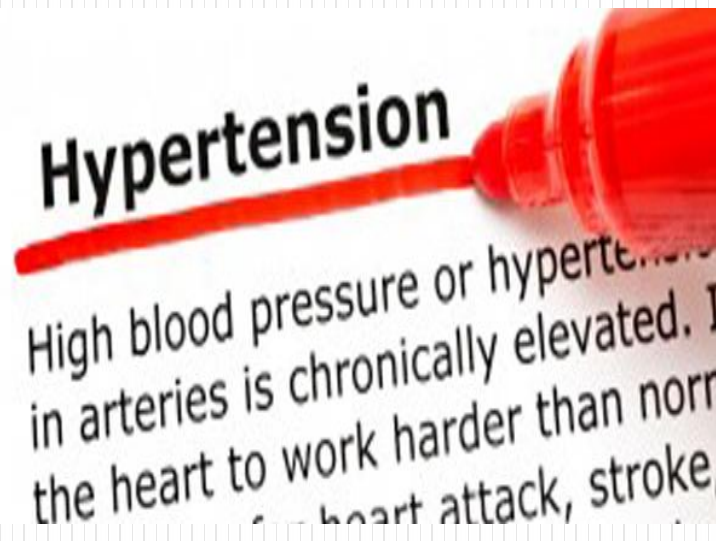# PREVALENCE OF SELECTED RISK FACTORS AMONG HYPERTENSIVE POPULATION IN RURAL HARYANA- A COMMUNITY BASED STUDY

By

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PG/11/020

About AIIMS

- Created in 1956

- In the field of medical research AIIMS is the lead, having more than 600 research publications by its faculty and researchers in a year

- Twenty-five clinical departments including four super specialty centres

- AIIMS also manages a 60-beded hospital in the Comprehensive Rural Health Centre at Ballabgarh in Haryana and provides health cover to about 2.5 lakh population through the Centre for Community Medicine

- Started in 1965 by the All India Institute of Medical Sciences in collaboration with the state government of Haryana
- The field practice area of the project comprises of 28 villages catering to a population of 91,000.
- Health Management System (HMIS) is a computerized management system introduced in the project in 1988

Functions of AIIMS

- Undergraduate and postgraduate teaching in medical and related physical biological sciences.

- Nursing and dental education

- Innovations in education.

- Producing medical teachers for the country.

- Research in medical and related sciences.

- Health care : preventive, promotive and curative; primary, secondary & tertiary.

- Community based teaching and research.

- Hypertension is one of the important public health challenges worldwide

- leading risk factor for mortality

- ranked third as a cause of disability adjusted life-years

- Tobacco use is the most common cause of avoidable cardiovascular mortality worldwide

- Smoking causes an acute increase in blood pressure (BP) and heart rate and has been found to be associated with malignant hypertension.

Rationale of study

- In terms of attributable deaths, the leading behavioural and physiological risk factors globally are raised blood pressure (to which 13% of global deaths are attributed), followed by tobacco use (9%), raised blood glucose (6%), physical inactivity (6%) and being overweight or obese (5%).

- It has been estimated that raised blood pressure causes 51% of stroke deaths and 45% of coronary heart disease deaths.[1]

- Today, mean blood pressure remains very high in many African, Asian and some European countries.

- The prevalence of raised blood pressure in 2008 (SBP $\geq$140 mm Hg or diastolic blood pressure (DBP) $\geq$90 mm Hg) was highest in the WHO African Region at 36.8% (34.0–39.7

[1] Global health risks: mortality and burden of disease attributable to selected major risks. Geneva, World Health Organization, 2009 (http://www.who.int/healthinfo/global_burden_disease/ GlobalHealthRisks_report_full.pdf).

The following are common risk factors that can lead to cardiovascular disease:

- Tobacco Use
- Alcohol use
- Physical Inactivity
- Poor Diet
- Overweight/Obesity
- High Blood Pressure

- **General Objectives-**

To estimate Prevalence of selected risk factors among

Hypertensive population.

Specific objectives-

- To estimate Prevalence of Tobacco consumption and its association among Hypertensive Participants.

- To measure Prevalence of Alcohol consumption and its association among Hypertensive Participants.

- To estimate association between overweight/obesity and Hypertension.

- To study the determinants of hypertension

Data collection

- *Study design* – Community based Cross sectional study.

- *Period of study*- 15 January, 2013 – 15 February, 2013

- *Study Population*- Adults > 18 years of age residing in the study area

- *Sample size* was 373
  (Sample size calculation: P=30%*, relative precision= 5%, 20% refusal)

- Method of sampling is simple random sampling.

- *Tool* used for data collection is semi structured questionnaire.

- *Data analysis*: SPSS soft ware (Version 20.0)

- Sample size calculation – $N = Z^2 \, P(1-P)/d^2$

    Prevalence = 30%

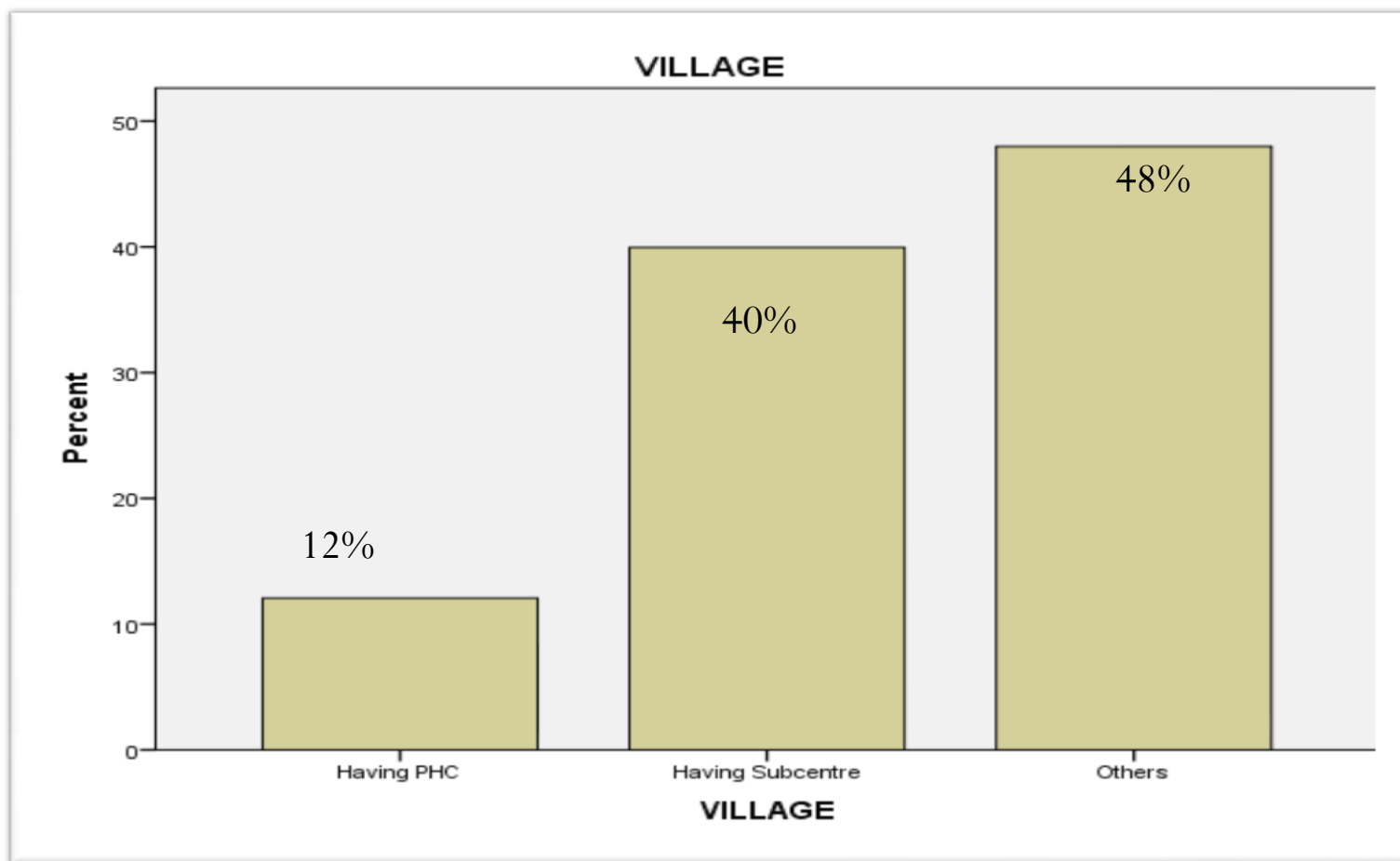   D= 5 %

      $\underline{N= 323}$

   Adding, refusal rate= 20%

      $\underline{N= 388}$

Definition

- **Hypertension:** Known hypertensive & Systolic blood pressure≥ 140mm of Hg and Diastolic blood pressure ≥90 mm of Hg (Joint National committee 7)

