

**Summer Training at
National Health Mission,
Dehradun, Uttarakhand**

**Existing Knowledge, Attitude and Practices Regarding Hypertension and
their Risk Factors among the Employees of Directorate of Health Services**

**By
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**Under the guidance of
Col. (Dr.) Ashok Kaushik**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**

CERTIFICATE

This is to certify that Dr. Rishika Chhabra has undergone Summer Training in National Health Mission, Uttarakhand from 1st April to 31st May 2016.

The candidate herself completed the project assigned to her during summer training. Her approach to the project was sincere and proactive. This summer training is partial fulfillment of the course requirement recommended for the award of MBA in Health and Hospital Management.

I wish her success in all her future endeavors.



Dr. Sandeep Narula
(Associate Professor)
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UTTARAKHAND HEALTH & FAMILY WELFARE SOCIETY

(Department of Health & Family Welfare, Govt. of Uttarakhand)

CERTIFICATE

This is to certify that Dr. Rishika Chhabra of IIHMR University, Jaipur has completed her Summer Training for partial fulfillment of MBA Degree in Hospital and Healthcare Management under our supervision and guidance for two months w.e.f. 1st April to 31st May 2016 in the Department of Non-Communicable Diseases, National Health Mission, Dehradun, Uttarakhand. She has acumen of performance on R&D project. She has carried out project work independently and submitted the report entitled, "To assess the existing knowledge, attitude and practices regarding hypertension and its risk factors among the employees of Directorate of Health Services, Dehradun". Her work regarding hypertension and its risk factors is quite useful in implementation of the national programme for control of Hypertension. She is hard working and during her stay in the department her behavior was excellent. We wish her all the best in future.


Dr. Saroj Naithani
(Joint Director)

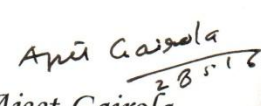
National Programme

(डॉ० सरोज नैथानी)
संयुक्त निदेशक
राज्यक
राष्ट्रीय स्वास्थ्य मिशन


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NCD

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अपर निदेशक,
वि०स्वा० एवं प०क०
उत्तराखण्ड


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National Programme

डा० अजीत गैरोला
निदेशक, राजका०
वि०स्वा० एवं प०क०
उत्तराखण्ड

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Acronyms / Abbreviation

<i>ASHA</i>	<i>Accredited Social Health Activist</i>
<i>UKHFS</i>	<i>Uttarakhand Health and Family Welfare Society</i>
<i>USAID</i>	<i>United States Agency for International Development</i>
<i>PPP</i>	<i>Public Private Partnership</i>
<i>PCPNDT</i>	<i>Pre-Conception Pre-Natal Diagnostic Techniques</i>
<i>IUCD</i>	<i>Intrauterine Contraceptive Device</i>
<i>NRHM</i>	<i>National Rural Health Mission</i>
<i>NHM</i>	<i>National health Mission</i>
<i>NCDs</i>	<i>Non Communicable Diseases</i>
<i>IHD</i>	<i>Ischemic Heart Disease</i>
<i>CVDs</i>	<i>Cardiovascular Diseases</i>
<i>SBP</i>	<i>Systolic Blood Pressure</i>
<i>DBP</i>	<i>Diastolic Blood Pressure</i>
<i>WHO</i>	<i>World Health Organization</i>
<i>KAPs</i>	<i>Knowledge, Attitude and Practices</i>
<i>HIMS</i>	<i>Himalayan Institute of Medical Sciences</i>

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Observational learning

Introduction

The National Rural Health Mission (NRHM) was launched by the Hon'ble Prime Minister on 12th April 2005, to provide accessible, affordable and quality health care to the rural population, especially the vulnerable groups. The Union Cabinet vide its decision dated 1st May 2013, has approved the launch of National Urban Health Mission (NUHM) as a Sub-mission of an over-arching National Health Mission (NHM), with National Rural Health Mission (NRHM) being the other Sub-mission of National Health Mission.



Uttarakhand Health & Family Welfare Society (UKHFWS) was constituted in the year 2002 with aim to serve as umbrella society for all national programs and effect health sector reforms with the help of external funding agencies such as USAID. Following the launch at the national level in April 2005-06, NRHM was formally inaugurated in state on 27th October 2005.

The State is now set to embark upon the sixth year of the NRHM. Maternal and Child health programmes have been taken up on priority basis in the state. The NRHM has helped us in further strengthening of these programmes. The state has achieved success in improving service delivery at the grass roots level despite severe limitations in availability of skilled manpower and difficult geographical terrain. The ASHA programme has broadly led to an increased demand for institutional medical services and there is a remarkable shift from domiciliary to institutional delivery.

Aims and Objectives of UKHFWS

The objective was to bring operational efficiencies in implementation of National Programmes at state and district level through smooth and effective fund flow, reporting mechanism and monitoring to oversee that the programs are running as planned and are on schedule in order to achieve the better health outcomes. All the funds from Government of India for operationalizing the National programmes are received in UKHFWS and then released to program officers of different programs at state and district societies as envisaged in state and district action plans.

UKHFWS is responsible for the following:

- Funds management, utilization certificates and audit.
- Management of Public Private Partnership (PPP) component of all programs.
- Development of HR policies and job descriptions for various categories of health staff working in department of Medical, Health & Family Welfare.
- To carry out civil works procurement, maintenance and logistics of equipments etc under non- budgetary funds.
- Monitoring and evaluation including concurrent evaluation of all national programs.
- Planning of all national programs including RCH II planning.
- Development of training policies, training of trainers and training capacity of the state.
- Mobilization and hiring of technical assistance inputs at state and district level.

State Profile

Uttarakhand, the 27th state of the Republic of India and was carved out of Uttar Pradesh on 9th Nov 2000. Uttarakhand is one of the states of India having total area of 53,483 sq km. currently density per sq. km in Uttarakhand is 189 per Sq.km which stand less than national average density of India currently being at 382. If measurement is shifted from Kilometer to Mile, Uttarakhand's total area becomes 20,650 Sq mi having density of approximately 490 per Sq mi.

- There are 13 districts in Uttarakhand which are grouped into two divisions— Kumaun and Garhwal.

The Kumaun division includes six and Garhwal division includes seven districts. Details of the division-wise numbers of districts in the State are presented in the matrix ahead:-

Kumaun Division	Garhwal Division
Almora	Dehradun
Bageshwar	Haridwar
Champawat	Tehri Garhwal
Nainital	Uttarkashi
Pithoragarh	Chamoli
Udham Singh Nagar	Pauri Garhwal
	Rudraprayag

State has 13 districts in total in both the Garhwal and Kumaun Region.

Out of the 13 districts of the State, 3 are plain districts and the remaining 10 are hilly districts. Geographically the state can broadly be divided into three zones, namely:

- **Upper hills**— Uttarkashi, Chamoli, Rudraprayag, Pithoragarh and Bageshwar.
- **Middle hills** — Tehri-Garhwal, Garhwal, Almora, and Champawat, the hill regions of Nainital and Chakrata tehsil of Dehradun.
- **Foothills** —The remaining area of Dehradun, Haridwar, Udham Singh Nagar and the remaining area of Nainital.

State Profile

S. No.	Background Characteristics	State Number
1.	Geographical Area(in Sq. Kms)	53484 sq. kms
2.	Number of Blocks	95
3.	Size of Villages(2011 Census)	
	Number of Villages	16826
	1-500	13460(80%)
	501-2000	2679(17%)
	2001-5000	426(2.7%)
	5000+	Nil
4.	Number of Towns	31
5.	Total Population	10116752
	Male	5154178
	Female	4962574
6.	Sex Ratio(F/M*1000)	
	Population Sex Ratio	963
	Child Sex Ratio	886
7.	Decadal growth rate	19.17
8.	Density per sq. km.	189
9.	Literacy Rate(+6 Population)	79.63%
	Male	88.33%
	Female	70.70%
10.	Percentage of SC/ST Population	
	SC	15.17
	ST	2.56

Socio demographic Profile of the State

According 2011 Census of India, Uttarakhand's population has reached approximately 1.01 crore with an increase of 19.17 percent from the past decade. Uttarakhand feeds approximately 0.84% of India's total population. As per census report of Uttarakhand, the total population of the state is 10,116,752; of which male and female are 5,154,178 and 4,962, 574, respectively. With regards to Sex Ratio, the state has demonstrated that it has the better indicators than the national averages. As per Census 2011, Uttarakhand's Sex Ratio stands out at 963 and fares better as compared to average sex ratio of India (940) but the child sex ratio (886) of Uttarakhand remains a matter of concern and needs immediate enforcement of PCPNDT Act in full force along with behaviour change communications to stop female foeticide.

The population of the districts in Uttarakhand varies considerably. Four of the 13 districts, namely Dehradun, Haridwar, Udham Singh Nagar and Nainital account for 61.5 % of the state's total population. On adding Tehri Garhwal, Pauri Garhwal and Almora, this accounts for nearly 81%. This clearly shows that the concentration of population is quite high in the mid and foothills as compared to the remaining six districts of high hills.

The density of population according to the 2011 census is 189 persons per square kilometre, higher than the 2001 census figure of 150. District-wise, there is enormous variation in the density of population with Haridwar, US Nagar and Dehradun having a high density of 817, 648, and 550 persons per square km respectively; while on the other hand there are districts like Uttarkashi, Chamoli and Pithoragarh the population density is quite low with average of 41, 49, and 69 persons per square km.

Socio Demographic Profile of Uttarakhand

District	Total Population (Census 2011)	% of Population	Sex Ratio
Uttarkashi	329686	3.26%	959
Chamoli	391114	3.87%	1021
Rudraprayag	236857	2.34%	1120
Tehri Garhwal	616409	6.09%	1078
Dehradun	1698560	16.79%	902
Pauri Garhwal	686527	6.79%	1103
Pithoragarh	485993	4.80%	1021
Bageshwar	259840	6.15%	1093
Almora	621927	6.15%	1142
Champawat	259315	2.56%	981
Nainital	955128	9.44%	933
Udham Singh Nagar	1648367	16.29%	919
Haridwar	1927029	19.05%	879
UTTARAKHAND	1011675	—	963

State Health Infrastructure

S.No	Health Facility	Number of Institutions
1	District Hospitals	12
2	Female Hospitals	06
3	Base Hospitals	03
4	Combined Hospitals	15
5	CHC including Identified FRUs	55
6	PHC's	239
7	Sub Centre	1765
8	State Allopathic Dispensaries	322

9	Ayurvedic Hospitals & Dispensaries	543
10	Homeopathic Dispensaries	107
11	Unani Hospitals	03
12	Blood Banks	23
13	T.B.Clinic	13

General findings on learning

The department-wise/ programme- wise working under National Health Mission Uttarakhand are as follows:

- A. Non Communicable Disease
- B. Rashtriya Bal Swasthya Karyakaram
- C. Rashtriya Kishor Swasthya Karyakaram
- D. Rashtriya Swasthya Bima Yojana
- E. Mukhyamantri Swasthya Bima Yojana
- F. Integrated Disease Surveillance Programme
- G. ASHA Programme
- H. Training
- I. Quality
- J. Family Planning Department
- K. State Blood Cell
- L. Haemoglobinopathies Department

I. Non Communicable Disease (NCD)

In the State NCD Cell there are eight programs under this cell as follows:

- National Programme for Prevention Control of Cancer, Diabetes, CVDs and Stroke(NPCDCS)
- National Oral Health Programme(NOHP)
- National Programme for Health Care of Elderly(NPHCE)
- National Programme for Control of Blindness(NPCB)
- National Programme for Prevention and Control of Deafness(NPPCD)
- National Tobacco Control Program(NTCP)
- National Mental Health Programme(NMHP)
- National Iodine Deficiency Disorder Control Programme(NIDDCP)

Recruitment in process in all the programs except NTCP but the programs are facing problem without manpower. IEC activities at district level for awareness of the program. Camps are in process and outreach camps for early detection are conducted for prevention, treatment and referral. PIP for 2016-17 in process. Procurement of logistics. Under NTCP there is lack of manpower to assist the State Tobacco Control Cell.

II. Rashtriya Bal Swasthya Karyakram (RBSK)

Rashtriya Bal Swasthya Karyakram (RBSK) is an important initiative aiming at early identification and early intervention for children from birth to 18 years to cover 4 'D's viz. Defects at birth, Deficiencies, Diseases, Development delays including disability.

The critical factors affecting the functioning of department/programme are as follows

- Due to hilly terrain doctor are reluctant to go and do the work. The distance is much between the state capital and hilly areas. The children with these defects have to travel a lot to reach the state capital due to absence of doctors in hilly areas.
- RBSK envisages to cover 30 selected health conditions for screening, early detection and free management and the child having problems other than these conditions face problem in treatment.
- Only screening is done no intervention takes place.

III. Rashtriya Kishor Swasthya Karyakaram (RKSK)

The Ministry of Health & Family Welfare has launched a health programme for adolescents, in the age group of 10-19 years, which would target their nutrition, reproductive health and substance abuse, among other issues. It introduces community-based interventions through peer educators, and is underpinned by collaborations with other ministries and state governments.

The critical factors affecting the functioning of department/programme are as follows

- Service providers and ANM workload is so much that they are not able to give time to RKSK due to which BMI, Haemoglobin and supplements are not able to reach to adolescents.
- Being hilly terrain the workers are facing problems as they are not able to reach the villages and mapping of the villages become a difficult task for the workers.
- Adolescent are shy of asking anything as they have lack of awareness. They even don't talk about their physical problem.
- Parents show objection for giving knowledge to their child.
- Adolescent girls are facing lot of problems due to religious myths.

IV. Rashtriya Swasthya Bima Yojana (RSBY)

RSBY has been launched by Ministry of Labour and Employment, Government of India on April 2008 to provide health insurance coverage for Below Poverty Line (BPL) families. It is to provide protection to BPL households from financial liabilities arising out of health shocks that involve hospitalization. Beneficiaries under RSBY are entitled to hospitalization coverage up to Rs. 30,000/- for most of the diseases that require hospitalization. Coverage extends to five members of the family which includes the head of household, spouse and up to three dependents. Beneficiaries need to pay only Rs. 30/- as registration fee while Central and State Government pays the premium to the insurer selected by the State Government on the basis of a competitive bidding. RSBY Scheme covers 725 surgical process & non surgical unspecified diseases also covered in the scheme. In Uttarakhand RSBY Scheme was launched in 1st December 2008 and the Nodal Agency was Uttarakhand State Labour Department. However the scheme was transferred to Uttarakhand Health & Family Welfare Department in September 2009.

The critical factors affecting the functioning of department/programme

- Hospitals do not get payment in time through insurance company.
- 1 Feb 2013 policy period started but it is in extension because no approval is given on co branding from Central Government.

V. Mukhyamantri Swasthya Bima Yojana (MSBY)

Mukhyamatri Swasthya Bima Yojana MSBY, "Chief Minister Health Insurance Scheme ", is a government-run health insurance scheme for the household identified by the Govt. of Uttarakhand. MSBY scheme started from April 1st, 2015. It provides cashless health benefits for hospitalization in empanelled public and private hospitals.

- MSBY is a State sponsored Health scheme.
- It covers all the eligible families of Uttarakhand who are not a Govt. employee, Pensioner and an income tax payer.
- The beneficiary will get an health Insurance of Rs. 50,000/-per family per year.
- The beneficiary has to pay Rs. 30 as a card cost.
- The policy period will start from 01st April 2015

The critical factors affecting the functioning of the Department/ Programme are as follows

- There is exclusion of government employees, pensioners and income tax payers.
- Critical care is not added in this scheme.
- New tender of 50000 base cover and 125000 for critical care processing passed in the month of November 2015 but due to certain reasons retendering is in process.
- Eligible families enrollment is a big challenge.

VI. Integrated Disease Surveillance Programme (IDSP)

The Government of India is initiating a decentralized State based Integrated Disease Surveillance Project in the country in response to a long felt need expressed by various expert committees. The project would be able to detect early warning signals of impending Outbreak and help initiate an effective response in a timely manner. It is also expected to provide essential data to monitor progress of on going disease control programme and help

allocate health resources more optimally. In Uttarakhand the Integrated Disease Surveillance Project was launched on 5th July 2005 with World Bank Assistance.

The critical factors affecting the functioning of the department/programme

- Data collection is a big challenge as in hilly terrain we do not get the data in time.
- Full reporting through public sector but private could not able to cover.
- Shortage of doctors and if the doctors resign the training is given again and again to the new joined doctors.
- Manpower is not available in Uttarakhand as state is lagging in educational facilities like epidemiologist, microbiologist etc so the state has to depend on the manpower available from other states.

VII. ASHA Programme

ASHA is community health workers instituted by Government of India's Ministry of Health and Family Welfare as part of National Rural Health Mission. ASHA are local women trained to act as health educators and promoters in their communities. Their tasks include motivating women to give birth in hospitals, bringing children to immunization clinics, encouraging family planning, treating basic illness and injury with first aid, keeping demographic records and improving village sanitation. ASHAs are also meant to serve as a key communication mechanism between the healthcare system and rural populations.



The critical factors affecting the ASHA programme are as follows

- Expectations increases from ASHA but they were not able to fulfill the expectations.
- If ASHA is non functional than Government has no right to remove her from the job.
- Due to hilly terrain and disaster affected areas ASHA not able to track the households and so the people could not get services.
- Doctors don't want to go to hilly terrain due to which facilities are not active so ASHA not able to guide the people for medical facilities.

