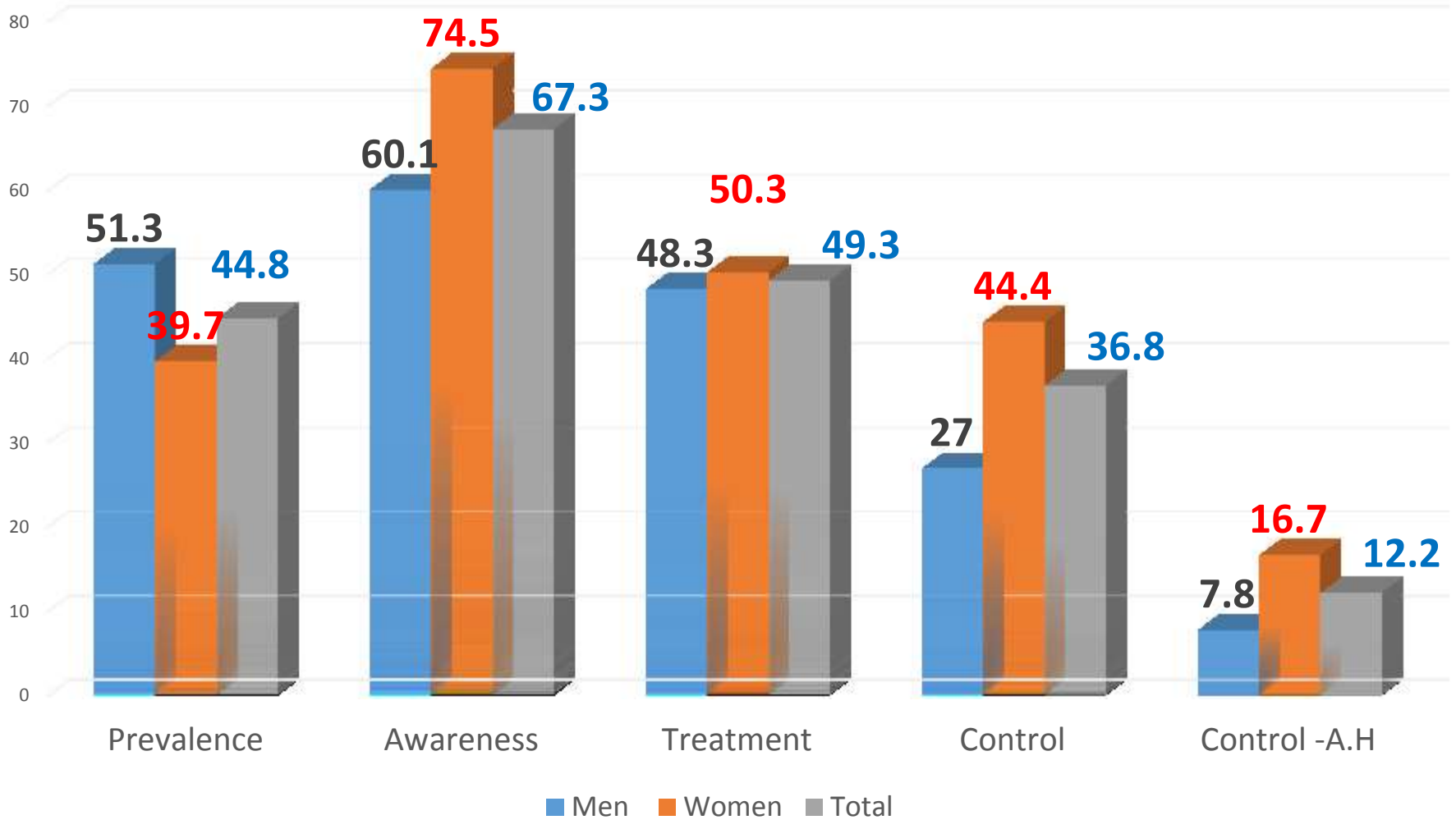