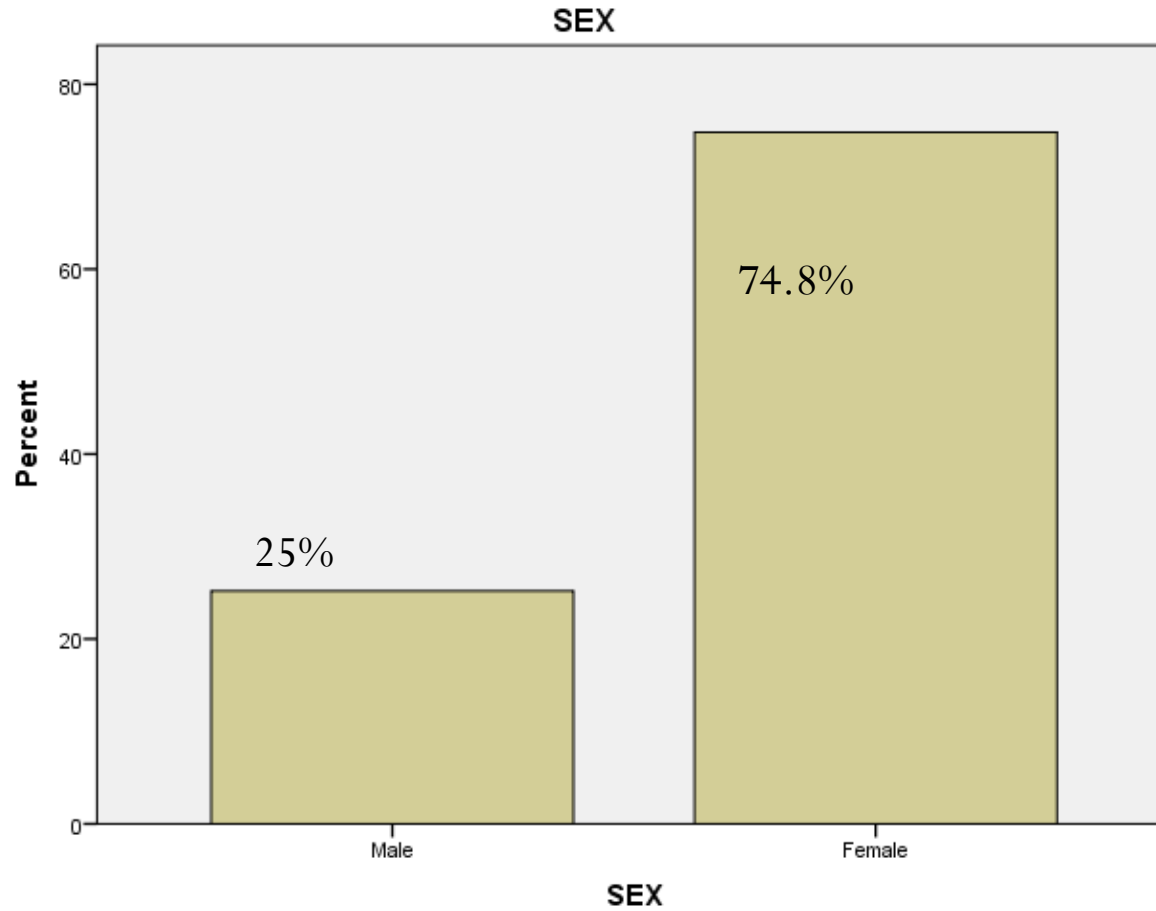# Distribution according to health facility available in village

Age distribution

Mean	**57.27**
Median	**58.00**
Mode	**60**
Std. Deviation	**14.473**
Minimum	**24**
Maximum	**95**

Age_cat

18-45 years: 22.5%
>46 years: 77.5 %

Percent

Age_cat
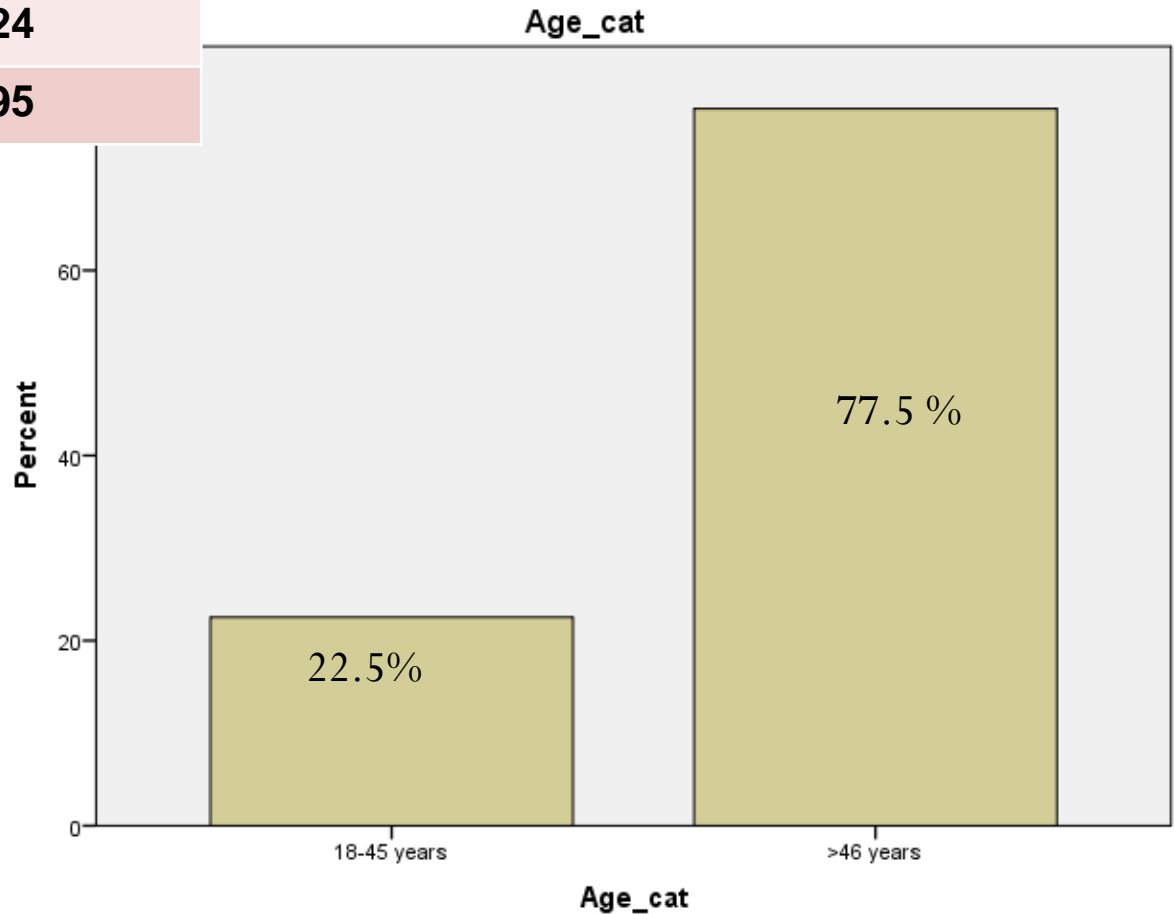
Gender Distribution

Distribution according to Education status

Illiterate	**57.9**
Till primary school	**9.7**
Till Higher secondary	**29.0**
Graduate and above	**3.5**

Education
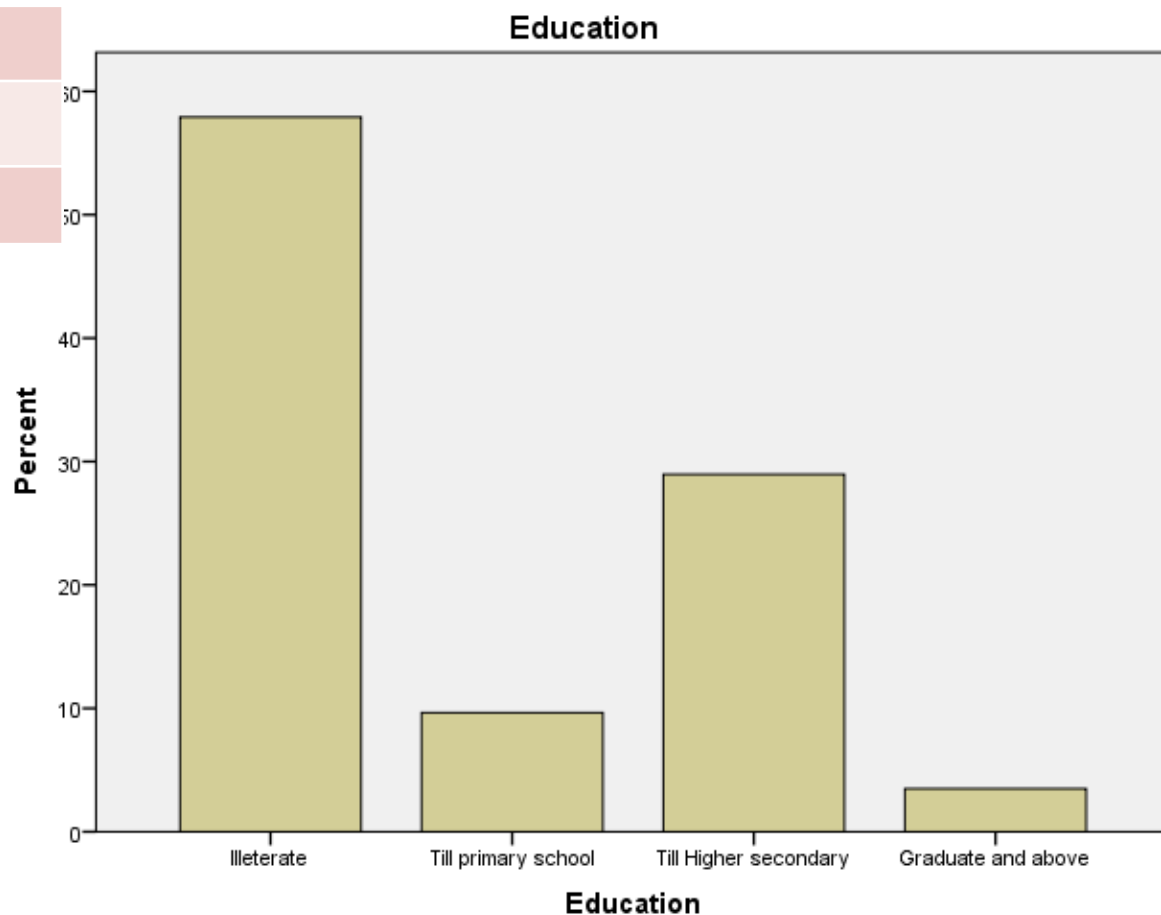
Distribution according to occupation