VIII. Training

The critical factors affecting the functioning of Training Department are as follows:

- Time Management-It is a very big factor for any job or activity done. Commencement of activity starts from approval of file, approval of activities by the authorities and approval by finance. Time management depends upon two activities the planning of training which has to be commenced on a particular date than the whole activity has to be planned one and half months prior or before the activity.
- Communication-Communication play important role to convey messages to different areas. Many times most of the districts lack electricity during rainy season, during any calamity or due to shortage of resources. So communication should also through electronic communication, physical communication or via post (hard copy).
- Coordination-Coordinating with different program managers as to schedule the programs well in advance so that the programs in future do not hit a road block. Proper message of the training/any activity should be clearly communicated with other program officers via proper written communicating media i.e. Notesheet, order letters, request letters and keeping a record of it. Any discrepancy between program officers should be clearly and promptly settled in advance so as to clear any discrepancies. If the problem is not settled than a meeting should be suggested or should be initiated between the respective heads.

IX. Quality

The critical factors affecting the functioning of Quality department are as follows:

- Manpower-There is no district quality assurance unit only state quality assurance unit is present so there is shortage of manpower.
- Motivation-The motivation level of employees of state quality assurance unit is low. They are not willing to work.
- Learning-No one want to learn and implement.
- Monitoring and Evaluation-No monitoring and evaluation is done. Gap analysis not done and no rectification of the problems.
- Timely calibration and preventive maintenance of equipment and machines.
- Procurement norm- Delay in process

X. Family Planning Department

The critical factors affecting the functioning of Family Planning department are as follows:

- Shortages of surgeons lead to problem in family planning operations.
- Geographical conditions-Interior areas and hilly terrain beneficiaries face problems related to convince.
- Monitoring-Proper monitoring is not done due to shortage of manpower.

XI. State Blood Cell

The critical factors affecting the functioning of State Blood Cell are as follows:

- Currently there are 10 Blood Storage Centres in Uttarakhand from which only two are functional and remaining non-functional because there are no major surgeries done that is why blood is not required from these non functional blood storage centres as patients are referred to higher/multi speciality centres.
- There are 27 blood banks in Uttarakhand from which 18 are under State Government and remaining 9 are under PPP/Private/Central Government. From these 18 blood banks there are only 2 blood banks having 24*7 facilities located in Dehradun and Nainital. In rest blood banks yearly collection is 300-5000 units. The numbers of surgeries are less and so there is no requirement of blood on regular basis.
- For strengthening the blood banks State had approved sufficient technical staff but they have not yet recruited.
- In Champawat and Bageshwar there are no blood banks available. So they have to arrange blood from nearby districts.

XII. Haemoglobinopathies Department

The critical factors affecting the functioning of Haemoglobinopathies Department are as follows:-

- NESTROFT test for Anemia is available only in Doon Hospital in Dehradun. The rest of the districts the medical Health team reached to the Government and Aided Schools.
- In the School the challenges faced by the Medical Health team are that the children who are absent on the visit day it became very difficult to track those children for the follow up visit.
- It is difficult to find out the drop out children from the School.
- There are teams in 8 districts out of 13. Recruitment are pending for the rest districts.

Different Aspects of Healthcare Delivery System

The visit in District Hospital, Community Health Centre, Primary Health Centre, Sub-Centre and Anganwadi Centre is done in the Summer Training Period for learning different aspects of Healthcare Delivery System. The observation done in respective centres are as follows:-

1. Anganwadi Centres

The observations done in two Anganwadi Centres are as follows:-

- There are 30 children in the Anganwadi Centre below 3 years of age. There is a teacher and a helper.
- There is only one room in which children are taught and food is prepared in open verandah.
- The Nutritional Chart for the whole week are as follows:

Days	Breakfast	Lunch
Monday	Moongfali	Namkeen Daliya
Tuesday	Bhunachana/Gudh	Aloo/Sabji Ka Parantha
Wednesday	Biscuit	Khichdi
Thursday	Moongfali	Pulao
Friday	Bhunachana/Gudh	Dal Chawal
Saturday	Biscuit	Khichdi

- The pregnant women were given Take Home Ration which includes Mandwe Ka Atta, Chana Dal, Rajma, Gudh and Iodised Salt and the cooked food prepared for lunch is given to children to Take Home.
- Take Home Ration is taken by helper to pregnant women home or someone from the pregnant women home came to collect the ration.
- The fifth day of every month weight and height of the children are measured and the parents of the children were educated about the child growth and development by the teacher.
- The teacher provide health and nutritional education to the families of pregnant women regarding antenatal care, breastfeeding etc.
- There are various sources through which the children are educated eg. Gali Gali Sim Sim Kit, Shabd Card, Gugli Chala School etc. on third Thursday of every month.
- Immunization and Growth monitoring registers are maintained by the Anganwadi workers.
- The children (7 months-3 years) and pregnant women have an anganwadi registration done so that they can get free medical checkup.
- No proper sanitation done.
- Infrastructure related problems such as recreational activities like outdoor activities.

2. Primary Health Centres(PHC)

The observations done in three Primary Health Centres are as follows:-

PHC Mehuwala, Dehradun

- There is no delivery facility in this PHC. Women have to go nearby district hospital for the same.
- The Bal Rog Karyakaram is there under which a child get sick will be given one year free medical treatment.
- Only temporary family planning procedures are done in this PHC.
- Free check up for pregnant women and free vaccination. Rs. 3 is registration charges.
- Stock register, patient register etc. are properly maintained.

- The general information and precautions about the particular problem is given to the patient. More patients are of Cough, cold, diarrhea etc.
- The average 30-35 patient are there in this PHC.
- No pharmacist is there. A doctor is handling the patient, medicines and maintaining the register. Manpower Shortage is a issue seen in this PHC.
- Free allopathic medicines and essential drugs are given.
- JSSY scheme is not working in this PHC.

PHC Nayagaon, Palio, Dehradun

- Polio Erradication Program is there in which the polio drops(trivalent) as well as injectables(bivalent) are given to the children in this PHC.
- Vaccination given free of cost including mobility and logistics.
- JSSK scheme is working in this PHC in which delivery and antenatal checkup is free of cost. Pregnant rural women were given Rs. 1400 and Urban women given Rs. 1000 for delivery in this PHC.
- Iron and calcium tablets given to pregnant women and iron and folic acid tablets given to anemic girls.
- OPD is around 40 patients daily.
- Blood Sugar machine is available in this PHC for diagnosis of Diabetes.
- Only temporary sterilization is done in this PHC.
- AYUSH doctor also available in this PHC from January 2016 onwards and ayurvedic medicines are also given free of cost.
- Free allopathic medicines and essential drugs are given.

PHC, Kishan Nagar, Dehradun

- No delivery services are available.
- Only counselling for family planning procedure.
- Full Immunization, Ante natal care, Temporary family planning procedures, RKSK and Free drug distribution scheme are in progress.

3. Community Health Centre(CHC)

The observations done in Community Health Centres are as follows:-

- CHC Raipur working on PPP mode.Strike of the employees due to not getting payment by the government from 4 months.Working in collaboration with Raj Bala Foundation.Employees are working in PPP mode.
- Diagnostic test facilities also available.
- Manpower is a big problem.Work load is more.

4. Subcentres

The observations done in Subcentres are as follows:-

- Manpower is a big issue.There is only one ANM.
- Antenatal care is given to women but Iron and Folic Acid tablets are not given as they are not available in the subcentre.
- No laboratory investigation is done.
- Counselling given to pregnant women.
- Untied funds 10000 for furniture and 10000 for annual maintainence is given.
- There is a pit in which placenta is disposed.
- No proper disposal of biomedical waste.
- The instruments are rusted.

5. District Hospitals

The observations done in the two District Hospitals are as follows are as follows:-

Combined Hospital,Premnagar,Dehradun

- It is a 30 bedded hospital.Daily new patients are 300-400 and old patients 50-100 approximately.
- Manpower and work overload is a big issue.Stock of medicines not fully filled.Patient have to take medicines from outside.Nobody is there for store maintainence.Retired doctors are seeing the Emergency.
- No proper sanitation in the Hospital Bad odour from the washrooms.
- Lack of communication gap for the requirement given for medicines.

- Social stigma related to IUCD insertion that IUCD insertion can cause cancer,excess bleeding,pain in stomach,backache and if there is any case in their home regarding IUCD insertion the women refused to cooperate.
- Under JSSY scheme Rs 6000 given to women after delivery was not able to reach to 30% women in their account.
- After antenatal care the patient go for delivery in the private hospital so ASHA couldn't get incentives.
- Daily 5-6 cases of abortion due to Congenital problems or due to some medicine intake without doctors prescription.
- Bed is a big problem for the patients.Bed are less and patients are more.
- There is no place for disposal of foetus.
- Untied fund came in the form of Seed Money.5 lakhs given as seed money used in buying of machines and equipments.The maintainence of renovation,infrastructure,fan,table etc has been done from the money of State Budget.

Coronation Hospital,Dalanwala,Dehradun

- The building of Coronation Hospital includes Fortis Hospital and Neuphrodialysis Centre.
- It is 120 bedded hospital from which 50 bed given to fortis(25 bed –Government,25 bed-Private),13 for dialysis and rest 57 beds in the Coronation Hospital.
- There is Billing Counter,MSBY Counter,Asha Help desk etc in the Hospital.
- BPL and pregnant women get free diagnostic facilities.Pre natal test is free of cost and post natal test is charged according to CGHS rate list.Eye operations are free of cost.Patient are not willing to give money for diagnostic tests.
- Manpower is a big problem as there is one person each handling MSBY and Billing Counter.
- In MSBY card there is the name of only head of the family so the family members are facing difficulty in claiming the money.
- No delivery point in the Hospital.No supply of Vitamin A from last 6 months.Antenatal care is given and vaccinations are also given to pregnant women and children.
- The Fortis Hospital Is in Public Private Partnership mode with Coronation Hospital.It is only single speciality Cardiac Care Unit.All the treatment done through

Government reimbursement. Logistics and manpower is of Fortis. No registration fee as the patient referred by coronation to Fortis for treatment. Free of cost services given to BPL and NHM employees.

- In ASHA help desk patient complaint about doctors and become aggressive and talk to ASHA rudely.

6. District Early Intervention Centre (DEIC)

- Following the initial step of screening of children from birth to 18 years of age group for selected health conditions including Defects at Birth, Deficiencies, Diseases & Developmental delays including disabilities under Rashtriya Bal Swasthya Karkyakram (RBSK).
- The early intervention centers are to be established at the District Hospital level across the country as District Early Intervention Centers (DEIC).
- The purpose of DEIC is to provide referral support to children detected with health conditions during health screening, primarily for children up to 6 years of age group.
- In DEIC the treatment of newborn baby till 18 years of age is free of cost.
- The vehicle Khushiyon Ki Sawari bring the patient from every district to DEIC.
- In DEIC there are Audiologist, Sagologist, Dental Technician, Manager, Data Entry Operator, Lab Technician, Psychologist, Pediatrician, Staff Nurse, Dentist and Early Interventionist.
- Cochlear Implant Surgery of children is free of cost.
- Lack of Manpower in DEIC.
- Patient have lack of awareness regarding the treatment. They don't come for follow up as they require free fooding and lodging in Dehradun as they came from other districts.
- Patients have to go to Doon Hospital for arranging the blood. For blood transfusion to Thallesemia patients the DEIC Centre has tied up with Coronation Hospital for beds. First the patients of Coronation Hospital are preferred and still there are beds that remain vacant than DEIC can use them for blood transfusion. The patients have to adjust in common ward with other patients which sometimes Thallesemia patient get Hospital acquired infection.
- Regular follow up is challenge as the patient and the attendant don't have money, fooding and lodging so they are reluctant to come for follow up.

1. Introduction

Non communicable diseases (NCDs) are the leading causes of death in India and worldwide representing a growing threat to national and global health as well as social and economic development. Their burden is expected to double by 2030¹. Non communicable diseases are serious threat to the health of people in developing countries². In 2008, out of the 57 million global deaths, 36 million deaths or 63% were due to NCDs, principally cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. It is projected that globally NCDs will account for nearly 44 million deaths in 2020. Although morbidity and mortality from non communicable diseases mainly occur in adulthood, exposure to risk factors begins in early life. India is experiencing a rapid health transition with a rising burden of Non Communicable diseases (NCDs). It is estimated that the overall prevalence of diabetes, hypertension, Ischemic heart disease (IHD) and stroke is 62.47, 159.46, 37.00 and 1.54 respectively per 1000 population in India. According to a WHO report (2002), cardiovascular diseases (CVDs) will be the largest cause of death and disability in India accounting for over 42% of all deaths (Registrar General of India).

Hypertension is defined as a condition in which Systolic blood pressure (SBP) is equal to or greater than 140mm Hg and diastolic blood pressure (DBP) equal to or greater than 90 mm Hg³. It is one of the most important public health challenge worldwide because of its high frequency and concomitant risks of cardiovascular and kidney disease⁴. As reported by World Health Organization, hypertension is the third 'killer' disease, accounting for 1 in every 8 deaths worldwide⁵. Prevalence of hypertension is increasing in developing countries is very rapidly and is said to be one of the most leading cause of mortality and morbidity. The WHO estimated that hypertension caused 4.5% of current global disease burden. Prevalence of hypertension in India, last three decades has increased by about 30 times among urban residents and by about 10 times among rural residents⁵.

Uttarakhand is geographically and socio-culturally diverse state because of location and scattered population in hilly and plain region with higher population density in plain region account for 55 percent of state's population. Extreme weather conditions had been responsible for certain negative life-style practice and outcomes such as smoking(20%), tobacco chewing(12%), other form of tobacco use(27%), alcohol drinking(52%), low level of

physical activity(67%),overweight(14%) and central obesity(18%),consumption of fruits and vegetables less than recommended(89%).People of state are encountering ever increasing prevalence of Non Communicable diseases because of negative life-style practice.Over 8%people in Uttarakhand are suspected to have high blood pressure and 5.7% are diabetic⁶.

2. Review Of Literature

The review of literature on various studies related to Hypertension is arranged under the following headings:

- a) Studies related to knowledge,attitude and practices regarding Hypertension
- b) Studies related to knowledge and awareness regarding Hypertension
- c) Studies related to risk factors regarding Hypertension
- d) Studies related to Socio demographic variables

a. Studies related to knowledge,attitude and practices regarding hypertension

The study was conducted at Shivaji Nagar urban slum situated at an eastern suburb of Mumbai.Here the population consists of people who have migrated from different parts of India,mainly from Uttar Pradesh,Bihar,West Bengal,Madhya Pradesh,Andhra Pradesh and Tamil Nadu.Total 340 known cases of Hypertensive patients were selected by employing simple random sampling method. Assessment of knowledge, attitude and practice is done.Total 340 hypertensive subjects were examined consisiting of 176(51.76%) males and 164(48.23%) females.In this study,out of 340 Hypertensive patients,131(38.52%) patient had the family history of Hypertension.Smokeless tobacco consumption was most common addiction found in 34.41% patients.16.58%,30.89%,26.76% study population had knowledge,attitude and practices towards Hypertension respectively.Female had poor knowledge,attitude and practices than males.Dizziness was the most common symptoms while a heart problem was most common complication known to patients.Tobacco consumption in any form was found in 205 (60.25%) hypertensive patients.In this study, out 340 patients, 287(84.41%), 235(69.1%) and 249(73.23%) had poor score of knowledge,attitude and practice of Hypertension respectively.The low score of knowledge, attitude and practice was maily due to illiteracy and low socioeconomic class of the patients.Also, it was found that the knowledge,attitude and practice score was less in

females when compared to males. Poor practices were responsible for higher blood pressure.⁷

A random sample of 500 adults aged above 20 years from Gandhinagar, Gujarat. Study population sample was selected by lottery method. A suitably designed and validated KAP questionnaire was administered and responses were coded and analysed. Most of the respondents (42.4 %) were aged 31- 40 years. The major source of knowledge for general population was television (32%), newspaper (30%), family physician (28%) and friends and relatives (10%). Majority was aware about causes, symptoms and complications of the disease. In this study there is poor score of attitude and only 45.2% had positive attitude towards exercise. 20.6% of responders had their blood pressure checked, 17% of responders were able to answer 50% of practice questions correctly. A high proportion of participants showed good basic knowledge of hypertension. 82.4% of the participants knew that salt and 80.4% knew that obesity were associated with Hypertension. Most of participants (81.2%) reported that smoking causes high BP. The benefit of physical exercise on BP was also well recognized by 63.6% of the participants. All these findings were comparable with the study done by Aubert et al. 24% of participants knew normal blood pressure level. This lack of knowledge was associated with male gender, younger age, lower level of education and unemployment. Similar association study were observed in the study by Kusuma Y Set al. 45.2% of participants agreed with habit of exercise are associated with healthy life. This study shows reasonable gap between knowledge, attitude and practices.¹

2.2 Studies related to knowledge and awareness regarding Hypertension

A cross sectional study conducted in two urban communities, New Chekon and Sagolband areas of Imphal, Manipur, a state in Northeast India. The study was conducted among persons aged ≥ 25 years. There are 957 eligible persons approached 923 persons consented to participate in the study with a response rate of 96.4%. The calculated sample size is 742. Estimating a non response rate of 20% the final sample size is 882. Hence 882 adults were targeted for data collection. About 63.6% of respondents were females. Convenience sampling method is used to select the study subjects. About one-sixth (17.0%) of the respondents had never heard of high BP. About one-third (35%) of the respondents could tell the normal BP level correctly. High salt intake was the most common risk factor known to respondents (22%). About two-fifth (39.8%) of the respondents knew that dizziness is a

symptom of high BP. A little less than half (45.8%) of the respondents did not know any of the complications of high BP. Tobacco and alcohol consumption are known significant factors of Hypertension proved in this study. The problem of tobacco consumption has to be addressed here because about 30% of the respondents consume tobacco daily. People have poor knowledge about Hypertension.³