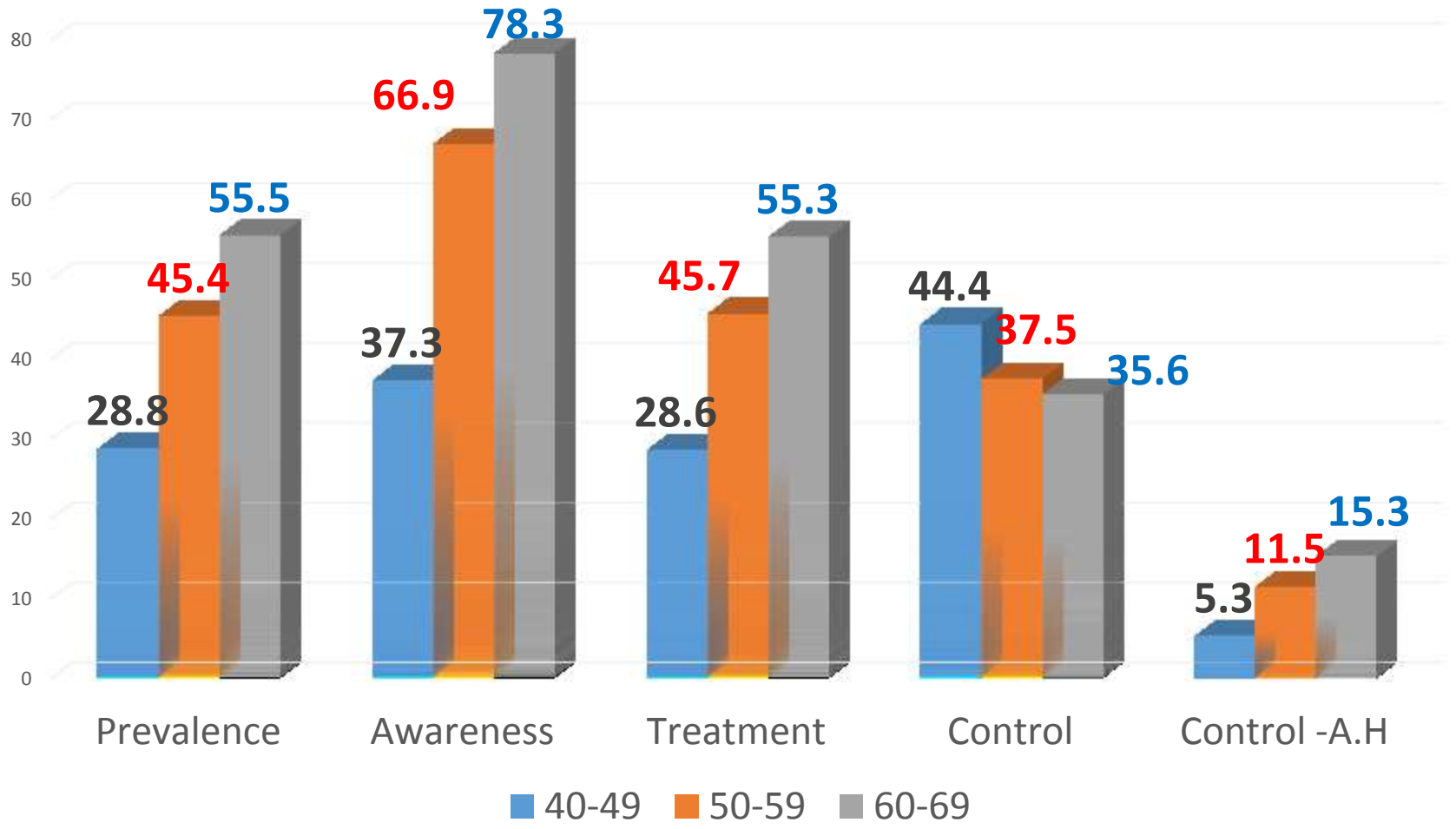
POPULATION CHARACTERISTICS