Dependent	14.2
Housewife	70.8
Currently Working	12.3
Unemployed	2.7

Occupation

Distribution in population
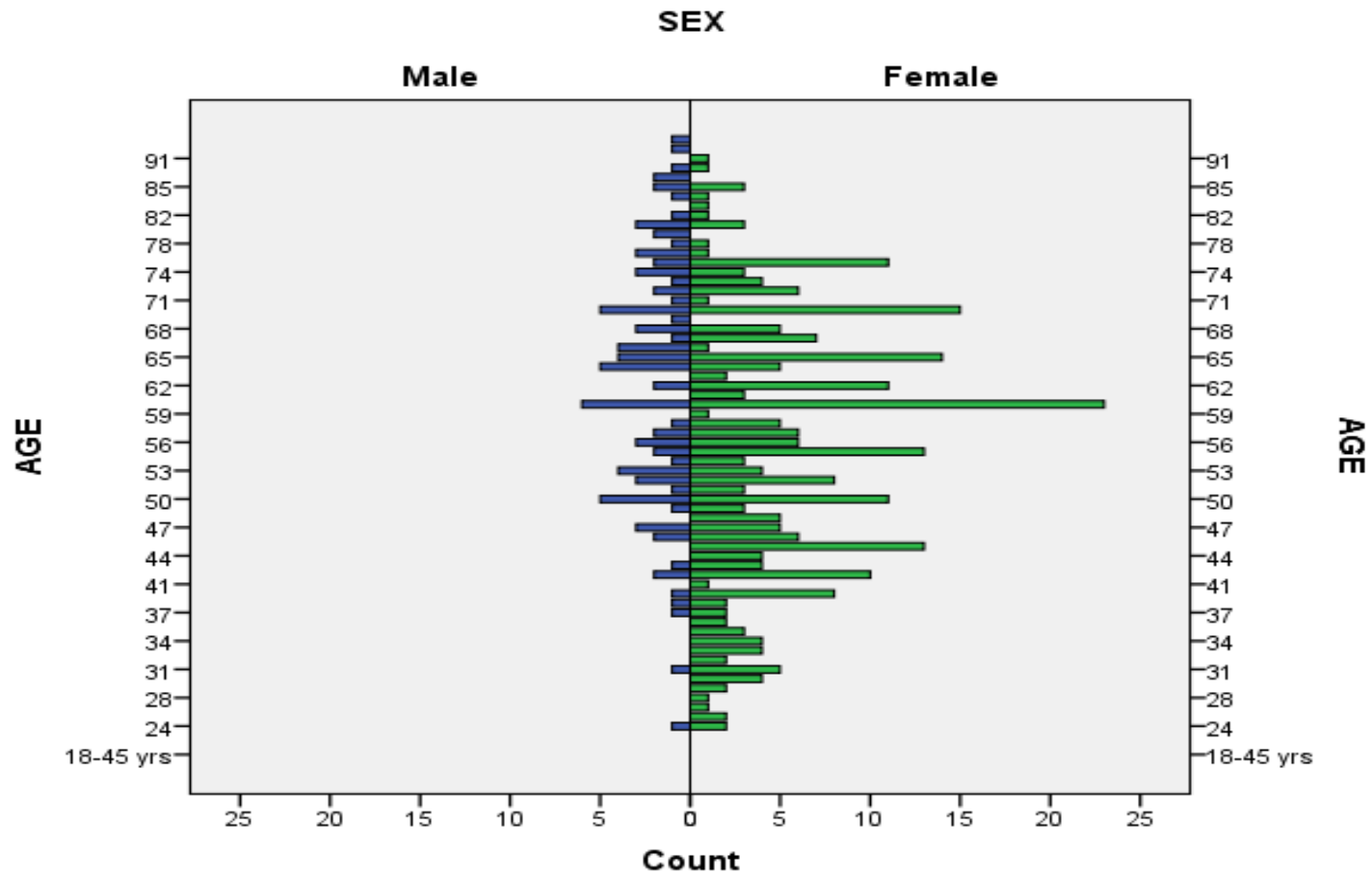
Distribution according to BMI

Mean	24.59
Median	24.00
Mode	23
Std. Deviation	4.936

BMI_categories

Blood Pressure distribution
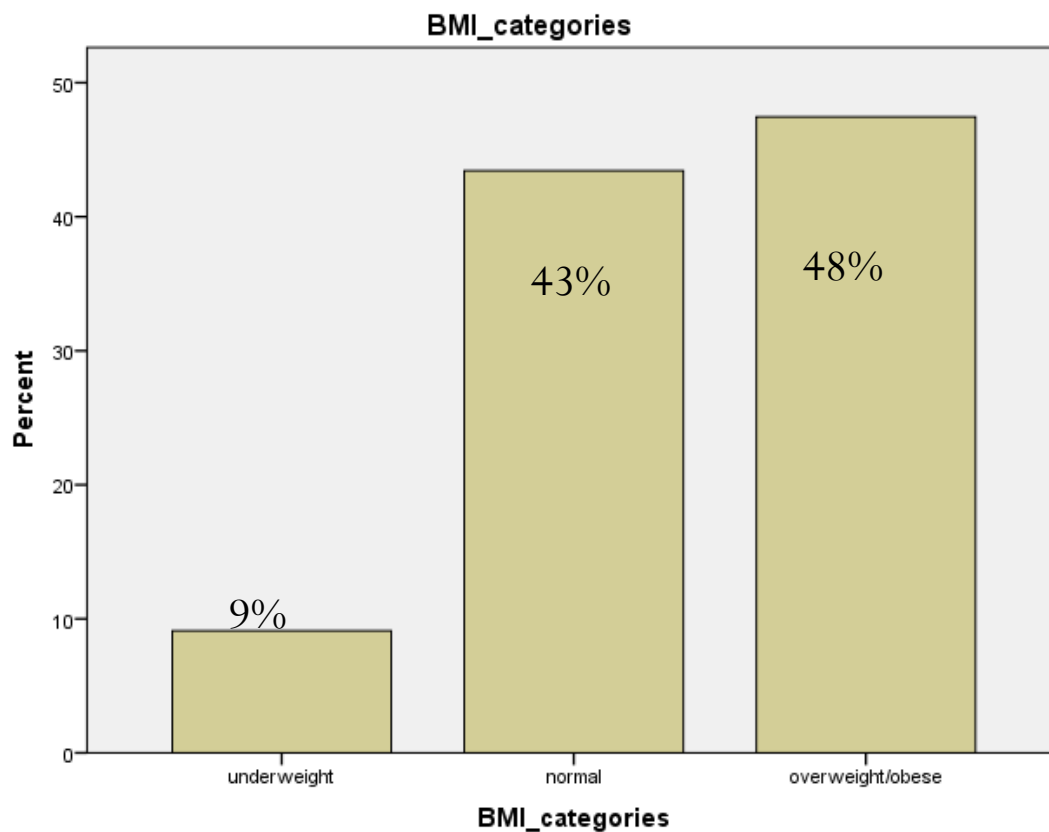
N	Valid	373	373
		SBP	DBP
Mean		155.61	89.35
Minimum		108	53
Maximum		207	140

HTN_stages

2.7% 23.9% 32.2% 41.3%
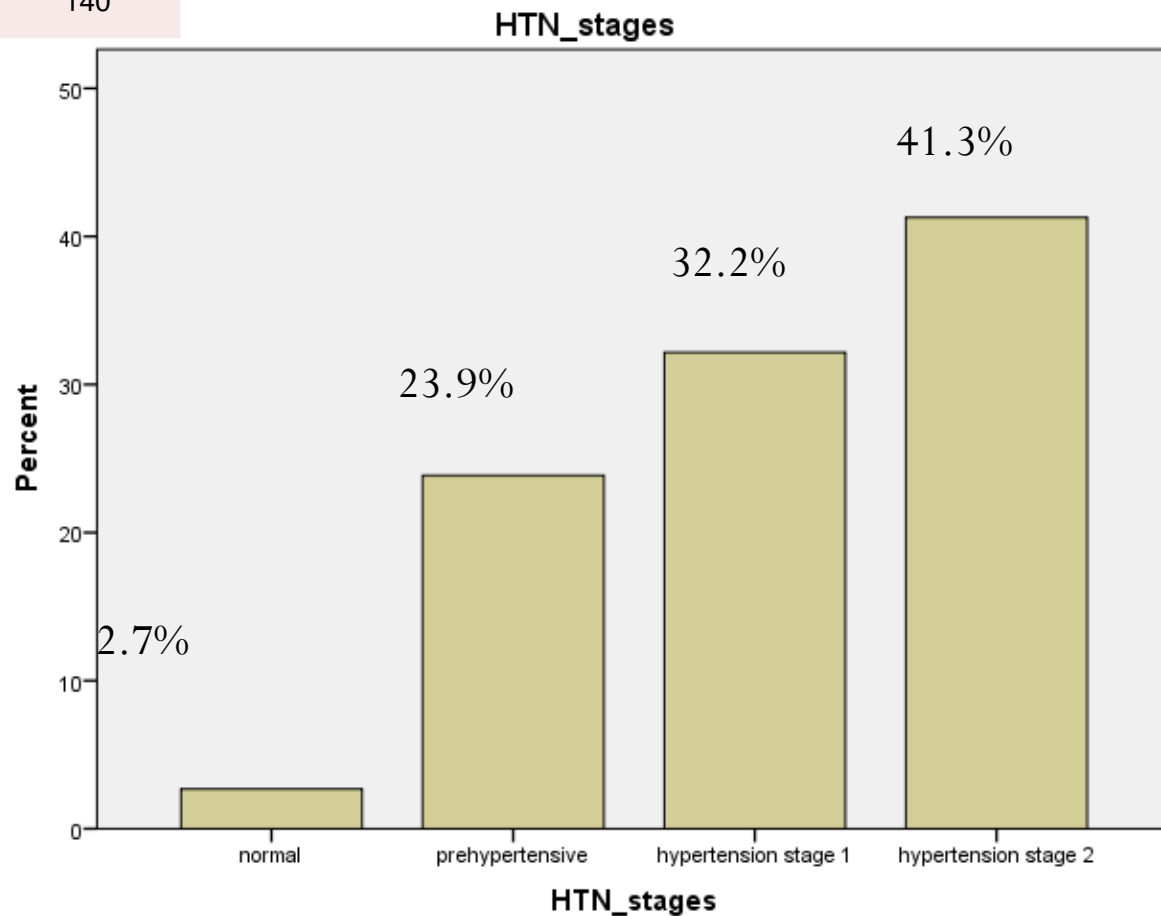
Isolated DBP & SBP

	SEX		
	Male	**Female**	
isolated_DBP_htn	1(0.3%)	10(2.7%)	11(2.9%)
isolated_SBP_htn	28(7.5%)	68(18.2%)	96(25.7%)