A community based cross sectional study was carried out in the age group of 30 years and above in 500 respondents using simple random sampling technique among the population of Sultanpur Kunhari and its surrounding area, Haridwar, Uttarakhand. Sex wise distribution revealed 54% males and 46% females in studied sample. Age wise distribution revealed that 250 (50%), 88 (17.2%), 72 (14.4%) and 90 (18%) were in age group of 30-35, 36-40, 41-45 and of 46-50 respectively. In this study the volunteers are enquired about their addictive habits and categorized as alcoholic, smoker, tobacco chewer, alcoholic and tobacco chewer, alcoholic and smoker, smoker and tobacco chewer and combination of all three and observed prevalence as 80 (16%), 60 (12%), 22 (4.44%), 30 (6%), 35 (7%), 23 (4.6%) and 10 (2%) respectively. 240 (48%) volunteers had no addiction of any types. In this study sample comprised of 90% married and 10% unmarried. The subjects according to family type revealed that there were 125 (25%) and 375 (75%) of nuclear and of joint family respectively. Family type is closely related to emotional make up. There is a strong correlation between changing lifestyle factors and increase in hypertension.⁸

2.3 Studies related to risk factors of Hypertension

A cross sectional study among medical college students was conducted to find out prevalence of Hypertension and its associated risk factors at HIMs, Dehradun. All the medical students of the institute were included in the study. A total of 478 (95.6%) undergraduate medical students (out of 500) belonging to all the semesters could be contacted in this study. Changing dietary patterns and sedentary lifestyle may also have contributed to the rise in blood pressure among these students. 398 study subjects were within normal range of blood pressure, 50 were hypertensives and 30 were hypotensives. Among hypertensives, 37 were males and 13 were females. It is also observed in this study that 38 out of 50 (76%) hypertensive subjects were following sedentary lifestyle. Regular participation in sports and outdoor games should be recommended for all the subjects to prevent them from going towards the tendency of physical inactivity. One of the primary prevention strategy against

hypertension could be to introduce the importance of balanced diet (avoid junk/fast foods), regular exercise and healthy lifestyle right from school level.⁹

A sample of 100 hypertensive subjects(45 males and 55 females) was selected from outpatient department of hospitals and various Mahila mandals of Dharwad.The onset of Hypertension was maximum in the age group of above 46 years and half the subjects had no family history of hypertension.About 46 % restricted and 20% avoided certain foods.Complications reported by hypertensives were diabetes mellitus(27.00%),coronary heart disease(13.00%) and renal failure(1.00%).More number of subjects were consuming vegetarian diet than non vegetarian.The pickle,papads,chutneys,fried foods,bakery products,salted snacks,fats and oils,flesh foods,sweet and salty foods were restricted.About 9% did not restrict non vegetarian foods.So they need to be given nutrition education and counseling for restricting these foods,since they may accelerate atherosclerosis.The vices practiced by men were smoking(2.20%),drinking(8.90%) and tobacco chewing(8.90%).Exercise in the form of walking was practiced by 63% and yoga by 18% of subjects.Half the hypertensives were unaware about the foods to be restricted,about 36% did not do any form of exercise.More than half the subjects had low knowledge level about hypertension.So there was need to create awareness and impart nutrition education to improve the knowledge for the management of hypertension.¹⁰

2.4 Studies related to Socio demographic variables

A Cross sectional study was carried out among 292 individuals of 30 years and above in Urban Health Centre of Community Medicine,Garhwal,Uttarakhand.Data was collected on socio-demographic and behavioral factors.This study reveals the association of Hypertension with socio demographic variables,personal habits and obesity.Out of the study subjects,46% was males and 54% females.Among males,the prevalence was 12.6% and for females it was 13.2%.Individuals who were using high salt intake were found having higher prevalence of Hypertension.Although a higher proportion of respondents(14.45%)with smoking habit were found hypertensive as compared to those who did not smoke(7.84%).Increase salt intake found to be significantly associated with hypertension this finding is well supported by Gupta.M et al and Ghosh et al and Saxena et al.Physical inactivity was found statistically associated with hypertension in this study and the similar findings was observed by Rajasekar et al.As this study is conducted at hilly area it concludes

that environment cannot change the epidemiology of Hypertension. Still they should be educated for the modifiable risk factors and create awareness among them about Hypertension.⁵

3. Rationale

- Non Communicable diseases are on rise globally and in India. Hypertension is a global public health issue. Hypertension is a major risk factor for NCDs like stroke, cardiovascular disease and chronic kidney disease. Hypertension has become a significant problem in many developing countries experiencing epidemiological transition from communicable to non communicable chronic diseases.
- In the last two decades India has been on a rapid economic growth path but has also seen a rise of new issues in terms of the disease profile of Indians, particularly in the area of non-communicable diseases. The most important contributory factor for the increasing incidence has been the rapid change in lifestyle. Another concern is the high prevalence of these diseases in relatively younger population in India, further complicated by rampant tobacco use, rising alcohol consumption, increasing levels of stress and unhealthy lifestyle.
- The prevalence of hypertension is increasing worldwide but awareness, treatment and control rates are very poor. It is vital to assess the burden of hypertension and associated risk factors as a prerequisite for meaningful prevention and control strategies. Occupational stress is often caused by an increased workload without the addition of employees to take on that additional work. Since there may be increased cases of occupational stress and anxiety among the employees of Directorate of health due to heavy work load as they are overburdened with work. The severity of job stress depends on the magnitude of the demands that are being made and the individual's sense of control or decision-making latitude he or she has in dealing with them. It has been observed here among the employees that there is increased level of job stress by the perception of having little control will be in future lead to increased rates of heart attack, hypertension and other disorders. Some individuals have to perform several duties at the same. This study is to assess the awareness and risk factors of Hypertension among the employees of Directorate of Health Services (Government of Uttarakhand and NHM).

4. Statement of Problem

Assessment of existing knowledge, awareness and related risk factors regarding Hypertension among the employees between 25-60 years of age in the Directorate of health services (Government of Uttarakhand and NHM) in Sahastradhara, Dehradun.

5. Research Question

What is the prevalence of existing knowledge, attitude and practices of Hypertension among the employees of Directorate of Health Services between 25-60 years of age in Dandalokhand, Gujara in Dehradun (Uttarakhand) during April-May 2016?

6. Research Objective

6.1 General Objective

To assess the existing knowledge, attitude and practices regarding Hypertension and their risk factors among the employees between 25 to 60 years of age in Directorate of Health Services office in Sahastradhara, Dehradun.

6.2 Specific Objectives

- To study the existing knowledge, attitude and practices and risk factors regarding hypertension in the employees of dg office.
- To study association between level of knowledge with selected socio demographic variables.

7. Aim of Study

To analyze the existing knowledge and awareness of risk factors and lifestyle modifications in employees regarding hypertension in Directorate of Health Services, Dehradun (Uttarakhand).

8. Operational definitions

Knowledge: In this study it refers to the correct responses given by the employees regarding basic knowledge and risk factors related to hypertension as it is elicited through a self administered knowledge questionnaire. The Knowledge possessed by the employees refers to their understanding of hypertension.

Attitude: In this study it refers to the way of the thinking of employees regarding life style modification and hypertension. Attitude refers to their feelings towards hypertension, as well as any preconceived ideas that they may have towards it.

Practice: Practice refers to the ways in which the employees demonstrate their knowledge and attitude through their actions.

Life style modification: In this study it refers to the changes in the day to day activities to adopt and accept new practices to prevent complications of hypertension.

Hypertension: In this study Hypertension is defined as blood pressure above 120/80 mm Hg which is repeatedly elevated blood pressure.

Socio demographic variables: Socio-demographic Variables have been shown to influence health outcomes and health behaviors. For the assessment of Hypertension burden by socio-demographic variables, will be examined with respect to the following socio-demographic indicators such as Age, Gender, Literacy Status, Religion, Occupational Status, Income, Marital Status etc.

Variable: A variable is an object, event, idea, feeling, time period or any other type of category to be measured.

Independent and Dependent Variable: Independent variable is a variable that stands alone and isn't changed by the other variables which are tried to be measured. Dependent variable is a variable which depends on other factors. Independent variable causes a change in Dependent variable and it isn't possible that dependent variable could cause a change in Independent Variable.

9. Research Methodology

9.1 Variable under Study

There are both dependent and independent variables under this study.

A .	Independent Variables	In this study the demographic variables are age,gender,education,lifestyle modification,economic status,family history,religion,occupational status,marital status,diet and habits are independent variables.
B.	Dependent Variables	In this study the existing knowledge,attitude and practices are dependent variables.

9.2 Study Design

- The study design is Cross sectional descriptive study design to assess demographic characteristics and to find out the existing prevalence of knowledge, awareness and associated risk factors of Hypertension among the employees of Directorate of Health Services, Dehradun.
- The total duration of study was for two months April and May 2016. All the employees were included in the study. The study was carried out after getting the verbal consent from the participants who were enrolled in the study.
- A detailed questionnaire was formulated and data on hypertension, its causes, symptoms, risk factors, complications, foods to be restricted and avoided, dietary habits, history of disorder, lifestyle factors and demographic characteristics were collected by personal interview method.
- In order to test the suitability of the questionnaire the researcher administered for pre-testing with 3 respondents. The pre-test helped the researcher to frame the questionnaire more clear, practicable and simple. Questionnaires administered by an interviewer were used to survey socio demographic factors, lifestyle-related risk factors, and knowledge and awareness about hypertension.

8.3 Method

- Face to face structured interviews was administered among the employees of directorate general of health services between the ages of 25-60 years. The questionnaire sought information on existing knowledge, attitude and practice of hypertension.
- The questionnaire has two sections: section A sought information on demographics such as age, marital status, sex, education, occupation, income etc. Section B sought information on knowledge, attitude and practice regarding hypertension. The questionnaire also elicited information on smoking habits, alcohol consumption, tobacco chewing, and activity during work and leisure.
- The questionnaire was designed to be voluntary and completely confidential for those who decided to take part. Further, it is important to let the respondents know what is the study and why is it being done for, in order to promise an overall better turnaround rate of responses. Undisguising the survey will also help to ensure a better understanding of the questions being asked, providing validated data and results.

8.4 Study Area

This study was conducted in the area of Sahastradhara in Dehradun city covering the employees of Directorate of Health Services between age 25-60 years.

8.5 Study Population

All the 320 employees of Directorate of Health Services (Government of Uttarakhand and NHM) in age group of 25 to 60 years.

8.6 Sample Design

Purposive non-probability sampling technique was used to ascertain the sample. In purposive sampling, we sample with a purpose in mind. It is constructed to serve a very specific need or purpose. Purposive sampling relies on the judgement of the researcher when it comes to selecting the units (e.g., people, cases/organizations, events, pieces of data) that are to be studied. Usually, the sample being investigated is quite small, especially when compared with probability sampling techniques. The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable you to answer your research questions.

8.7 Sample Size

According to Census 2011, the population of dehradun lives in urban areas is 9,41,941(55.52%) and in rural areas is 7,54,753(44.48%). The target population are 320 employees of directorate of Health Services in which 61 employees are females and rest 259 employees are males.

Utilizing small sample technique proposed by Robert V. Krejcie, University Of Minnesota was used:

$$S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

- **S**= required sample size.
- **X²** = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).
- **N** = the population size.
- **P** = the population proportion (assumed to be .50 since this would provide the maximum sample size).
- **d** = the degree of accuracy expressed as a proportion (.05).

As per the study total employees of Directorate of Health Services are 320. Therefore applying above formula the required sample size was calculated to be 175 employees. By taking non response of 10% than the sample size will be 192.

8.8 Sampling Criteria

8.8.1 Inclusion Criteria

1. Employees of Directorate of Health Services between the age group of 25 to 60 years.
2. All the employees of Directorate of health services whether they are hypertensive or not are included in this study.
3. Employees of Directorate of Health Services both permanent and contractual are included in the study.

8.8.2 Exclusion Criteria

1. Employees of Directorate of Health Services who are not available at the time of data collection.
2. Employees who are not willing to participate in the study.

8.9 Sampling Frame

The employees of the Directorate of Health Services who came from the urban area of Dehradun city, Uttarakhand.

8.10 Tools for Data Collection

The tool use for this study is Structured Questionnaire.

Tool consists of two sections.

Section A- Information related to Socio- demographic variables.

Section B- Self administered existing Knowledge, Attitude and Practice questionnaire to prevent hypertension and risk factors of hypertension.

8.11 Methods of data collection.

The data was collected from the employees by using self administered Knowledge and awareness questionnaire. Verbal permission was taken from the concerned authority before the data collection.

9 Materials and Methods

A suitable designed and validated KAPs Questionnaire was administered to employees of Directorate of Health Services, Dehradun, Uttarakhand. The study population sample was selected by the list of employees. The questionnaire was pretested and verified for errors. The questionnaire covered four areas: Socio demographic variables, Knowledge, Attitude and Practices towards Hypertension. There were total of 41 questions with 21 questions related to knowledge about Hypertension, 9 questions related towards the attitude of the employees and 11 questions regarding practices. This questionnaire was filled in at a face-to-face interview. The interviewer did not in any way try to improve the knowledge of respondents. English version of questionnaire was provided as per requirement of individual.

10 Data Analysis

The collected data and results were evaluated and presented in the form of tables and figures in accordance to the purpose of the study. It is a study on existing knowledge, attitude and practices regarding hypertension and the association between socio-demographic variables and knowledge regarding hypertension.

11 Results

In total 175 employees agreed to participate and were included in the analyses. Almost 79% participants were males and 21% participants were females. The majority of the participants were educated to post-graduation (47%). Most of the employees lie among middle socio economic status (45%). Among the males 16% are smokers and 29% are drinkers.

11.1 Existing health knowledge regarding Blood Pressure

About 85% employees think that they know about hypertension and also high BP is known as Hypertension. 61% employees know that hypertension is a non communicable disease, 54% employees know that hypertension is a 'silent killer', 88% have told the normal range of Blood Pressure. 88% employees know that hypertension is an important health hazard and 69% employees have knowledge about the factors that decrease the risk of hypertension. 81% employees know the role of salt in causing hypertension. 83% have knowledge about complications and 62% have knowledge about the risk factors. Moreover, 76% employees know that stroke is related to hypertension and 54% employees have knowledge that hypertension in children and adolescent exist. Out of 34 employees who are hypertensive only 15% employees have knowledge regarding hypertension.