CHARACTERISTICS		Men (n = 425)	Women (n = 544)	Total (n = 969)
Age group n (%)	40-49	111 (26.1)	146 (26.8)	257 (26.5)
	50-59	131 (30.8)	215 (39.5)	346 (35.7)
	60-69	183 (43.1)	183 (33.6)	366 (37.8)
Education level n (%)	Primary school & under	193 (45.4)	385 (70.8)	**578 (59.6)**
	Secondary & high school	201 (47.3)	141 (25.9)	342 (35.3)
	College & above	31 (7.3)	18 (3.3)	49 (5.1)
Occupation n (%)	Manual worker	217 (53.4)	217 (40.3)	**434 (46.0)**
	Government staff	107 (26.4)	55 (10.2)	162 (17.2)
	Other occupations	101 (23.8)	272 (50.0)	373 (38.5)

SEX & AWARENESS; TREATMENT & CONTROL OF HYPERTENSION



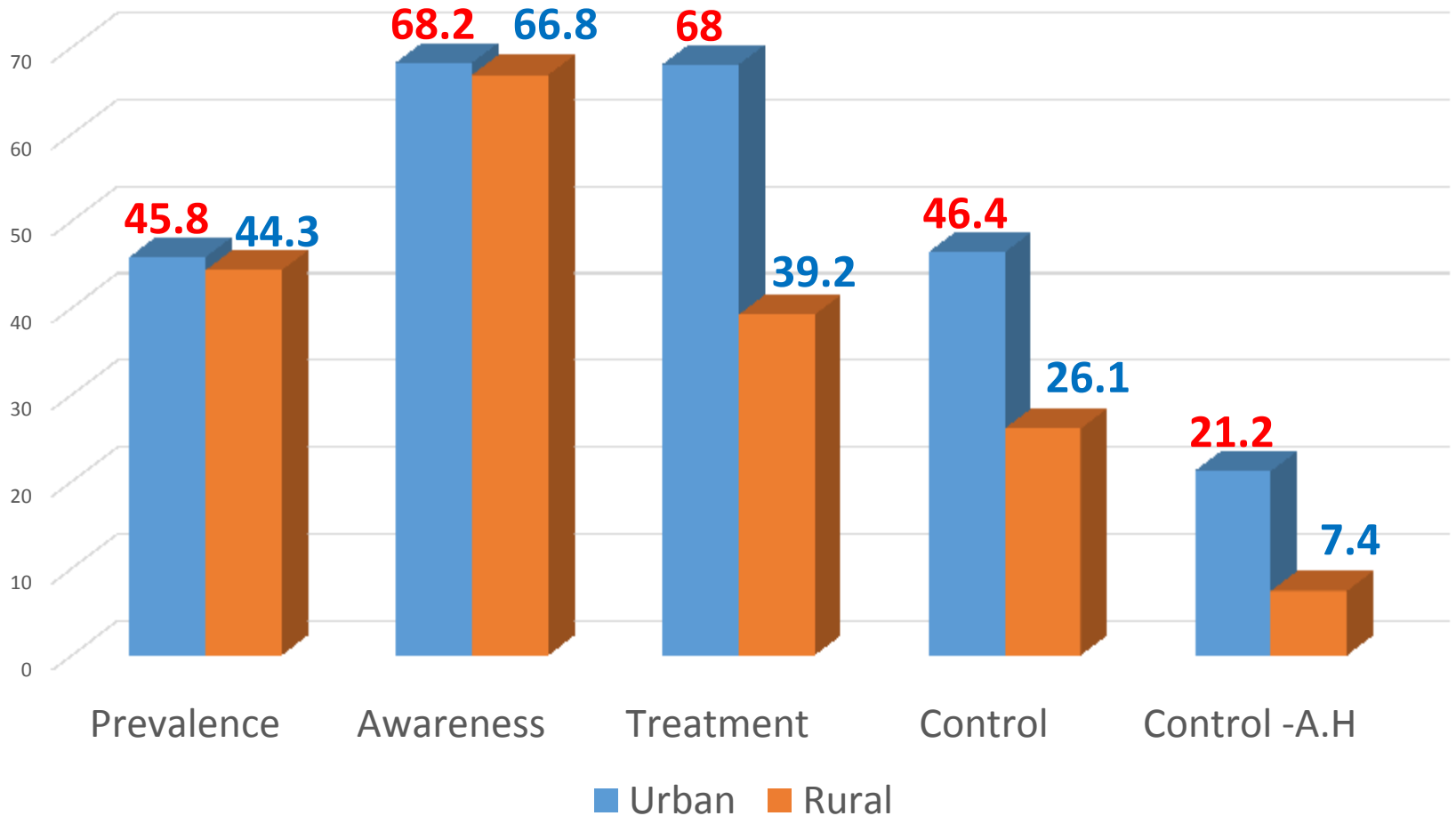
AGE GROUP& AWARENESS; TREATMENT & CONTROL OF HYPERTENSION



ETHNICITY & AWARENESS; TREATMENT & CONTROL OF HYPERTENSION

ETHNICITY	Prevalence (%)	Awareness (%)	Treatment among awareness	Control among treated	Control among Hypertensi--ves
Kinh (686)	41.5	65.6	58.8	40.9	15.8
Minorities (283)	52.6	70.5	32.4	23.5	5.4
Total (969)	44.8	67.3	49.3	36.8	**12.2**
p	0.001	0.3	< 0.001	< 0.001	0.001

AREAS & AWARENESS; TREATMENT & CONTROL OF HYPERTENSION



EDU LEVELS & AWARENESS; TREATMENT & CONTROL OF HYPERTENSION

EDUCATION LEVELS	Prevalence (%)	Awareness (%)	Treatment among awareness	Control among treated	Control among Hypertensi--ves
Primary (578)	43.9	70.9	46.7	39.3	13.0
Middle/ High (342)	44.7	62.7	54.2	30.8	10.5
College (49)	55.1	59.3	50.0	50.0	14.8
p	0.32	0.16	0.49	0.44	0.68