ASSOCIATION OF HYPERTENSION WITH ITS DETERMINANTS
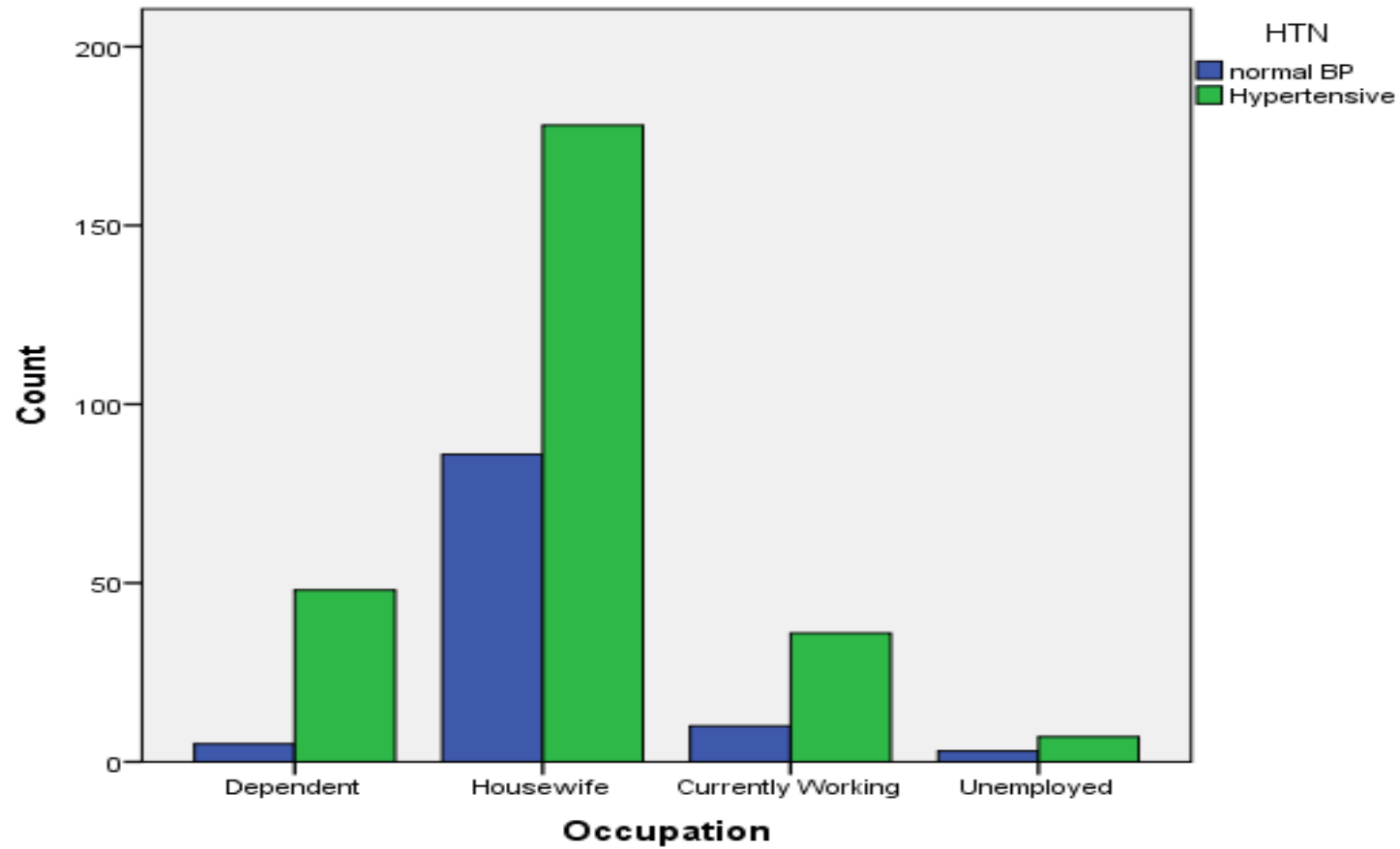
Age distribution in hypertensive

		Age_cat	
		18-45 years	**>46 years**
HTN	**normal BP**	50	54
	Hypertensive	34	235
Total		84	289
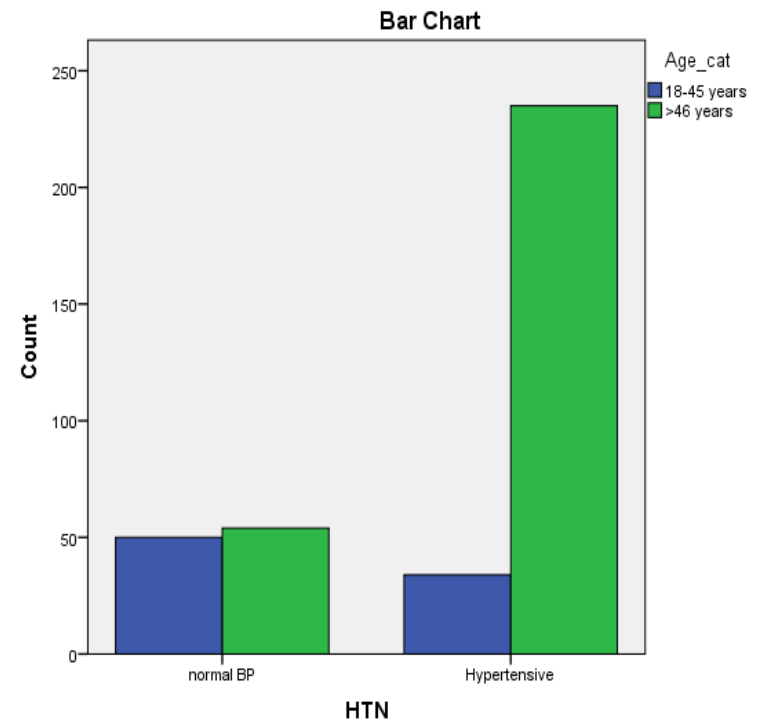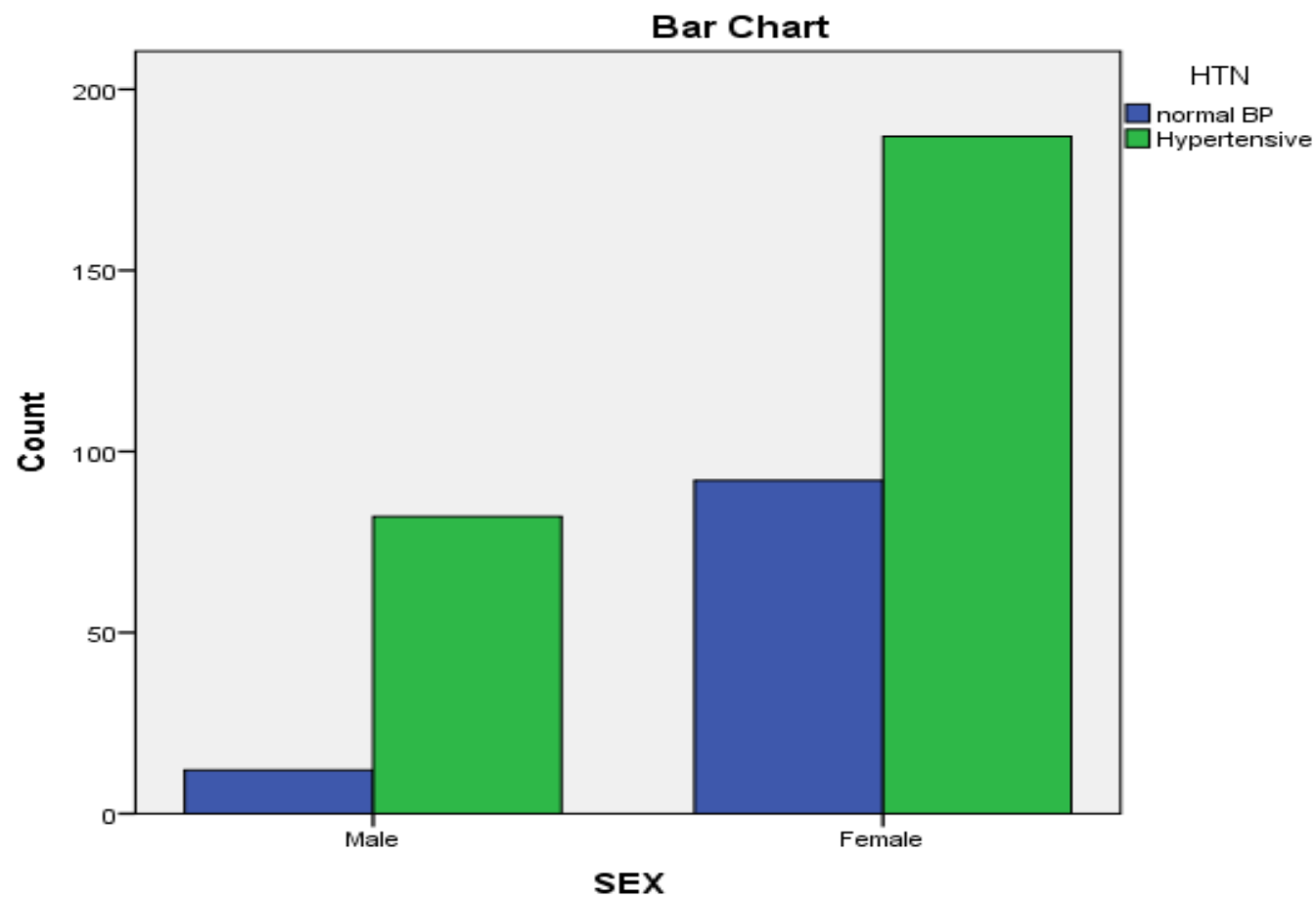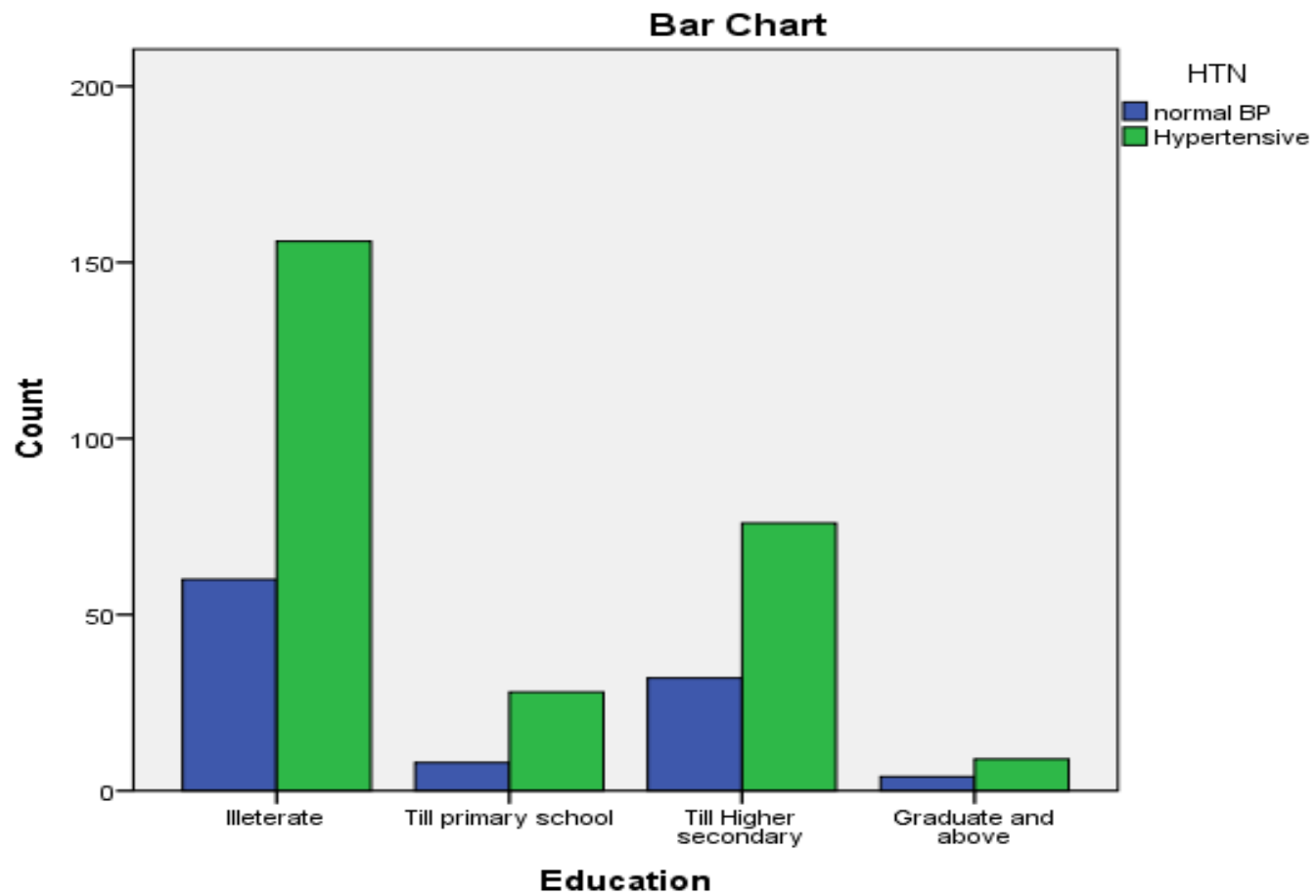
Bar Chart