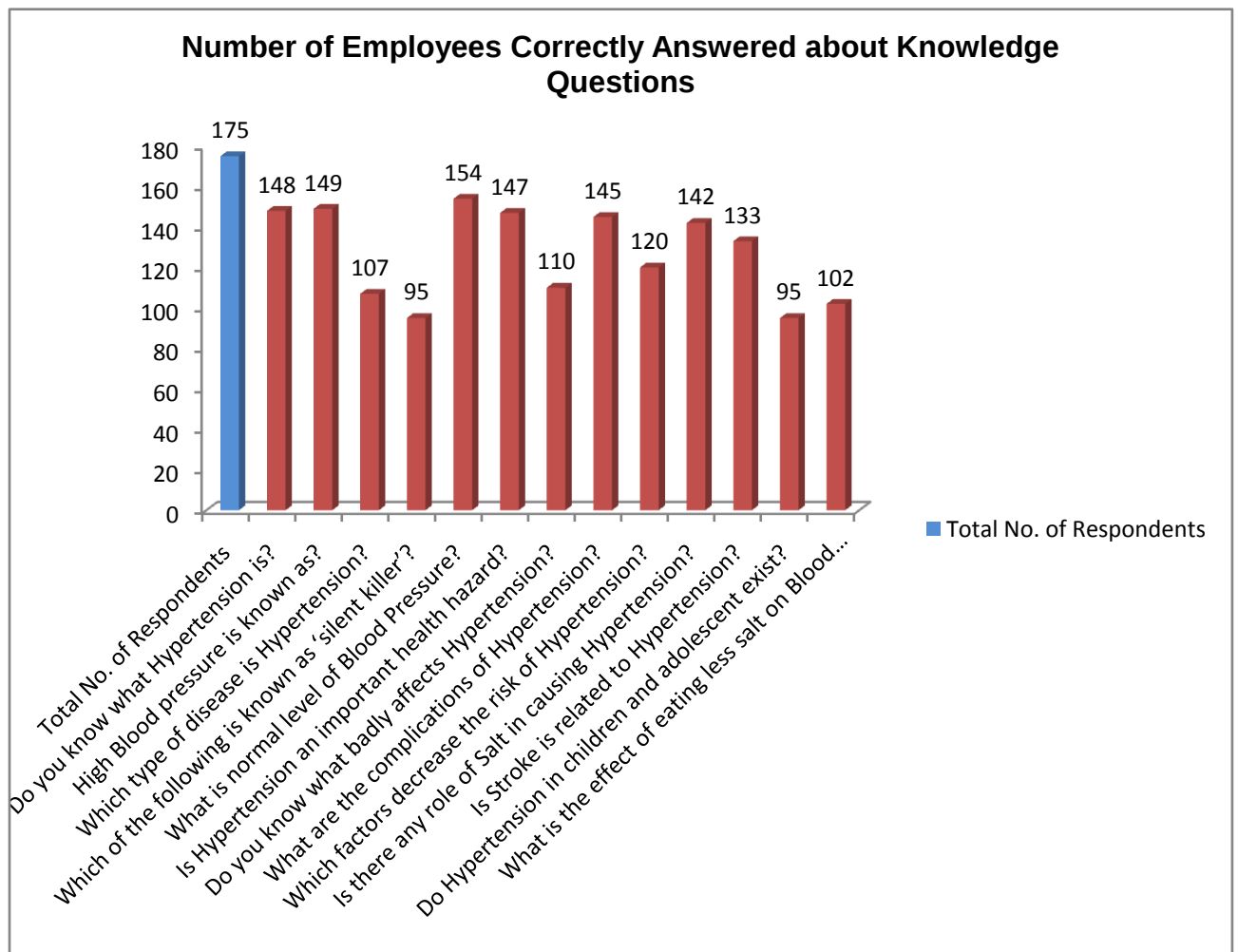


Figure 1.Existing Knowledge of Hypertension among the employees

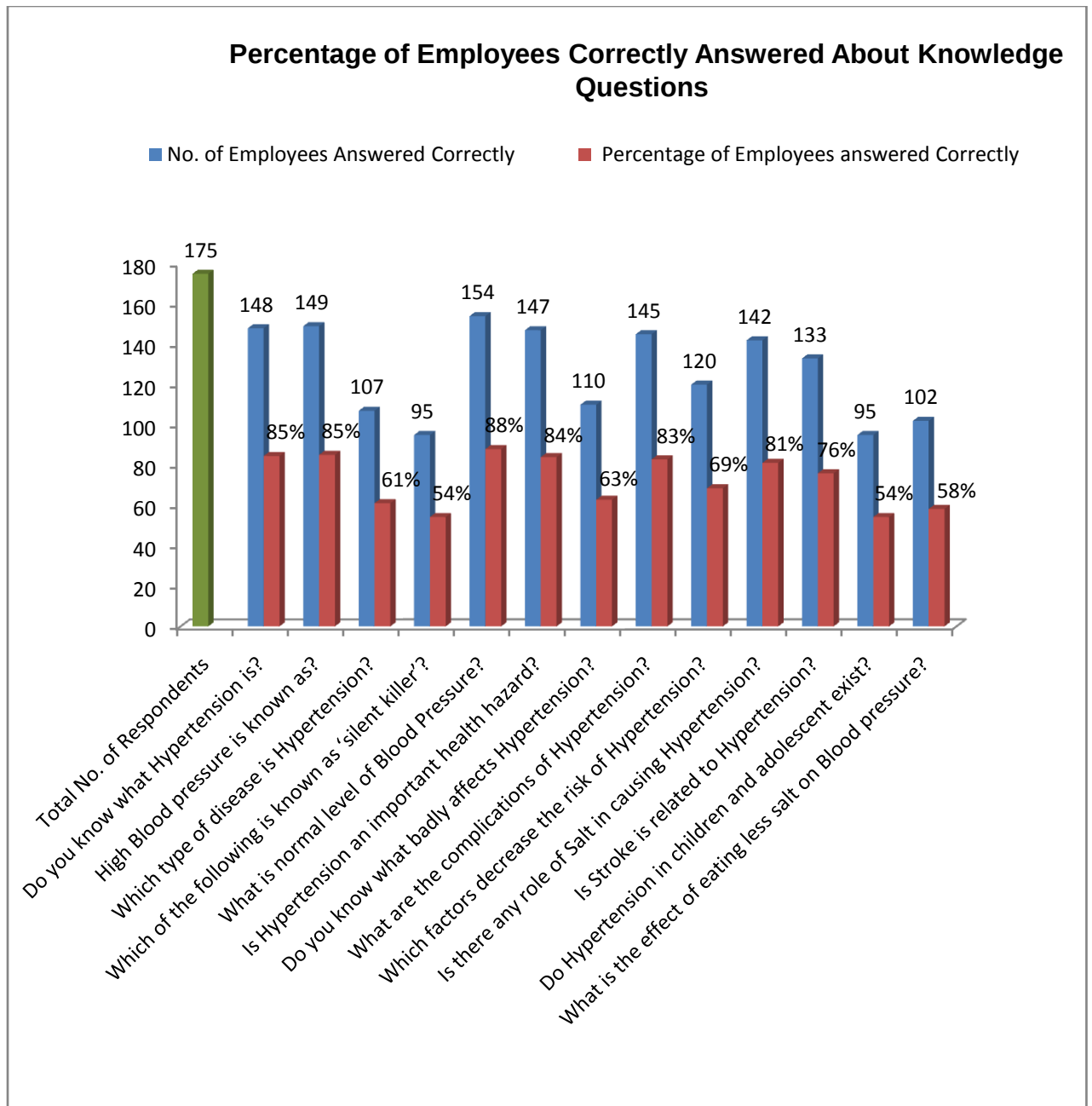


Figure 2. Percentage of Employees correctly answered about Knowledge Questions

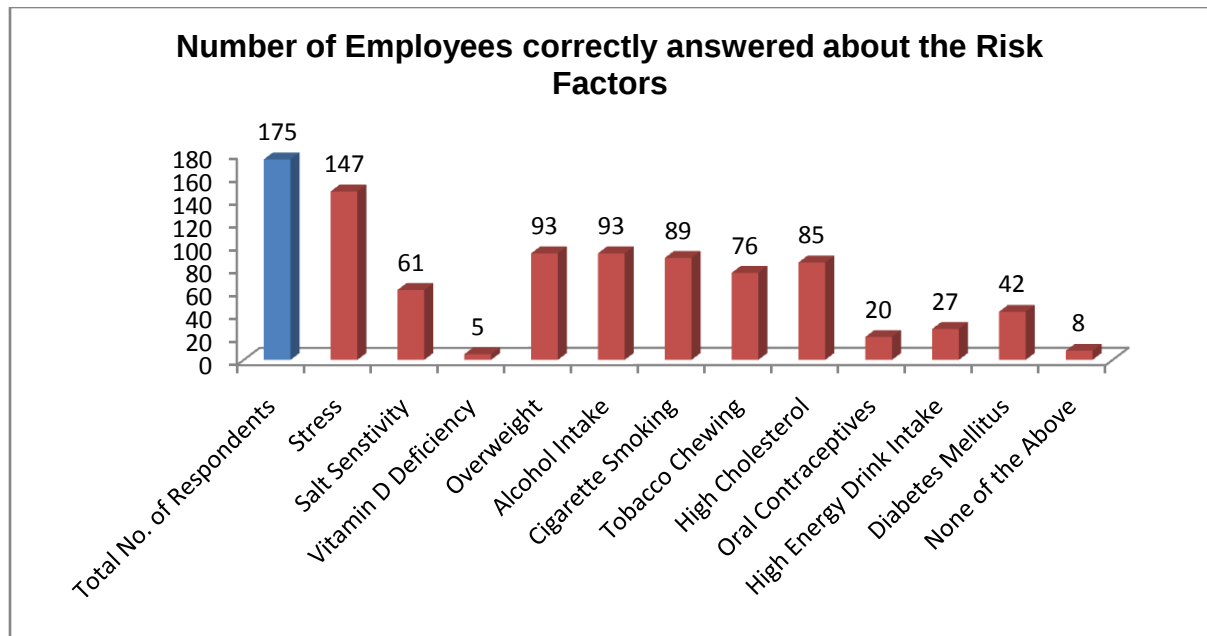


Figure 3. Number of Employees Correctly Answered about the Risk Factors

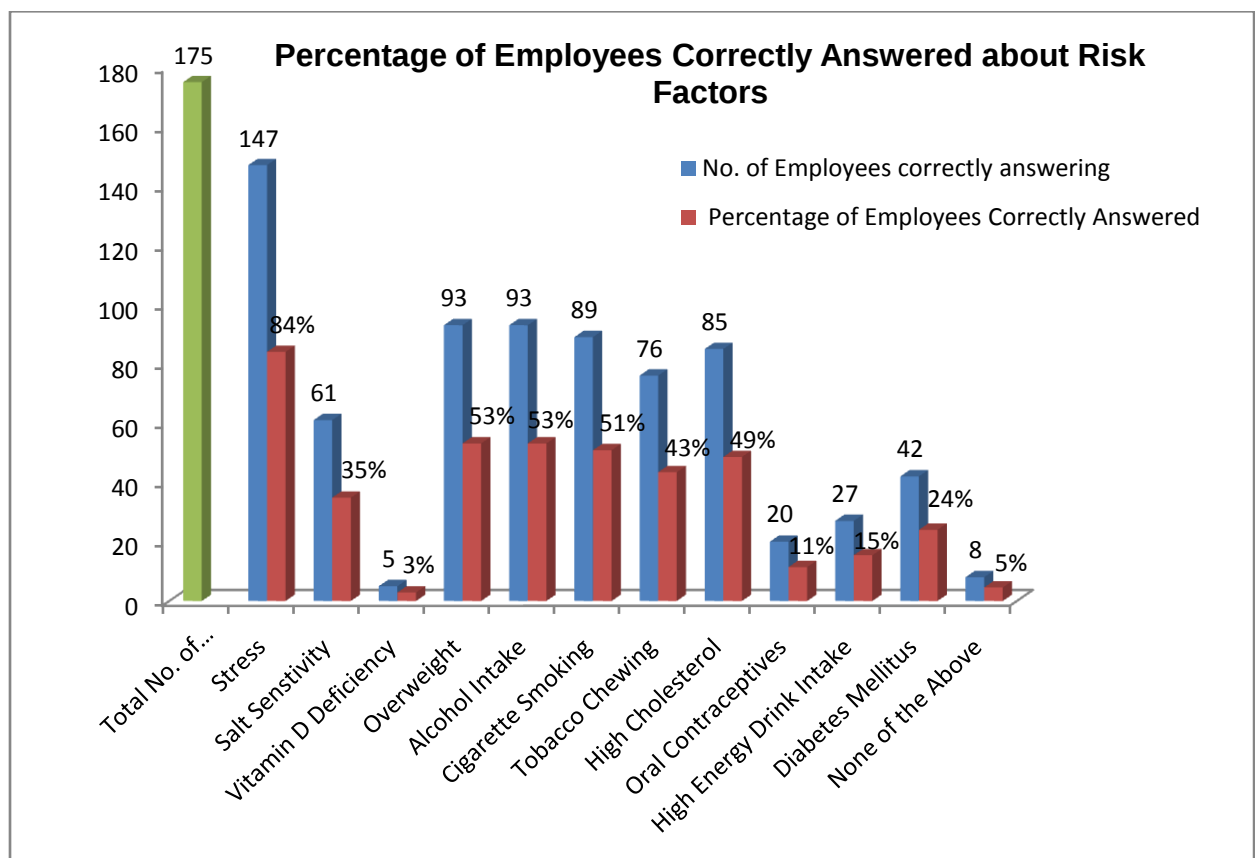


Figure 4. Percentage of Employees Correctly Answered about the risk factors

11.2 Existing health attitude regarding Blood Pressure

About 64% of the employees were aware regarding the reduction of salt intake to prevent hypertension. 89% employees have attitude towards regular checking of blood pressure level and 50% reported that they are visiting the physician regularly. About 12% employees go for regular checkup in every 6 months. 69% employees do exercise regularly and 59% do physical activity daily for maintaining healthy lifestyle. 64% employees have attitude toward reducing salt intake. Moreover, 56% employees think that regular use of medication is beneficial for treating hypertension and 34% like to reduce smoking/drinking habits.