PREVALENCE OF HYPERTENSION & THEIR RISK FACTORS

Risk factor	HT	No HT	Total	P
Current Smokers	146 (33,6)	172 (32,5)	320 (33,0)	0,71
Excessive Alcohol Consumption	39 (9,0)	35 (6,5)	74 (7,6)	0,15
Physical Inactivity	59 (13,6)	49 (9.2)	108 (11,1)	0,029
Overweight & Obesity	**185 (42,6)**	**169 (31,6)**	**354 (36,6)**	**< 0,001**
Abdominal Obesity	265 (61,1)	283 (52,9)	548 (56,6)	0,011
Diabetes	**33 (7,6)**	**15 (2,8)**	**48 (5,0)**	**0,001**

PREVALENCE OF HYPERTENSION & THEIR RISK FACTORS

RISK FACTORS	OR (95% CI)	p - value
Gender (Men vs. Women)	1.83 (1.37 – 2.44)	< 0.001
Ethnicity (Kinh vs. Minorities)	0.54 (0.40 - 0.73)	< 0.001
Age Group (per 10 Years)	0.56 (0.47 - 0.67)	< 0.001
BMI (Overweight and Obesity vs. Non-)	**1.82 (1.35 - 2.45)**	< 0.001
Abdominal Obesity (Yes vs. No)	1.40 (1.03 - 1.91)	0.032
Diabetes (Yes vs. No)	**2.18 (1.13 - 4.19)**	0.019

DISCUSSION

STUDIES	Prevalence	Awareness	Treatment	Control
Our study, T.T. Hue (aged 40-69)	44.8%	63.7%	29.3%	10.1%
1.Indonesia (2007) (aged ≥ 40)	47.8%	37.0%	25.1%	9.0%
2.Vietnam (2008) (aged ≥ 25)	25.1%	48.4%	29.6%	10.7%
3.England (2006) (aged ≥ 20)	30.0%	65.3%	51.3%	**27.3%**
4.Canada (07-09) (aged ≥ 20)	19.5%	83.4%	79.9%	**65.8%**

1. Hussain MA et al. (2016); 2. P.T. Son et al. (2012); 3 & 4. Joffres M et al. (

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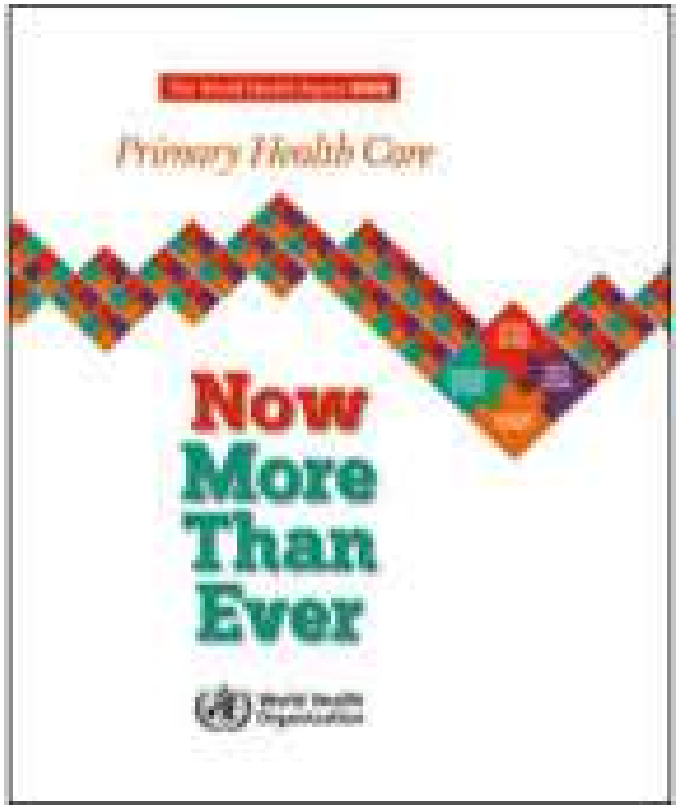
CONCLUSIONS

- The prevalence of hypertension **(40-69) was high (44,8%);** this figure in men was **higher than** in women **(51.3** vs. **39.7).**
- The treatment and the control of hypertension **were low (29,3% & 10.1%);** these figures in women were **significantly higher** than in men **(34,7** vs. **23,9%; 13.4%** vs. **6.9%).**
- Age group, Gender, Area of residence, BMI, and Diabetes were found to be independent risk factors for hypertension.

RECOMMENDATIONS

- Early detection, raising awareness, and better treatment would improve the quality of hypertension management, especially in men, rural areas, and ethnic minorities.

FIGHTING HYPERTENSION



MANY THANKS FOR YOUR ATTENTION!