Bar Chart

Bar Chart

Bar Chart

	normal BP	Hypertensive
< 1 year	0.8	3.2
2-3 years	10	19.3
4-5 years	6	15
> 5 years	12	34.5

Duration of HTN

Bar Chart
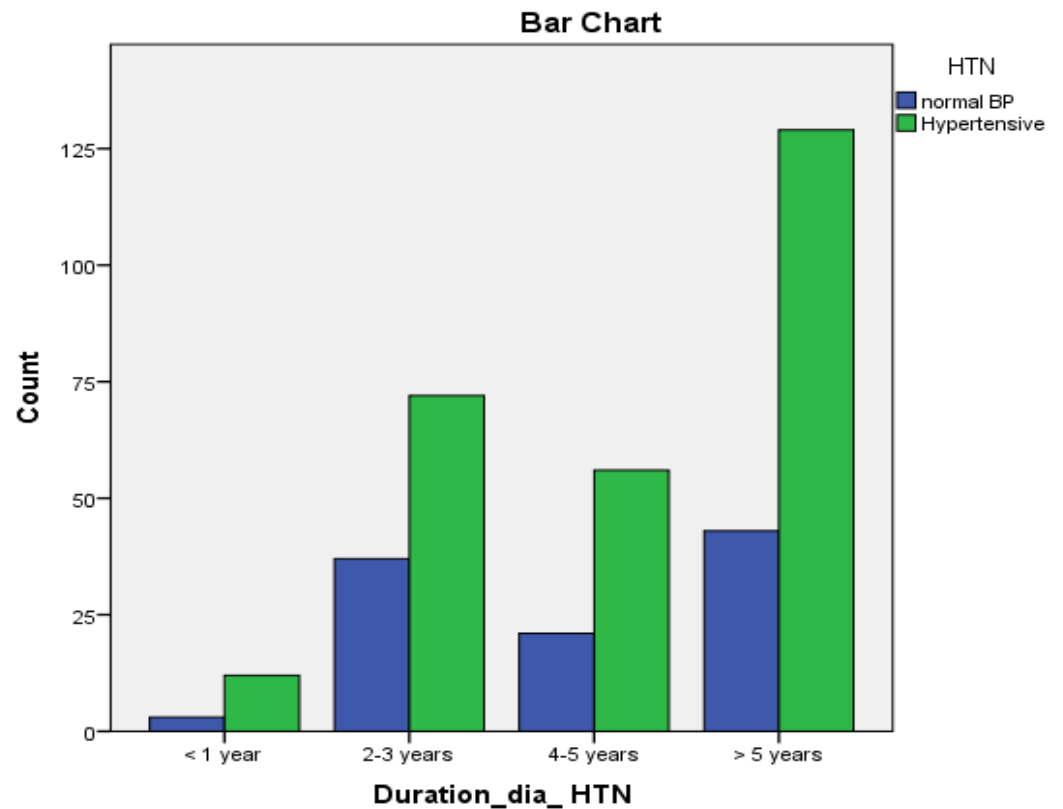
Current Treatment

		HTN	
		normal BP	**Hypertensive**
Current_treatmt _ HTN	**no**	22	46
	yes	6	26
Total		28	72
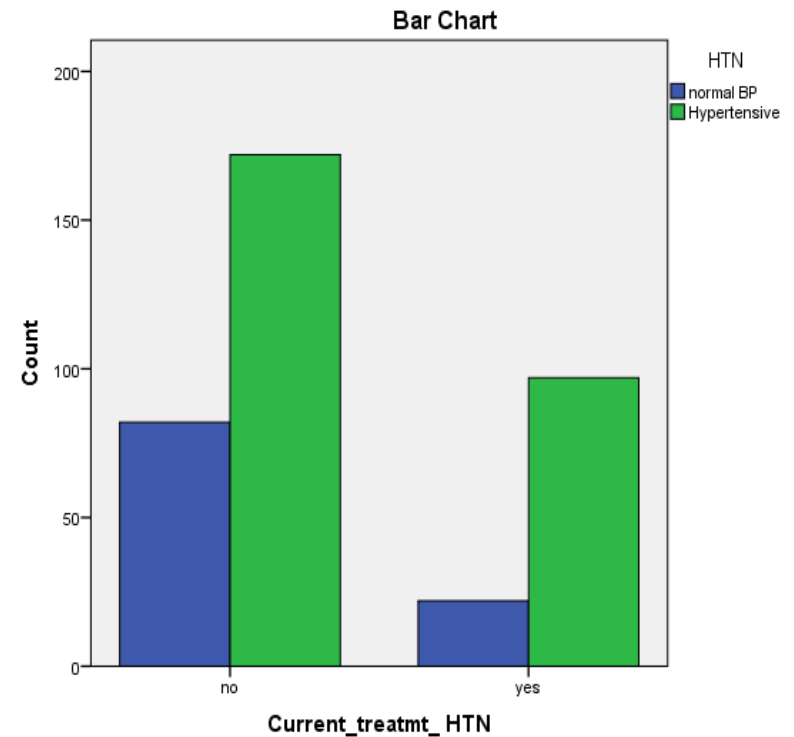
RISK FACTORS