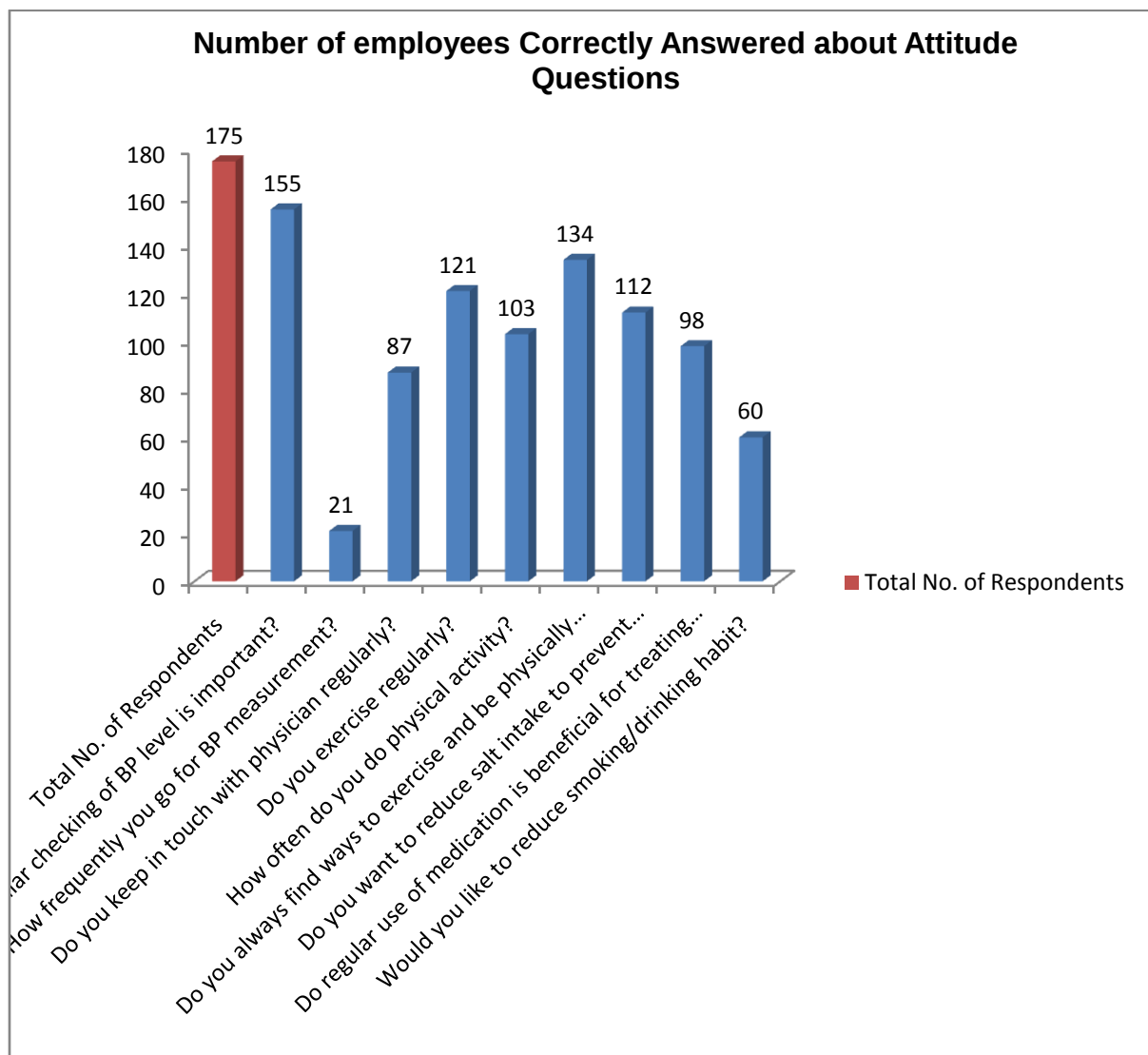


Figure 5. Existing Attitude of Hypertension among the employees

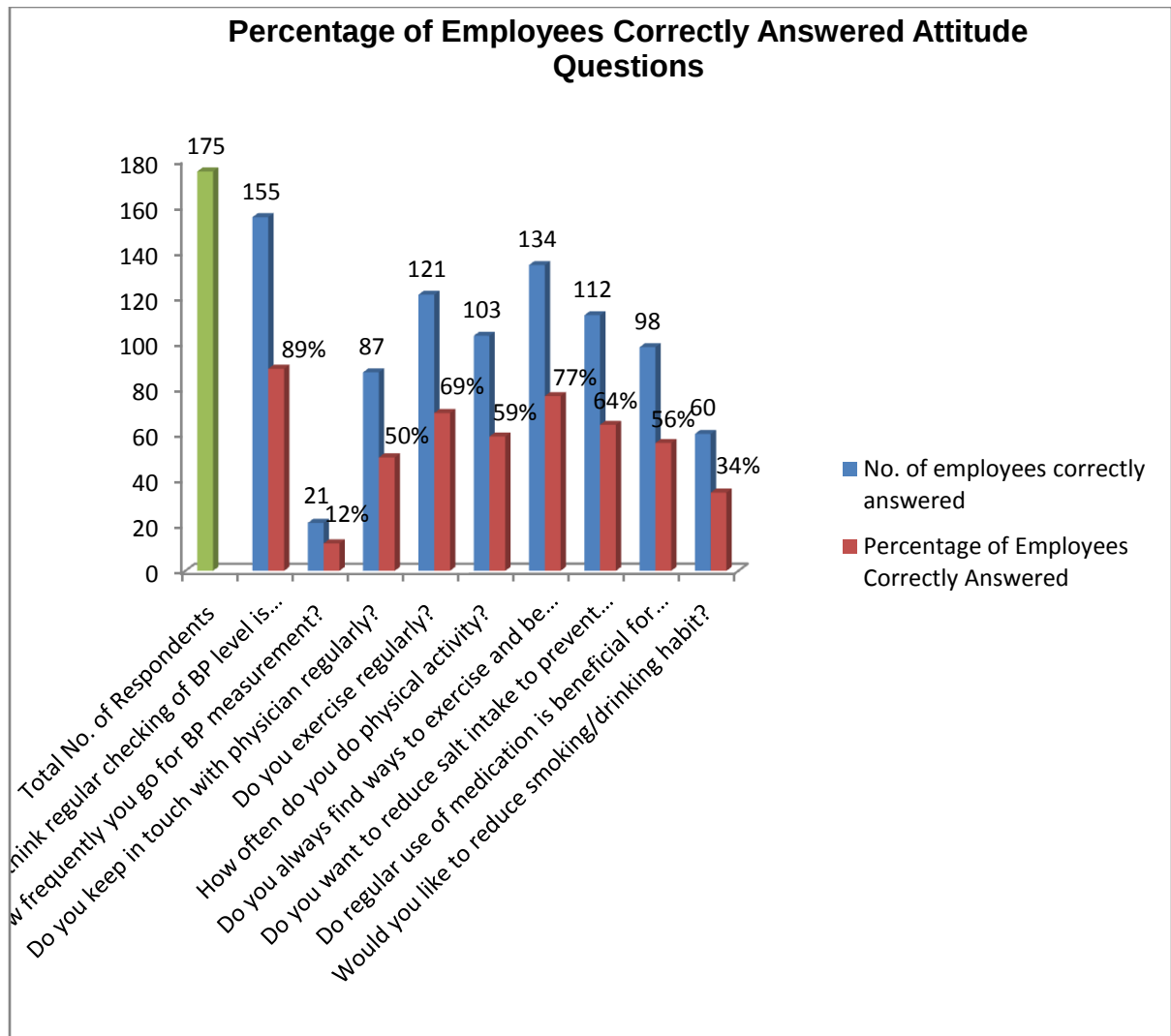
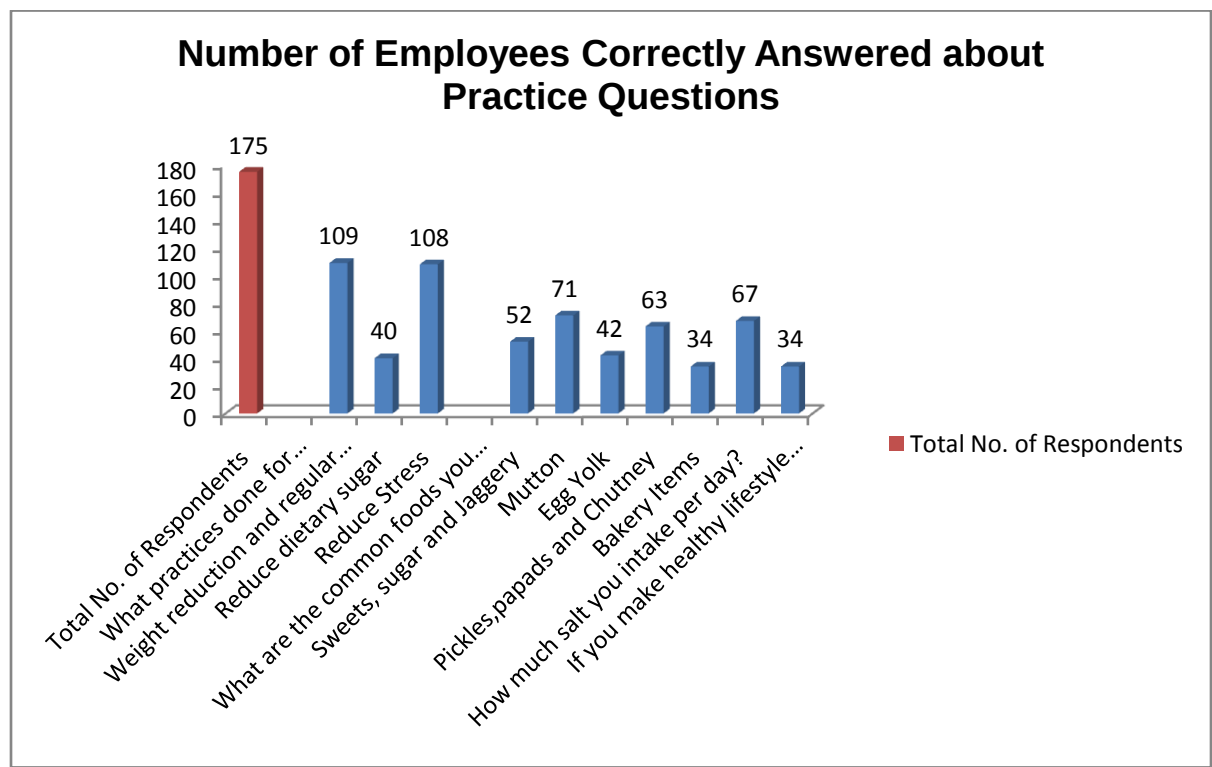


Figure 6. Percentage of Employees correctly answered about Attitude Questions

11.3 Existing health practices regarding Blood Pressure

About 62% employees practice regular exercise, 23% reduce dietary sugar and 62% try to reduce stress. More number of employees consuming mixed diet (54%), 35% consume vegetarian diet and 11% consume non vegetarian diet. Vegetarian type of diet is good because it contains less cholesterol and saturated fats, more mono unsaturated and poly unsaturated fatty acids (Gopalan *et al.*, 1993). Similarly Rouse *et al.* (1983) have reported that blood pressure of vegetarians was lower than that of non vegetarians. The common food restricted by employees for prevention of hypertension are 30% sweets, sugar and jaggery, 41% mutton, 24% egg yolk, 36% pickles, papads and chutney and 19% bakery items. 38% employees are taking less than 5 gram salt per day. The physical activity practice by employees include 10% aerobics, 30% running, 57% walking, 8% bicycling, 6% swimming, 33% yoga and meditation and 13% do not do any physical activity. 58% employees have light physical activity, 28% moderate and 14% active while at work. Moreover, the employees who spend their time in sitting and reclining for 1-2 hours (18%), 2-4 hours (21%), 4-6 hours (32%) and more than 6 hours (29%).



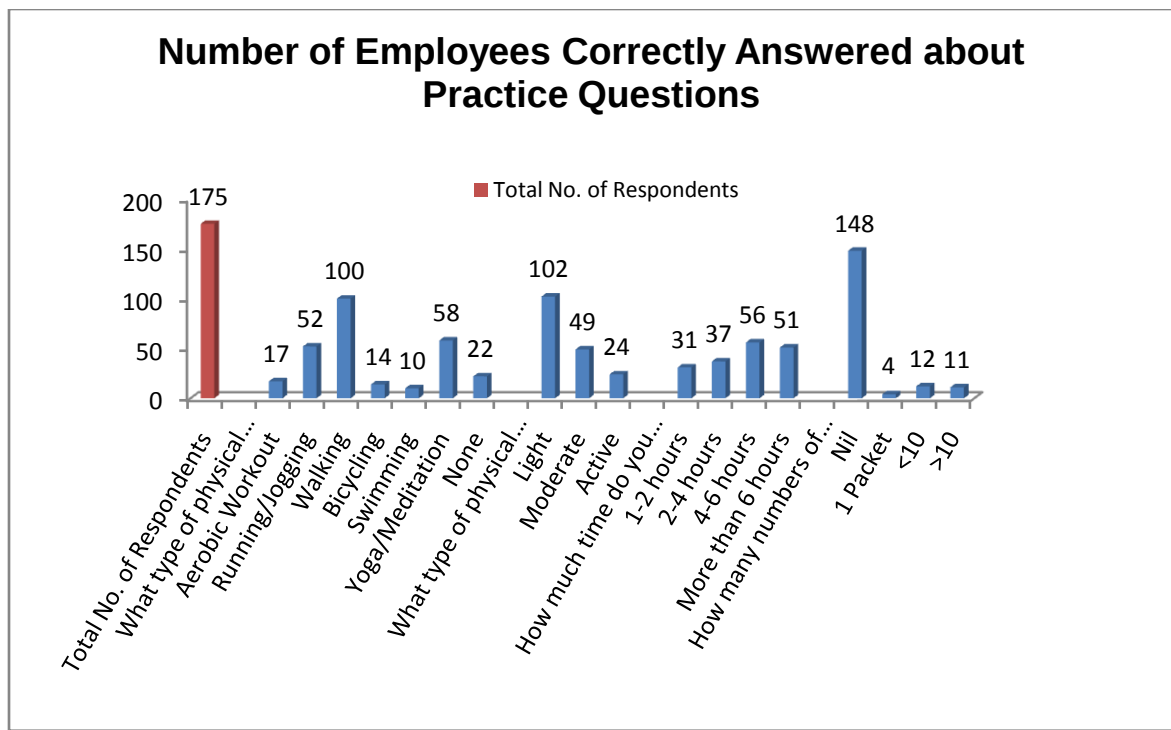
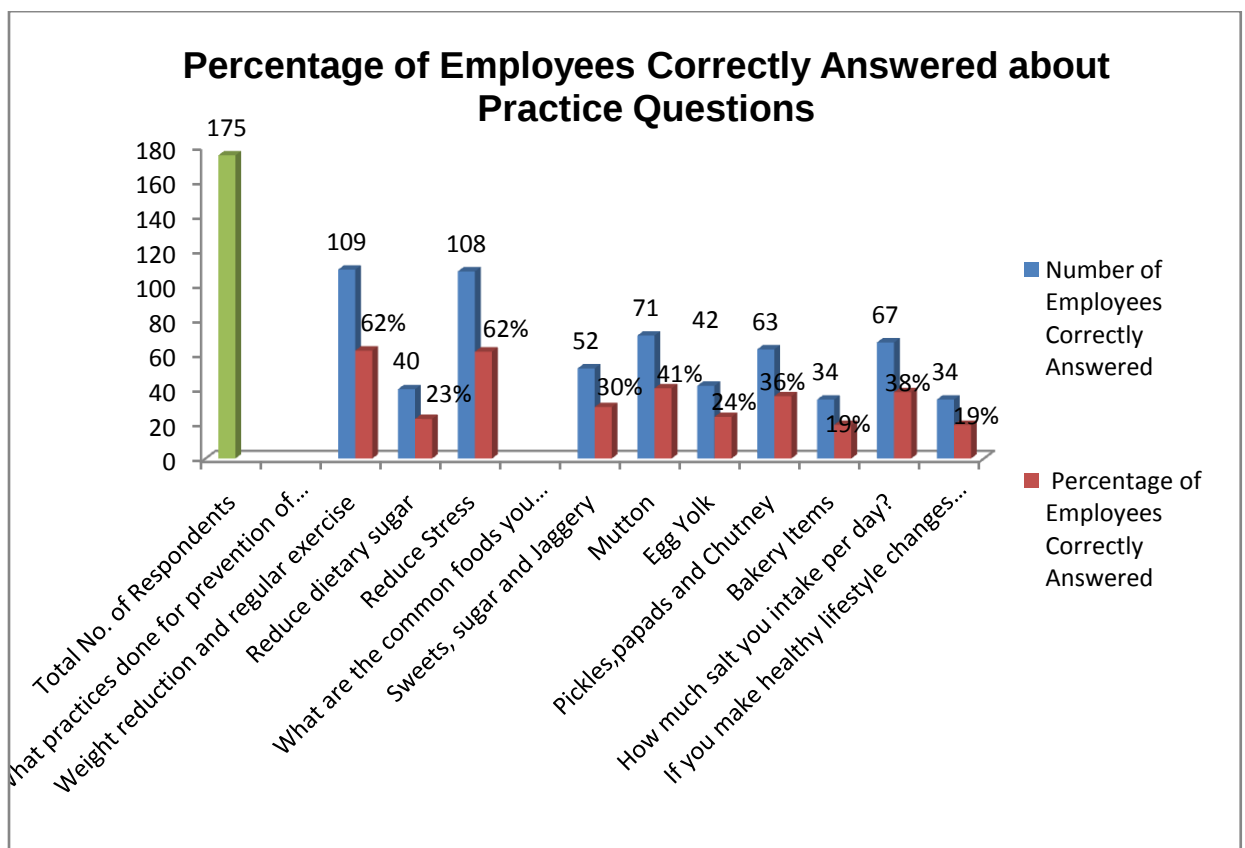


Figure 7.Existing Practices of Hypertension among the Employees



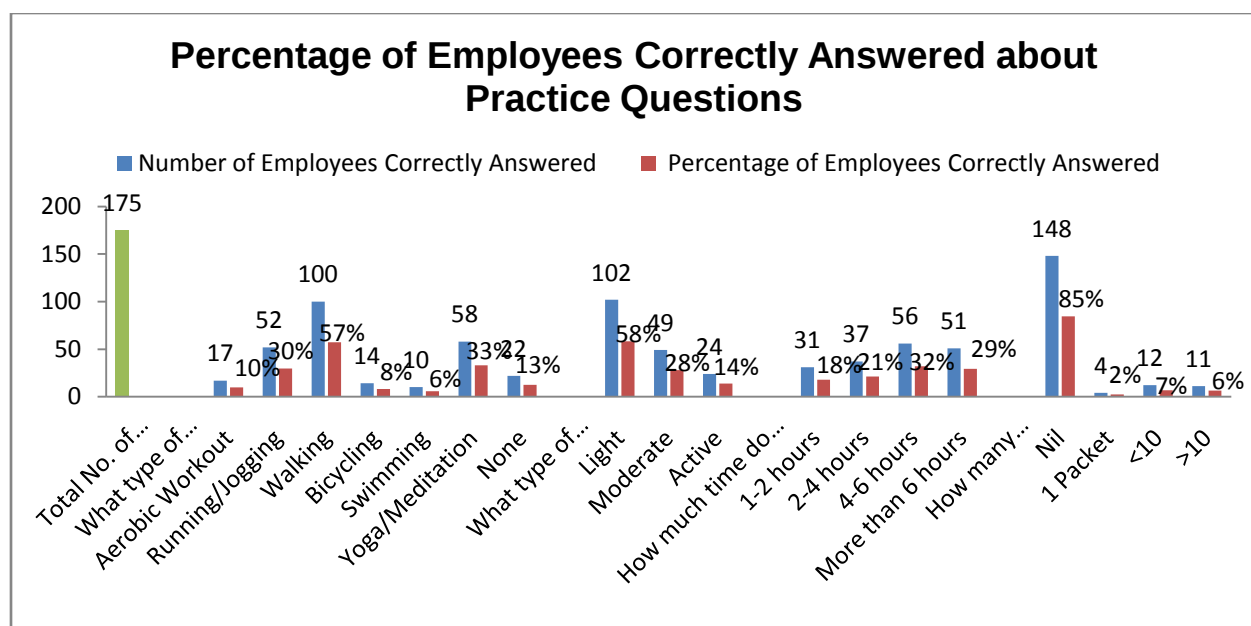


Figure8. Percentage of Employees correctly answered about Attitude Questions

11.4 Association of Selected socio demographic variables with existing knowledge

Out of total 175 respondents 139(79%) males and 36(21%) females participated in this study. Out of this 10% males have knowledge regarding hypertension and 14% females. The numbers of employees are 48 in age group 25-30 years but only 6 employees have knowledge regarding hypertension. According to literacy status, maximum employees are post graduate with knowledge of 15% regarding hypertension. According to occupational status maximum employees are professional with knowledge of only 22% regarding Hypertension. High income group employees have more knowledge of hypertension(24%) as compared to low and middle income group. The employees having family history of hypertension have more knowledge as compared to employees with no family history. Ex Smoker have more knowledge of hypertension(19%) as compared to current smokers and non smokers. Current drinkers have more knowledge of hypertension(16%) as compared to Ex drinkers and non drinkers. 67% employees are facing occupational stress. Moreover, 34 employees are hypertensive out of which 5 employees have knowledge regarding hypertension and 141 employees are non hypertensive out of which 14 employees have knowledge regarding hypertension