Physical Inactivity

Obesity

Bar Chart
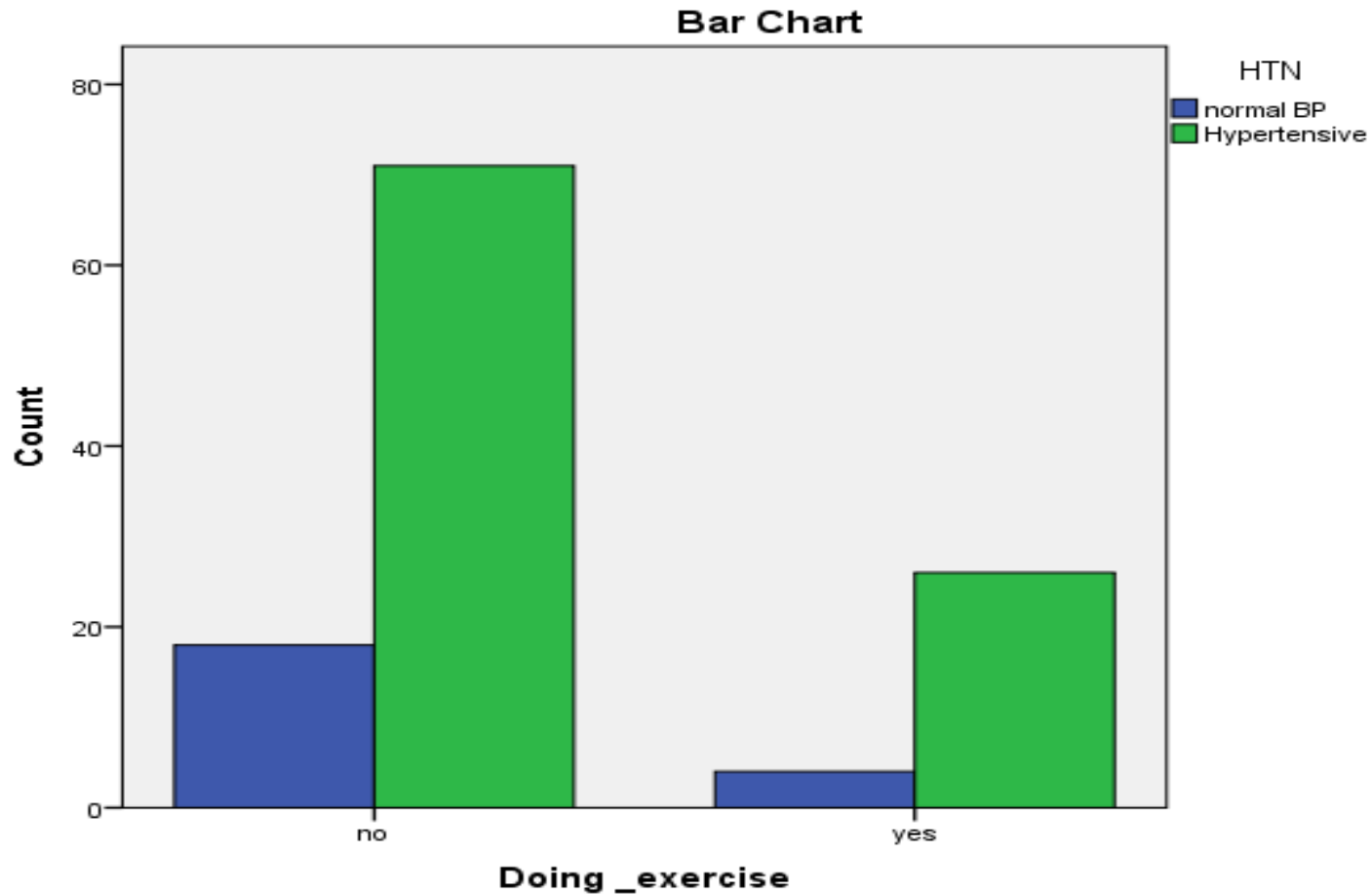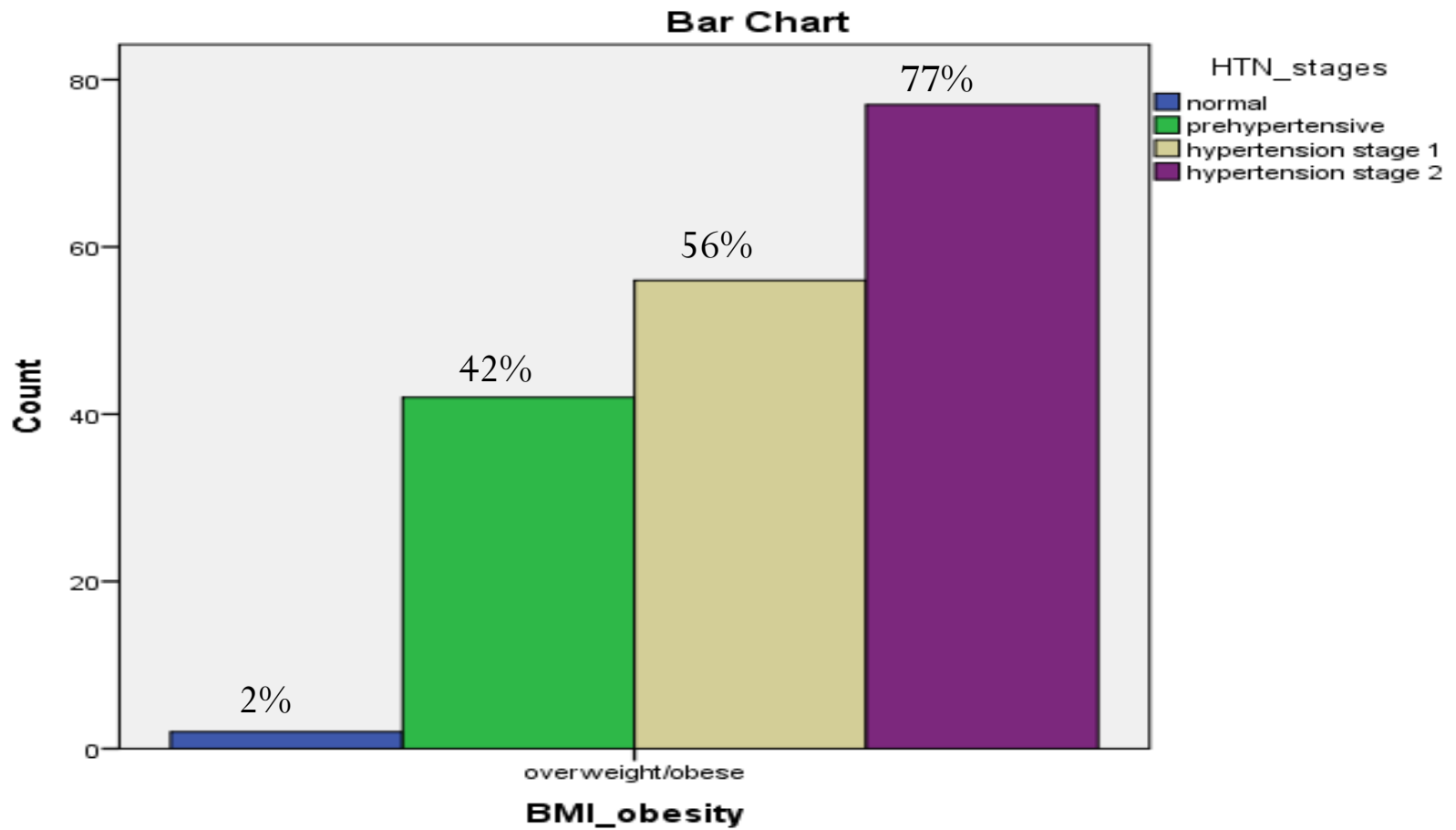
Alcohol

Alcohol_cons		Frequency	Valid Percent
Valid	**No**	352	94.4
	Yes	21	5.6
	Total	373	100.0

Prevalence of Alcohol consumption in Hypertensive patients = 5.6 %

Bar Chart

HTN
- normal BP
- Hypertensive
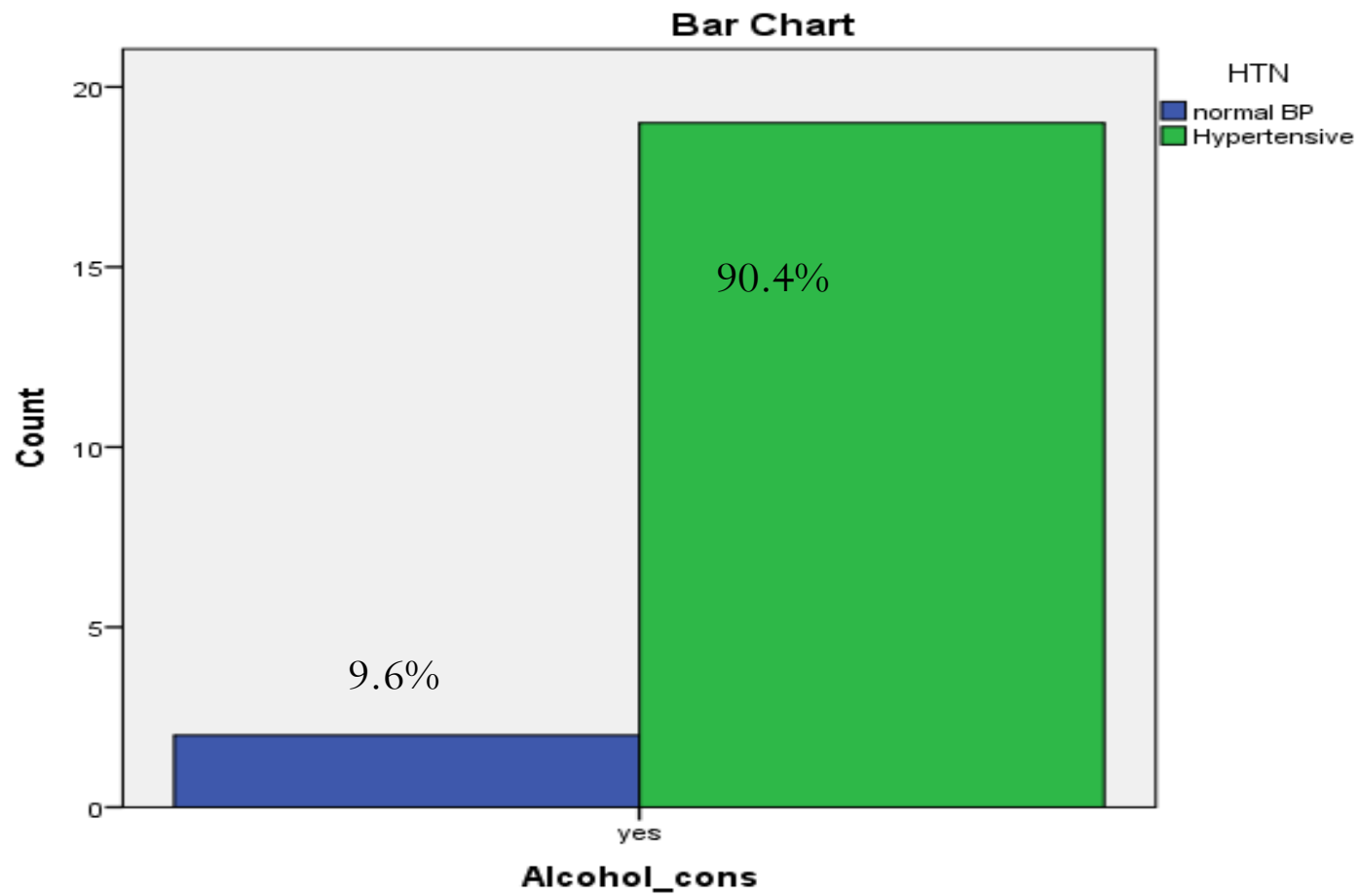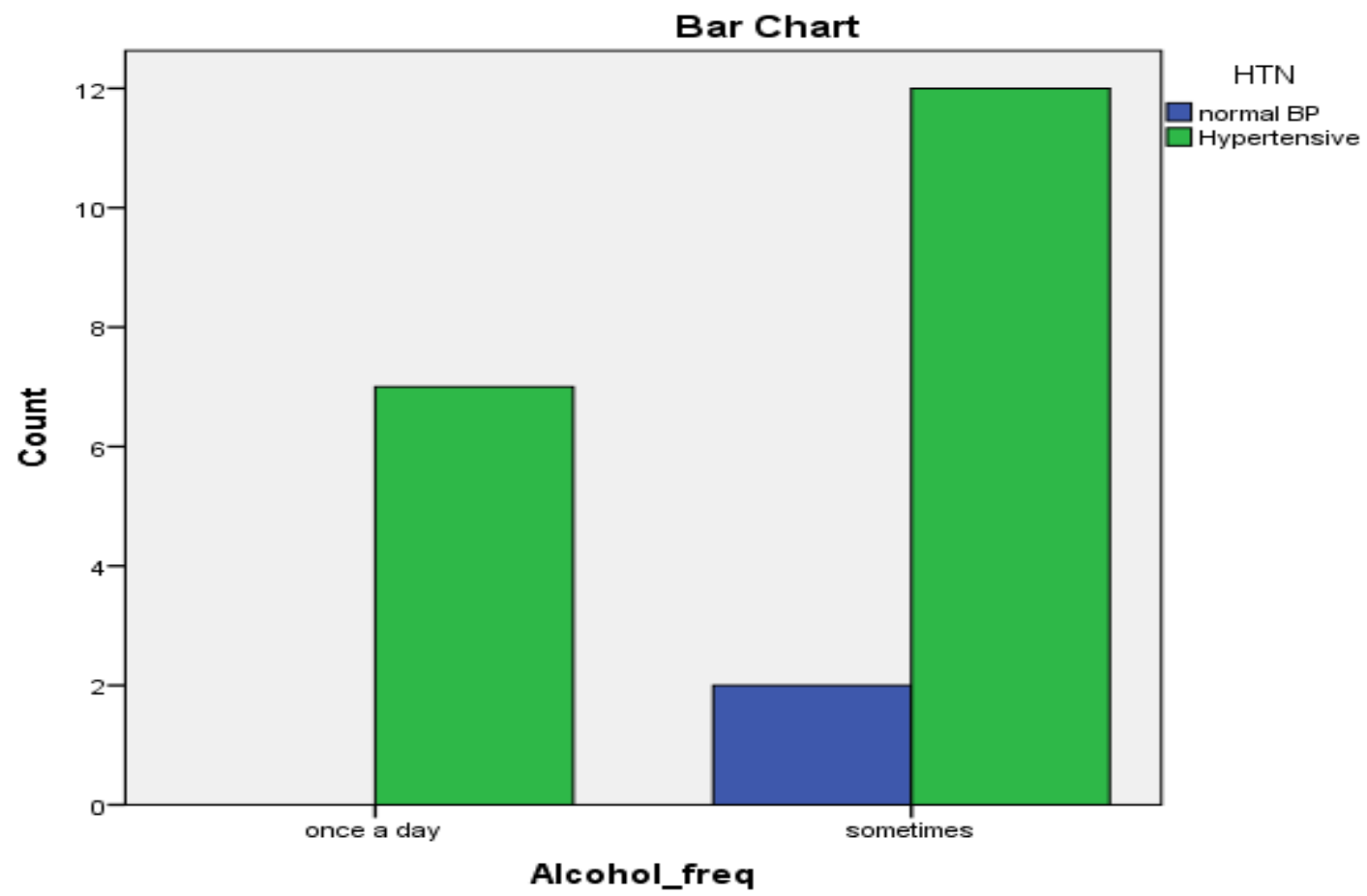
Tobacco