Association between Age and level of Knowledge regarding Hypertension

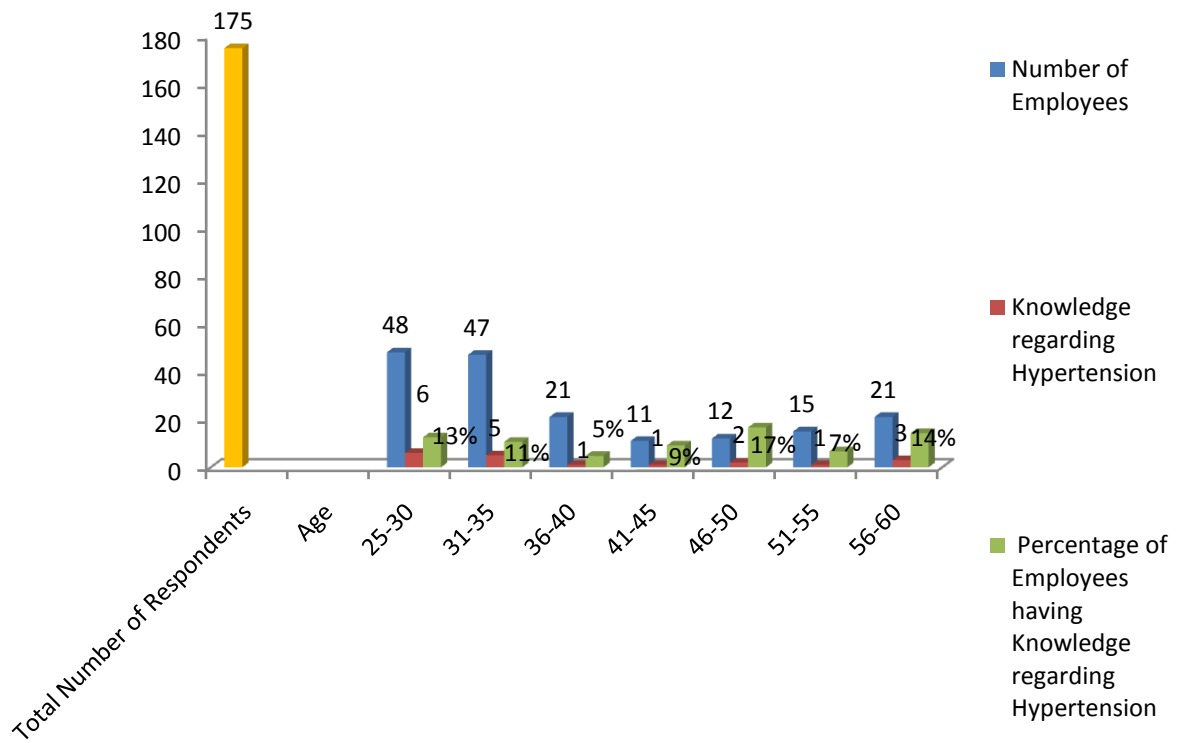


Figure 9. Association between Age and level of Knowledge regarding Hypertension

Association between Gender and Level of Knowledge regarding Hypertension

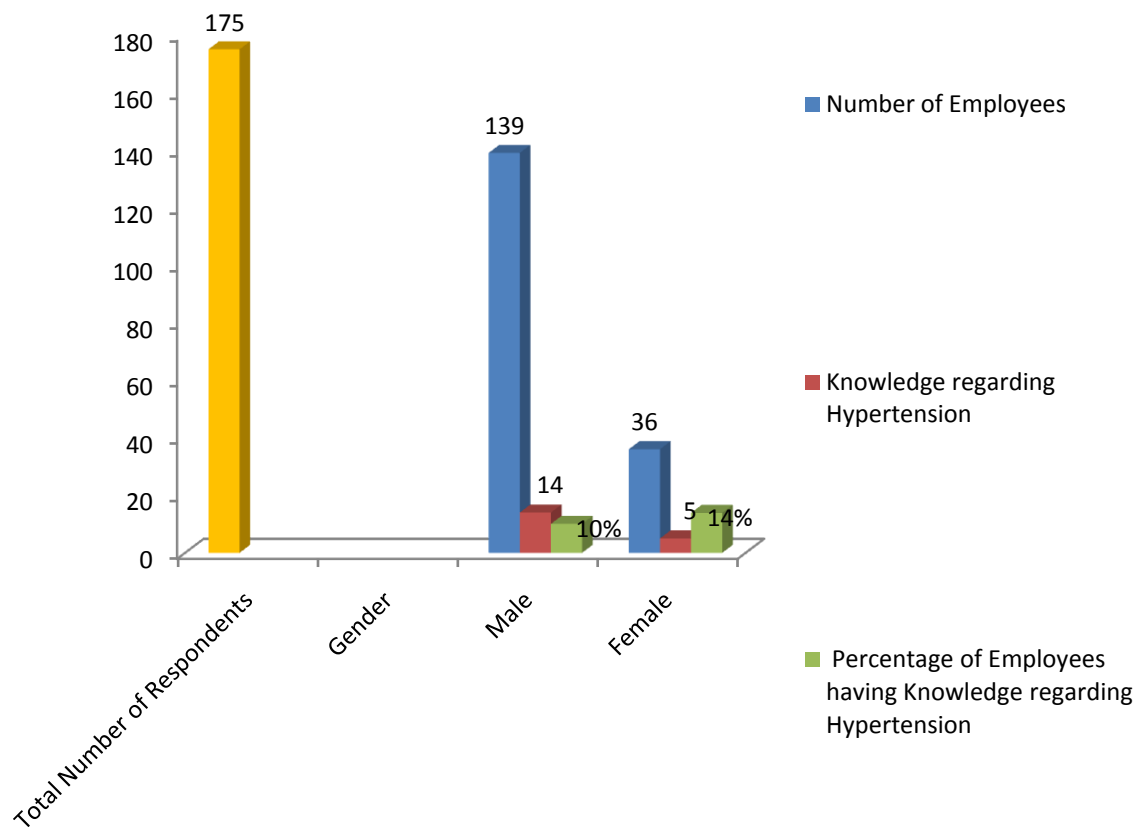


Figure 10. Association between Gender and level of Knowledge regarding Hypertension

Association between Literacy Status and Level of Knowledge regarding Hypertension

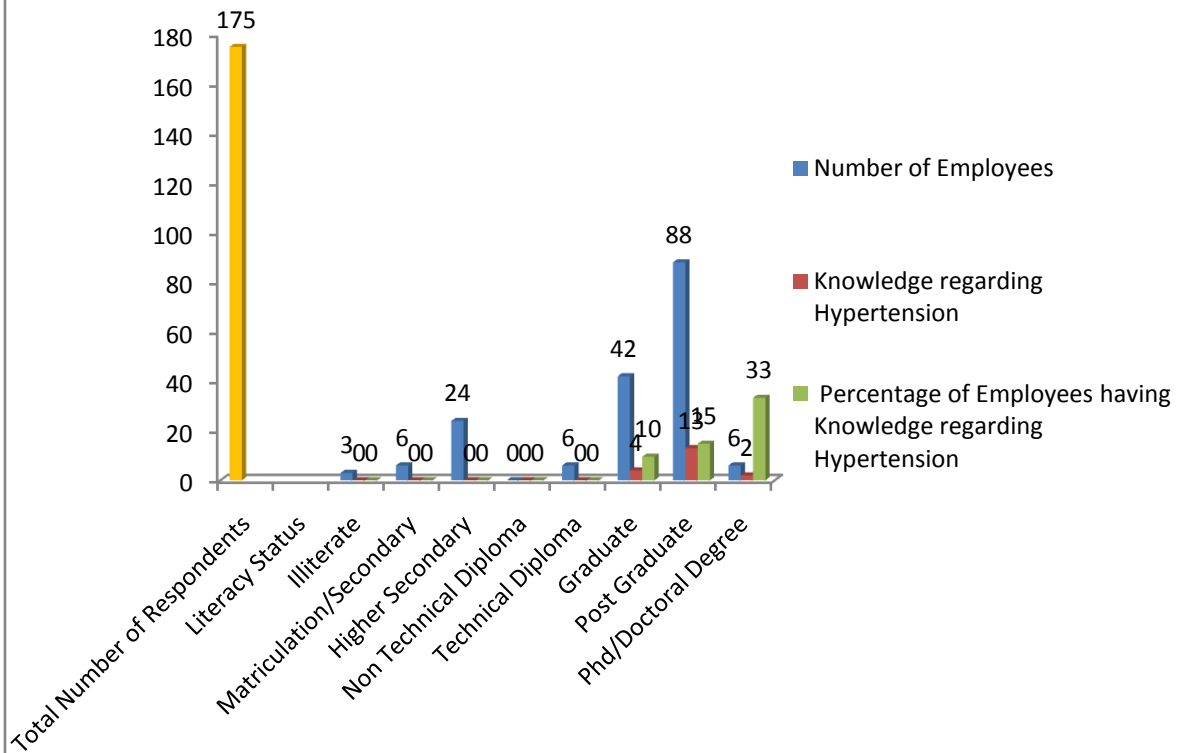


Figure 11. Association between Literacy Status and level of Knowledge regarding Hypertension

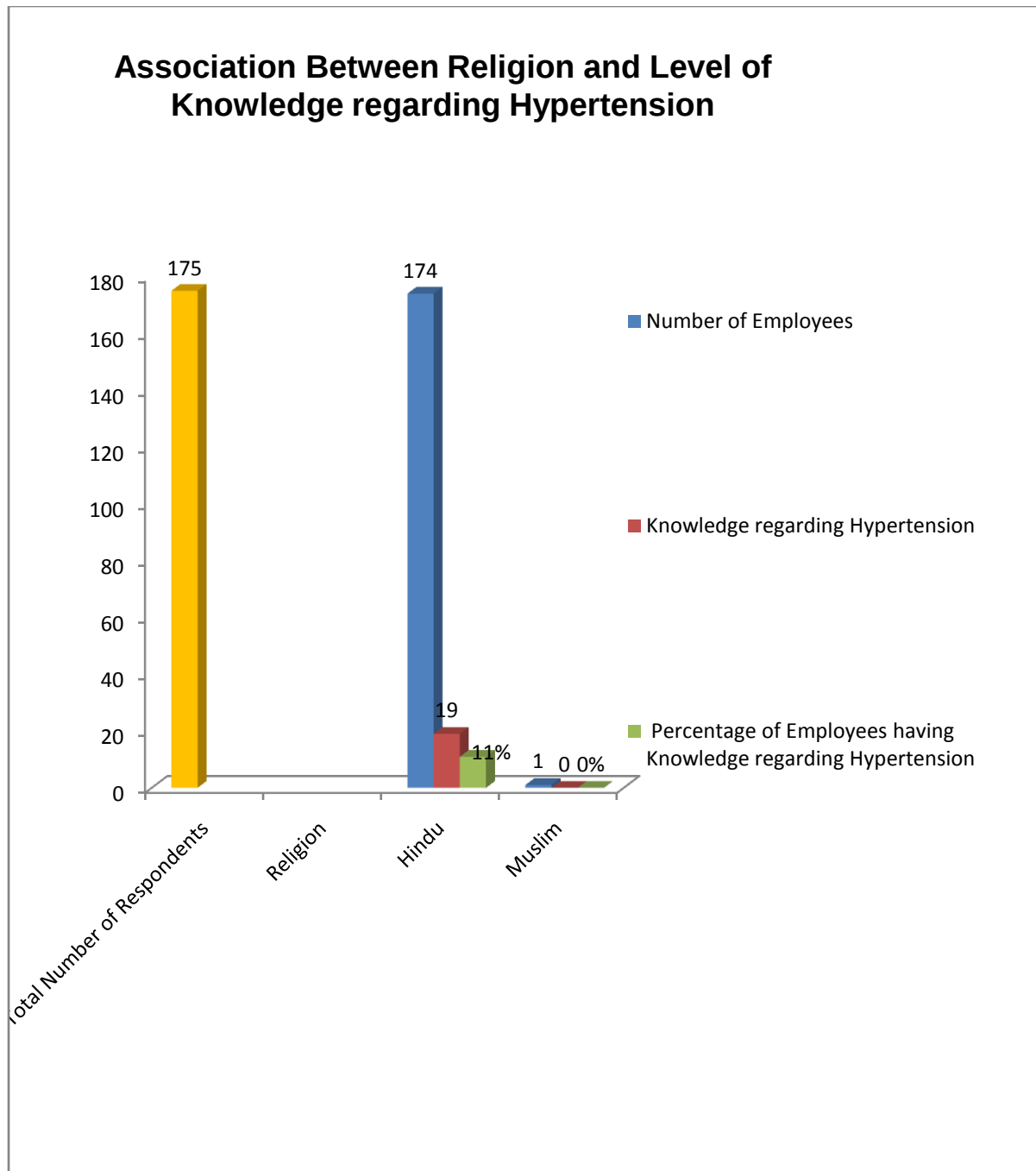


Figure 12. Association between Religion and level of Knowledge regarding Hypertension

Association Between Occupational Status and Level of Knowledge Regarding Hypertension

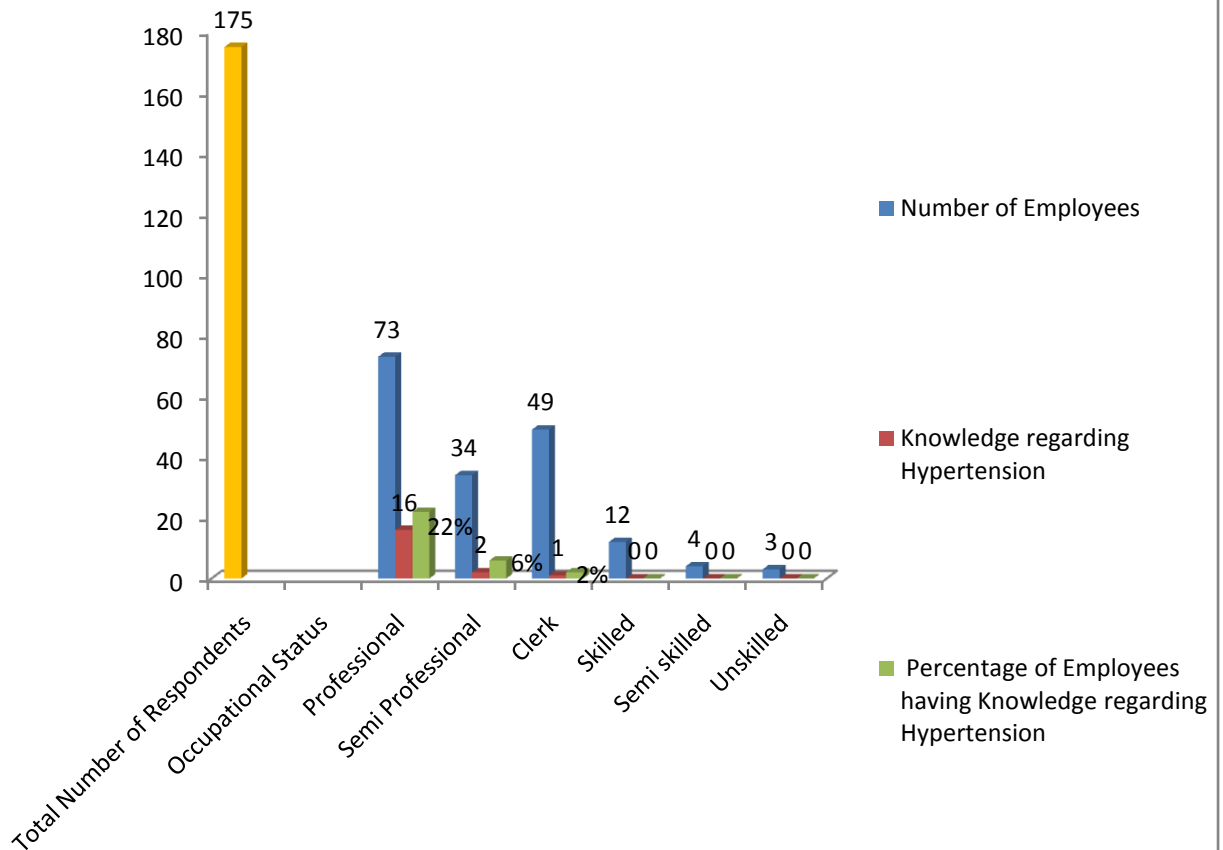


Figure 13. Association between Occupational Status and level of Knowledge regarding Hypertension

Association Between Income Group and Level of Knowledge Regarding Hypertension

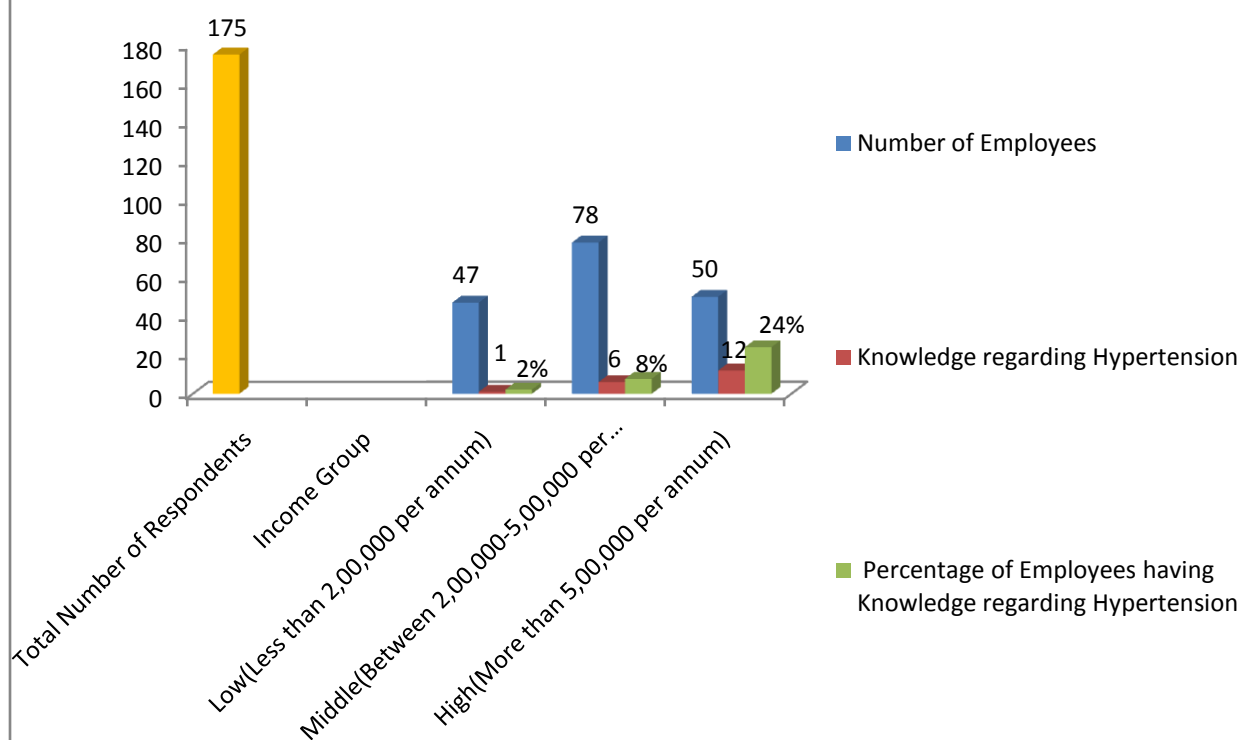


Figure 14. Association between Income Group and Level of Knowledge regarding Hypertension