Tobacco_cons		Frequency	Percent
		Frequency	Percent
Valid	No	250	67.0
	Yes	123	33.0
	Total	373	100.0

Prevalence of tobacco consumption in Hypertensive patients = 33 %
Female= 25.4%
Male= 55.3%
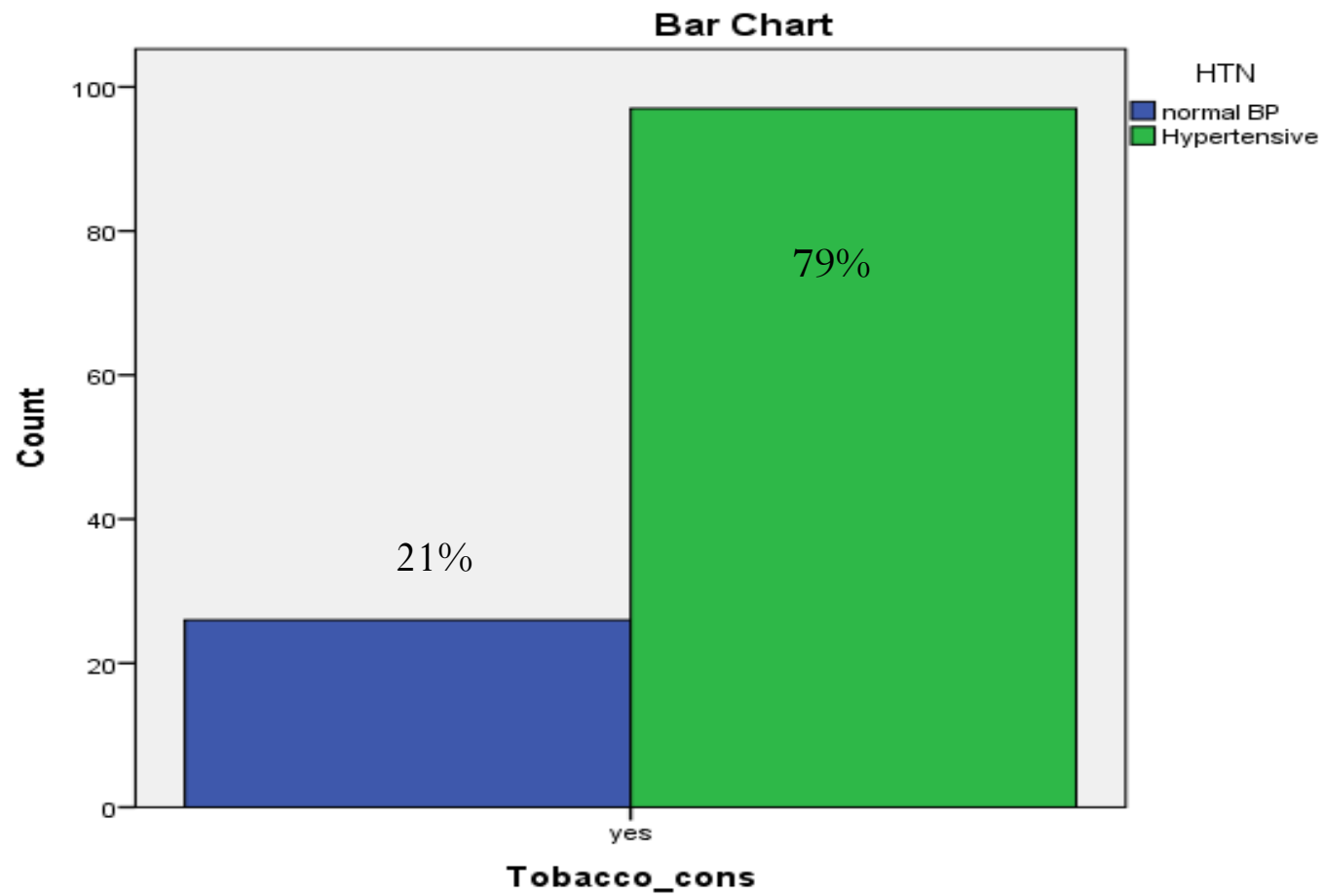
Percentage of Type of tobacco consumed
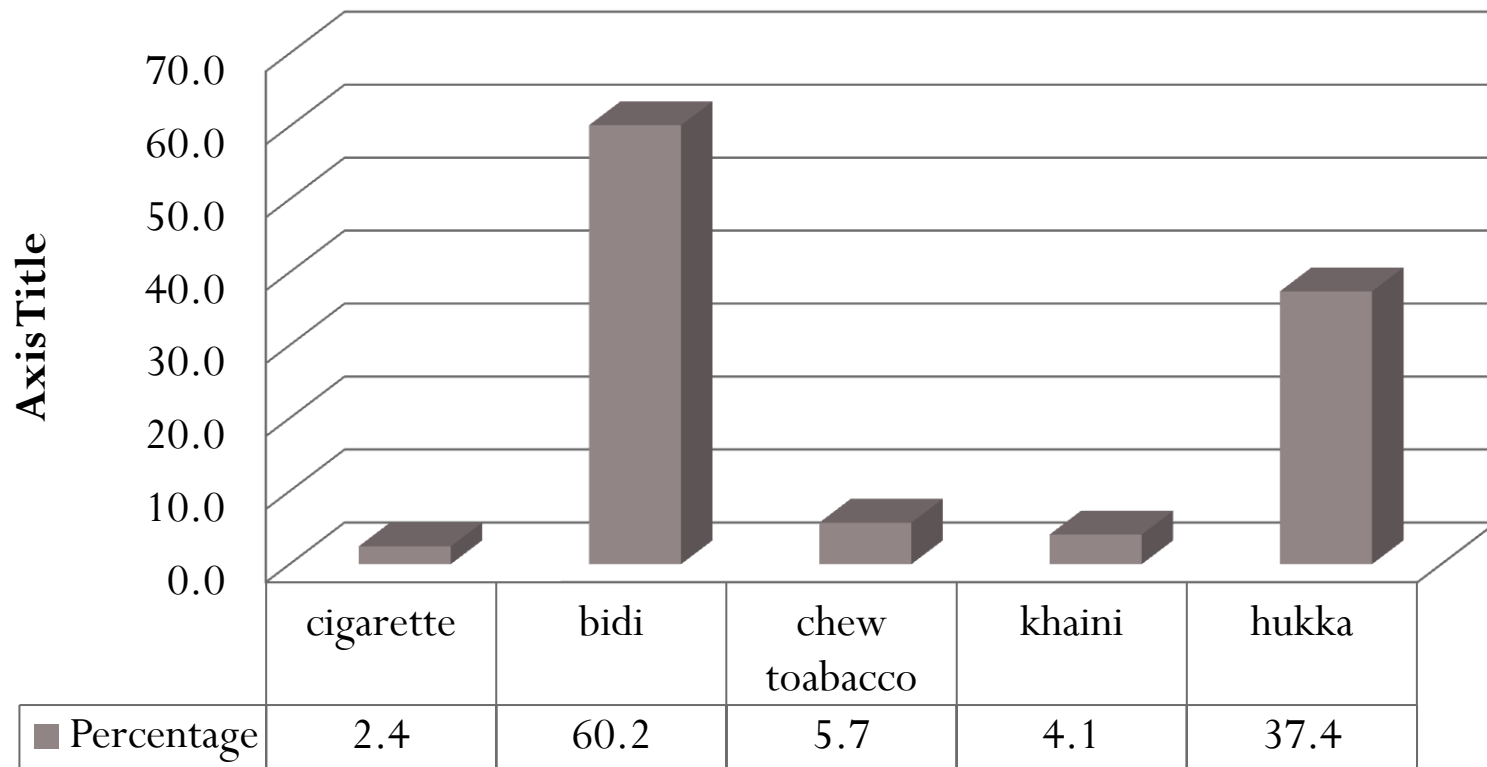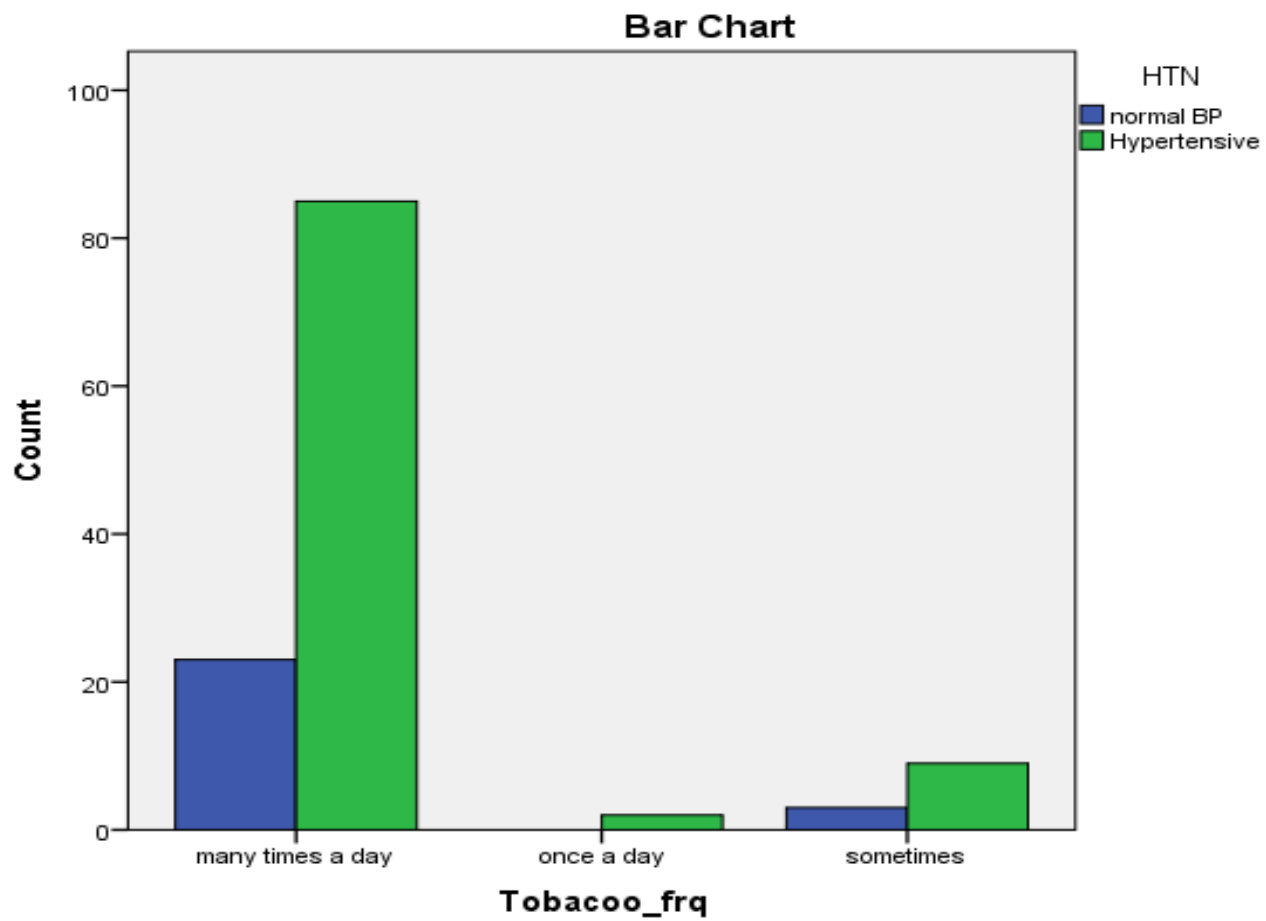
	cigarette	bidi	chew toabacco	khaini	hukka
■ Percentage	2.4	60.2	5.7	4.1	37.4