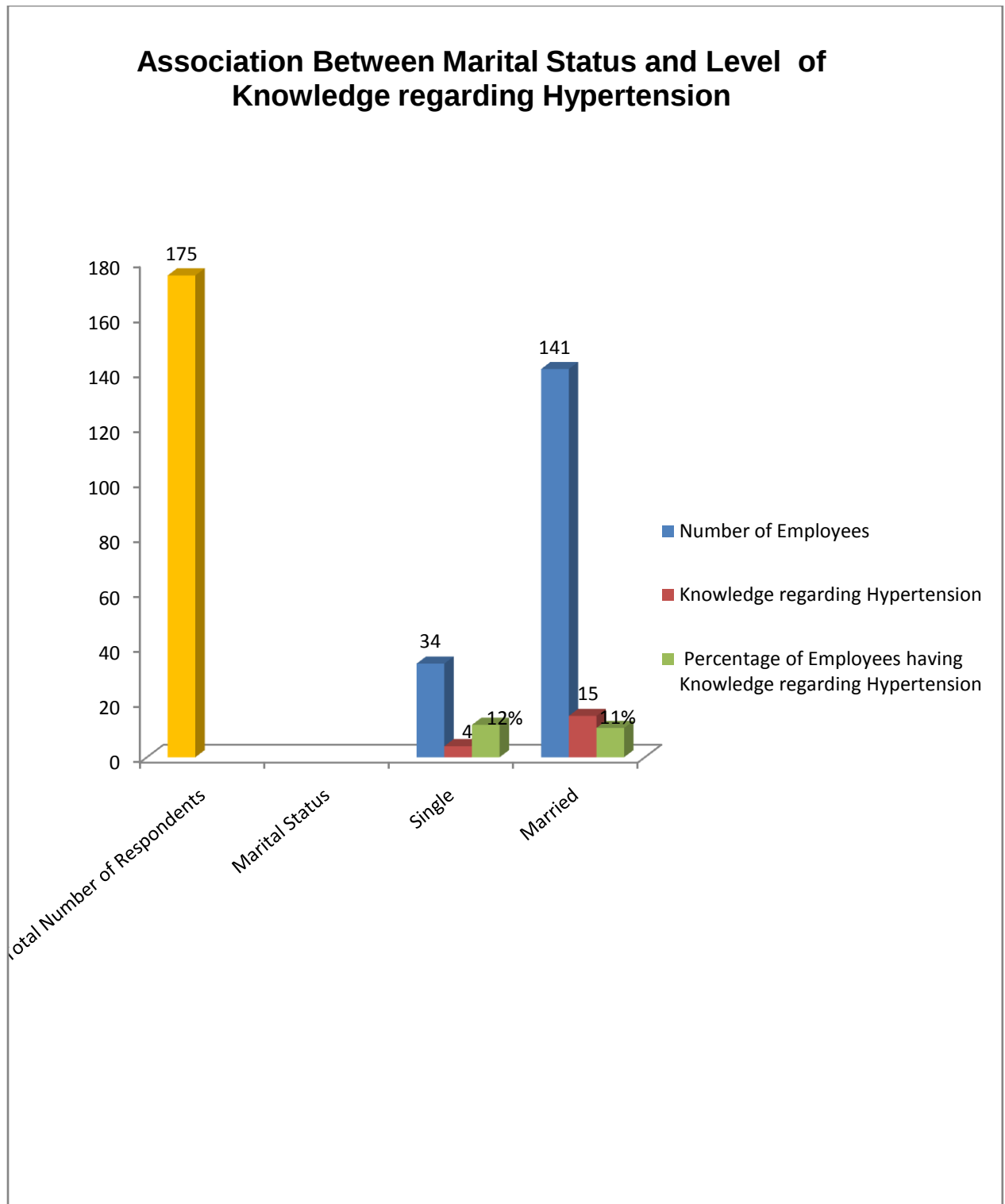


Figure 15. Association between Marital Status and Level of Knowledge regarding Hypertension

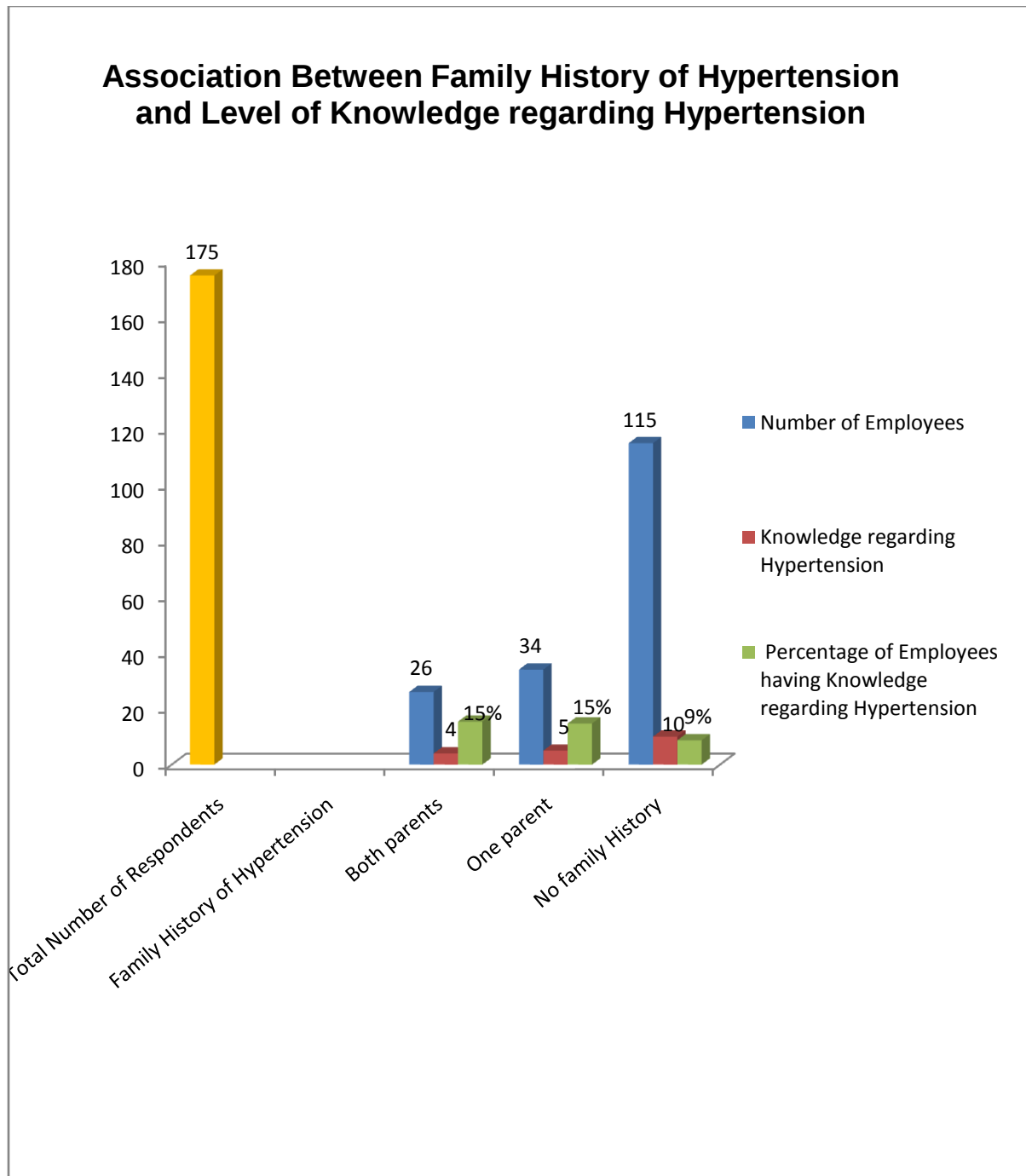


Figure 16. Association between Family History of hypertension and Level of Knowledge regarding Hypertension

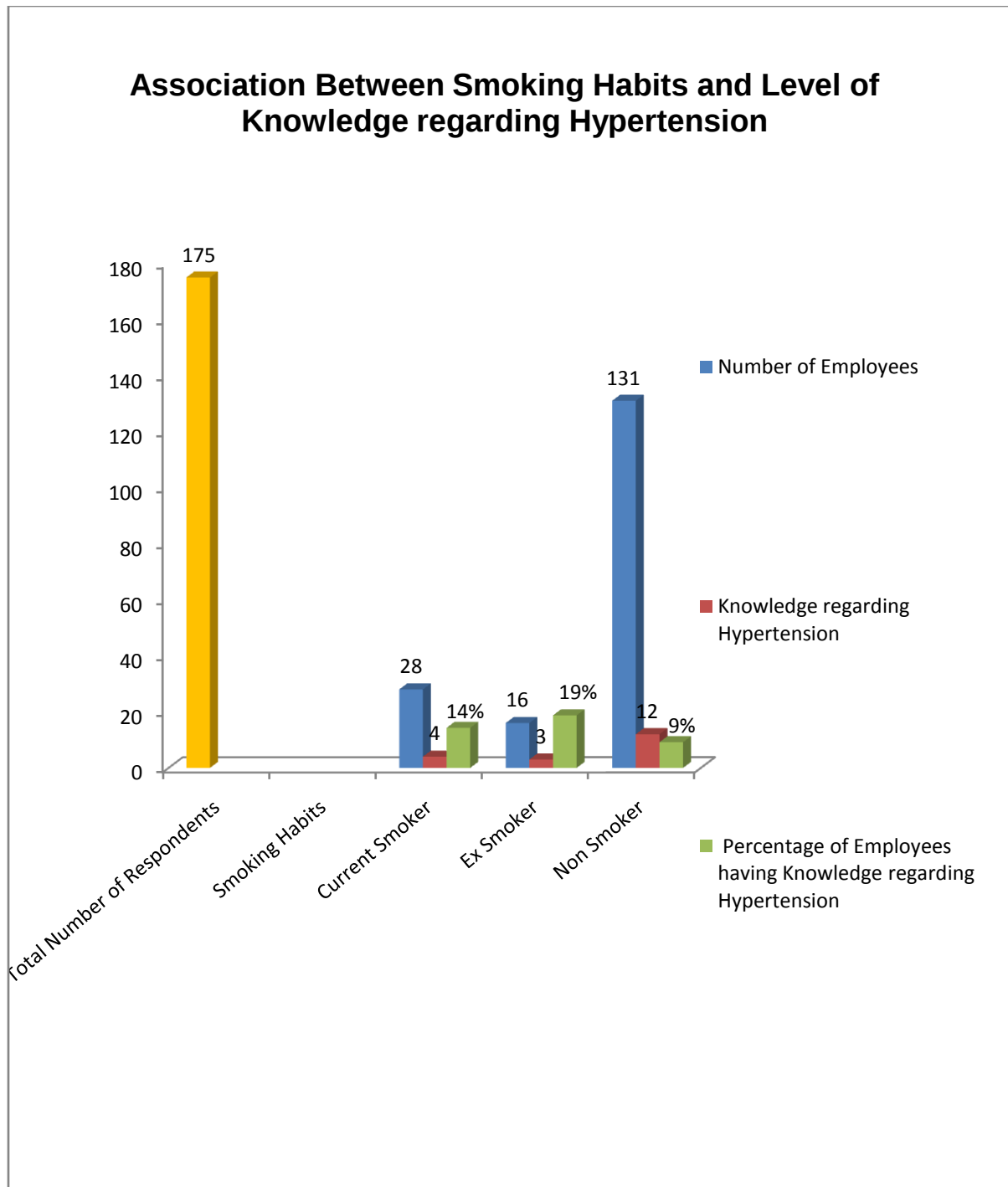


Figure 17. Association between Smoking Habits and Level of Knowledge regarding Hypertension

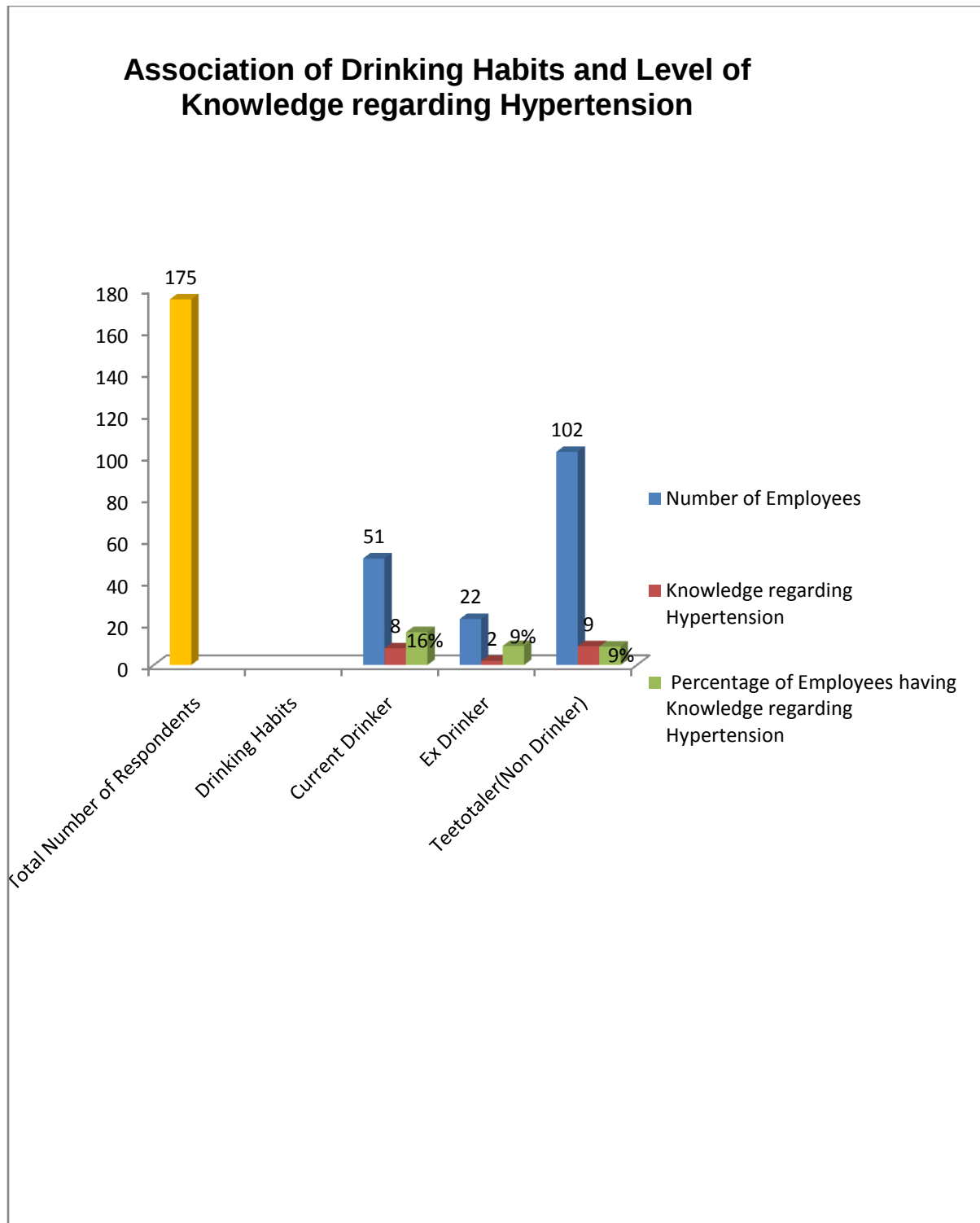


Figure 18. Association between Drinking Habits and Level of Knowledge regarding Hypertension