Axis Title

Symptoms

Symptoms

	Chest pain	Breath lessne ss	Loss consio usness	Dimiti on of vision	Dec Inc urine	Swelli ng in feet	Giddi ness	Nothi ng
■ Percentage	45.0	50.1	7.2	63.0	53.4	21.4	62.5	2.7
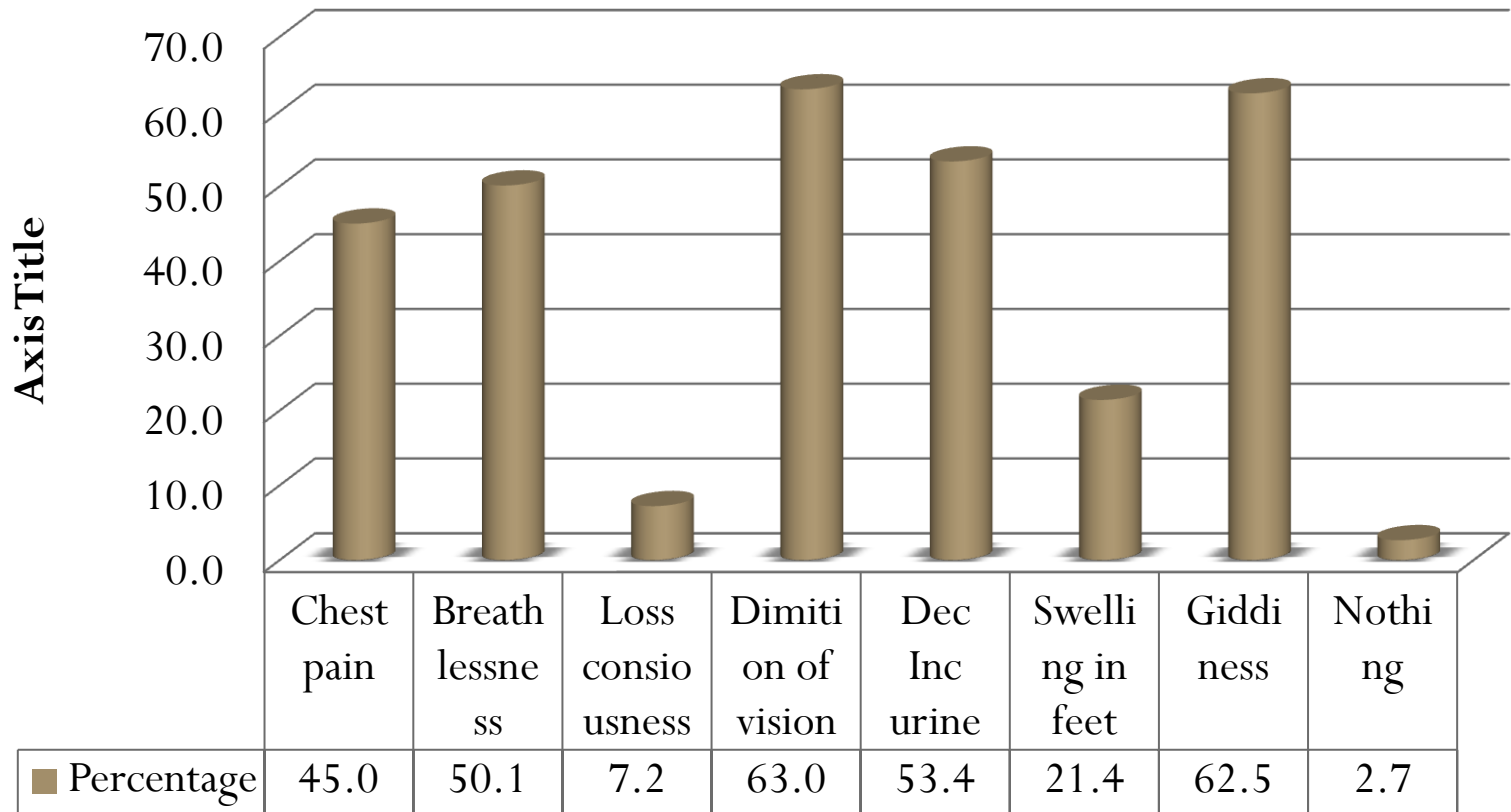
STATISTICAL TEST

	Pearson Correlation	Sig. (2-tailed)
BMI & AGE	-0.228	.000
BMI & SBP	.061	.241
BMI & DBP	.134	.010
SBP & AGE	.372	.000
DBP & AGE	.093	.074
SBP & DBP	.628	.000

	Alcohol_cons	N	Mean	Std. Deviation	Std. Error Mean	
SBP	No	352	155.08	23.775	1.267	0.07
	Yes	21	164.48	21.554	4.703	
	Alcohol_freq	N	Mean	Std. Deviation	Std. Error Mean	
SBP	once a day	7	173.43	21.157	7.997	0.18
	sometimes	14	160.00	21.057	5.628	

	Alcohol_cons	N	Mean	Std. Deviation	Std. Error Mean	
DBP	**no**	352	89.00	12.236	.652	**0.02**
	yes	21	95.14	12.970	2.830	
	Alcohol_freq	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**	
DBP	**once a day**	7	102.86	11.437	4.323	0.05
	sometimes	14	91.29	12.263	3.277	

	Tobacco_cons	N	Mean	Std. Deviation	Std. Error Mean	
DBP	no	250	88.57	12.396	.784	0.05
	yes	123	90.93	12.128	1.094	

	Tobacco_cons	N	Mean	Std. Deviation	Std. Error Mean	
SBP	no	250	154.31	24.376	1.542	0.132
	yes	123	158.25	22.216	2.003	

		Mean	T value	P value
DBP and cigarette	**no**	90.81	-1.252	0.213
	yes	99.67		
SBP and cigarette	**no**	158.16	-.755	0.452
	yes	168.00		

Test	SBP	DBP	BMI
Chi square	Sex Age Alcohol consumption	Sex Age BMI	
T test	Alcohol consumption	Alcohol consumption Alcohol frequency Tobacco consumption	Khaini consumption
Co relation	Age	BMI	Age

Limitations

- Refusal – includes refusal to participate, non tractability, absence.

- Non acceptance towards alcohol or tobacco consumption.

- Wrong participants involved in study.

References

- Kaur P Rao SR Radhakrishnan E Rajasekar D Gupte Prevalence, awareness, treatment, control and risk factors for hypertension in a rural population in South India. Int J Public Health. 2011 Sep 23.