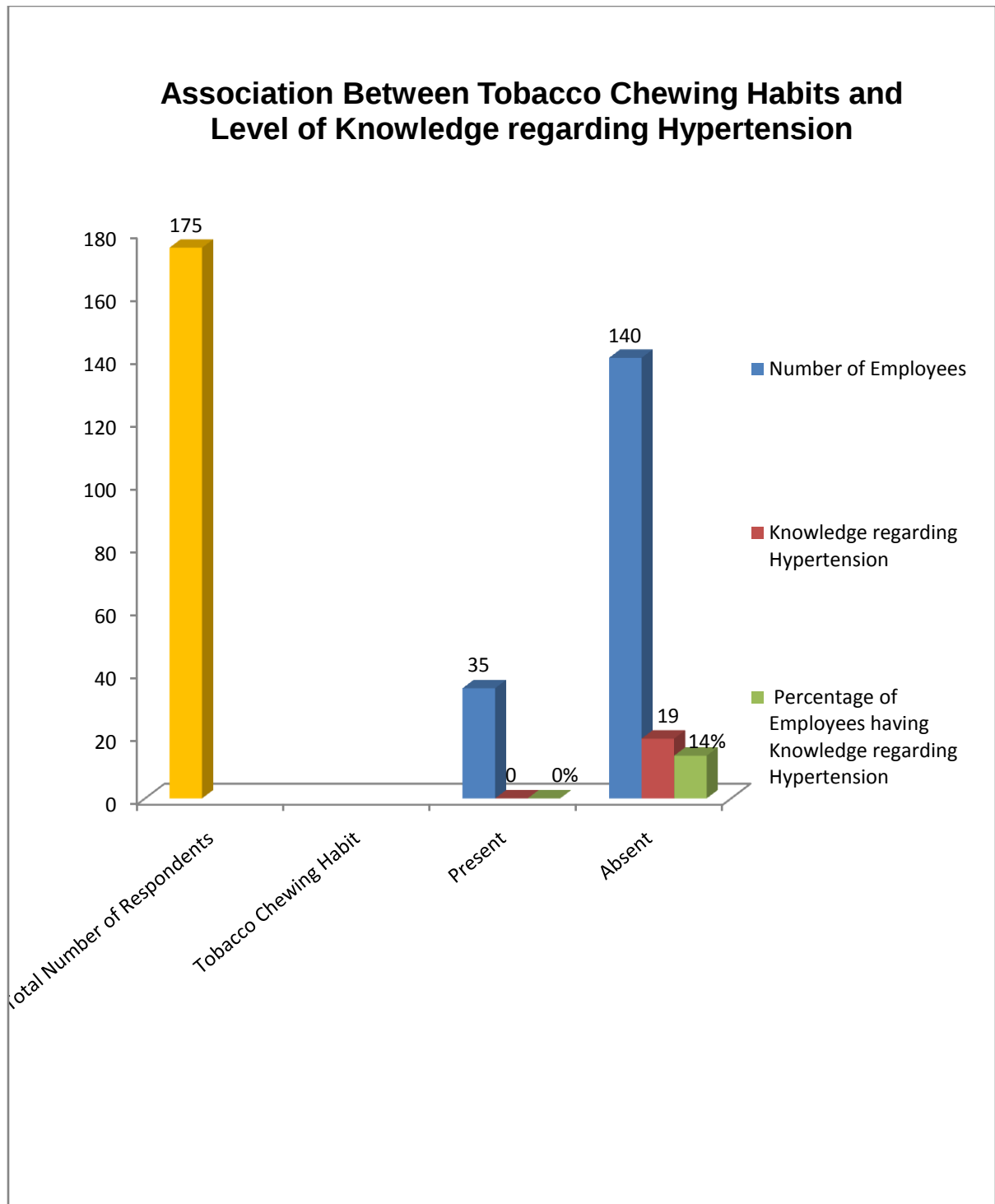


Figure 19. Association between Tobacco Chewing Habits and Level of Knowledge regarding Hypertension

Association Between Stress at Job and Level of Knowledge regarding Hypertension

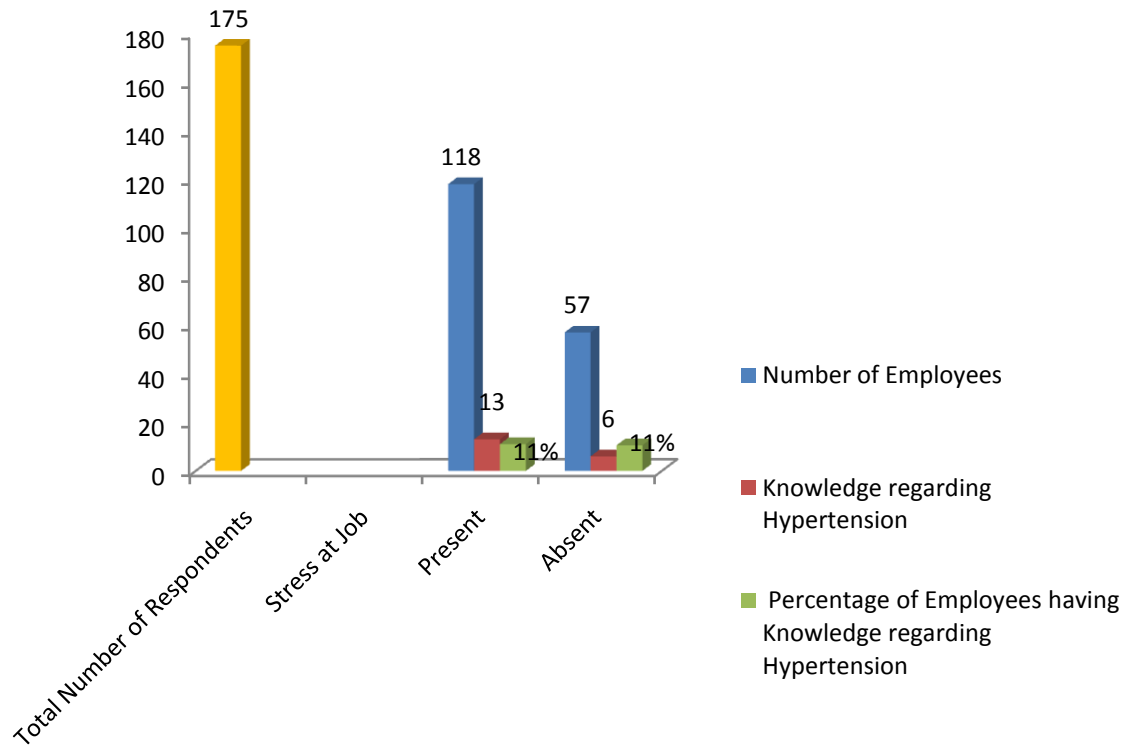


Figure 20. Association between Stress at Job and Level of Knowledge regarding Hypertension

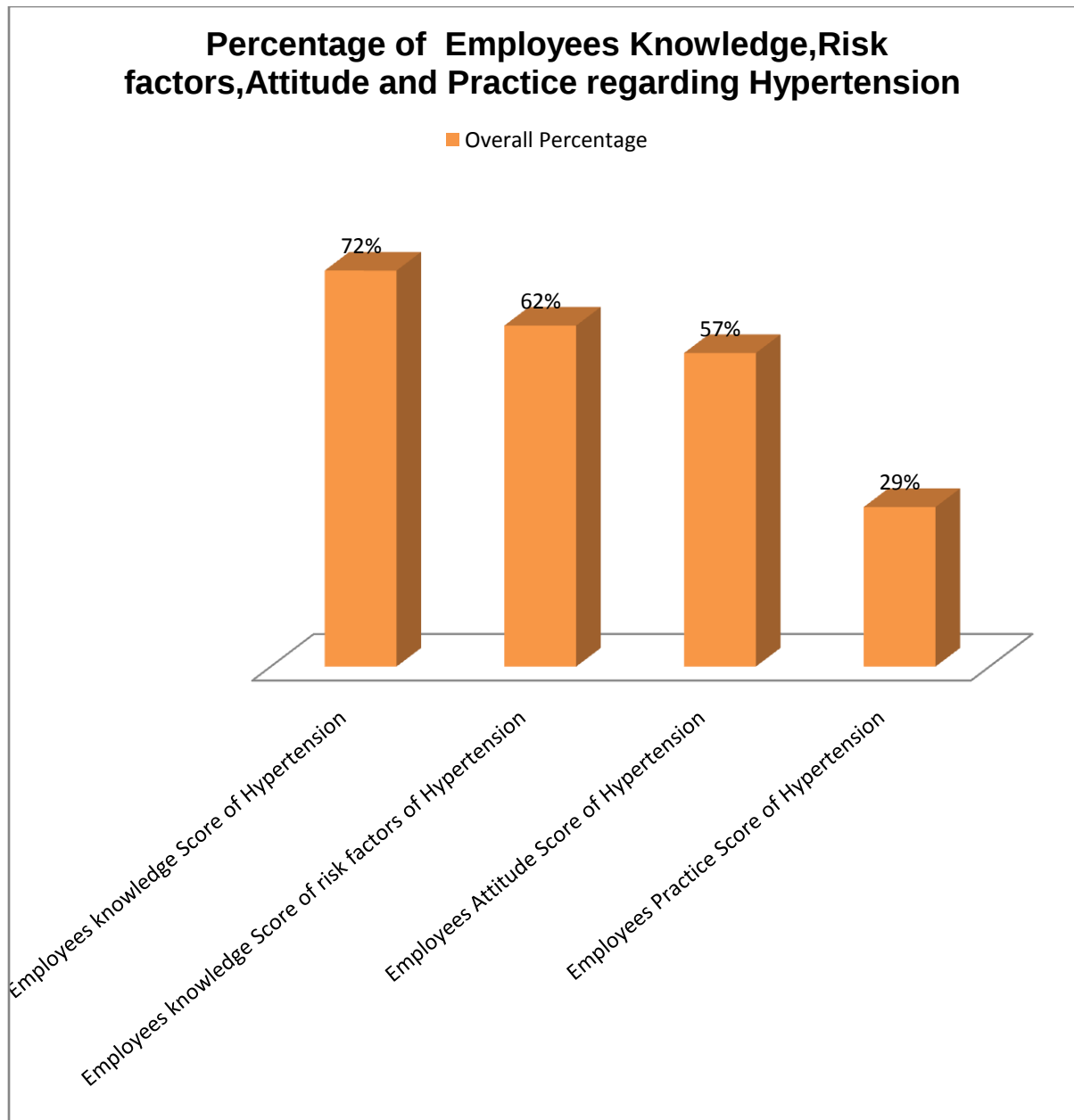


Figure21. Percentage of Employees Knowledge, Risk factors, Attitude and Practice regarding Hypertension

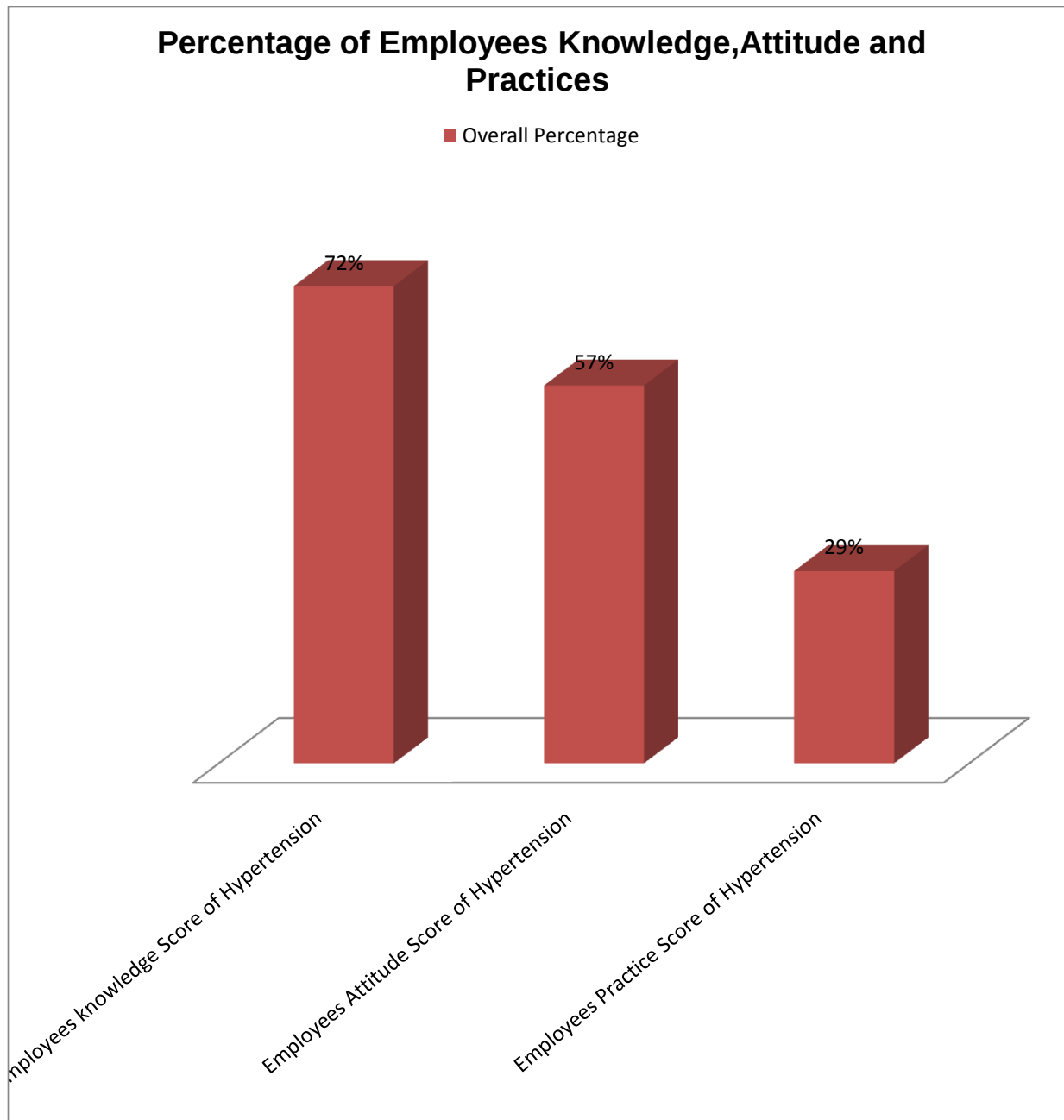


Figure 22. Percentage of Employees Knowledge,Attitude and Practices regarding Hypertension

12 Ethical Considerations

- Informed Consent: Individual to be interviewed is briefly informed about the research topic and its significance. Assurance of preserving the privacy/confidential issues from researcher.
- Informed verbal consent was obtained from all participants.
- We obtained the ethical clearance from the directorate of Health Services, Uttarakhand.
- Participation in this research was voluntary, and no financial remuneration was provided.

13 Limitations

- This study is done in limited time period (2 months) so the sample size is small.
- KAP questions pertaining to specific sensitive topics (e.g., alcohol habits, overweight) were embedded among questions relating to other issues to make questions appear as ordinary as possible, hence expectedly improving self-reporting of actual KAP in such instances.
- It must be stressed that this KAP survey was not designed to be used as a stand-alone research tool for policy formation, as limited impact of attitude and practices on hypertension must be recognized.
- The nature as to how the sample was drawn (non probability sampling technique) hinders generalizability, predictability, repeatability and general conclusion on matter. However, the findings still provide insightful, rich and critical information about the studied phenomenon.

13 Conclusion

This study highlights a number of areas of public health concern and identifies potential higher-risk employees with regards to blood-pressure-related disease. This research also intimates major health knowledge gaps in relation to socio demographic variables. Practice of exercise for blood pressure control was low among employees which was significantly influenced by poor attitude towards exercise practice for blood pressure control. Education significantly influenced knowledge, attitude and practice of exercise for BP control. Concerted efforts are needed in improving attitude for exercise in order to maximise its benefits for prevention and management of hypertension.

According to our results, it is concluded that good knowledge (72%), moderate attitude (57%), and poor practice (29%) regarding hypertension. This suggests that there are other barriers in practice of employees. 62% employees have knowledge regarding risk factors of hypertension. 12% employees only have attitude to go for Blood pressure measurement. Occupational stress is present among the employees (67%) so they don't have attitude to reduce smoking/ drinking habits. The employees don't practice to restrict the common foods for prevention of high blood pressure. The physical activity employees practice is walking and they are callous in doing vigorous exercise. The maximum employees have light (58%) physical activity while at work as compared to moderate and active. 32% employees spend sitting or reclining on a single day which shows that employees have sedentary lifestyle. Females have more knowledge of hypertension as compared to males. The employees having family history of hypertension have more knowledge as compared to those who have no family history. In 118 employees (67%) of Dg office stress is absent and in 57 employees (33%) of NHM stress is present. This is because the employees of NHM are contractual and working in mission as there is a target oriented work so the occupational stress is present while the employees of dg office are permanent so the occupational stress is absent.

14 Recommendations

- We found reasonable gap between knowledge, attitudes and practices, so to overcome that it is very important to formulate and implement certain strategies by which positive attitudes can be converted into beneficial practices.
- All the employees must be made aware about the practices they must do to prevent hypertension.
- A nutrition assessment should be done so that the employees must be aware about the foods they must restrict for prevention of hypertension. The assessment includes an evaluation of typical food intake and eating habits in addition to identifying many factors that lead to hypertension. So there is a need to create awareness and impart nutrition education to these employees to follow proper diet and modify the lifestyle factors for proper management of hypertension.
- Poor practice regarding regular exercise may be due to lack of importance and awareness for need of it. Demographic transition combined with urbanisation and industrialisation has resulted in drastic changes in lifestyles globally, [29] which require great efforts by health teams to enhance education and improve the attitude and practice towards hypertension in the employees.
- As the occupational stress is present in the employees of NHM so they require yoga and meditation to relieve themselves and the work load must be distributed as more manpower must be hired. Due to stress probability of Hypertension may increase so counselling is also required.

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Annexure
QUESTIONNAIRE OF HYPERTENSION

Section A

A. Age:

a)	25-30	
b)	31-35	
c)	36-40	
d)	41-45	
e)	46-50	
f)	51-55	
g)	56-60	

B. Gender:

a)	Male	
b)	Female	

C. Literacy Status:

a)	Illiterate	
b)	Matriculation/Secondary	
c)	Higher Secondary	
d)	Non Technical diploma	
e)	Technical Diploma	
f)	Graduate	
g)	Post Graduate	
h)	Phd/Doctoral Degree	

D. Religion:

a)	Hindu	
b)	Muslim	
c)	Christian	
d)	Others	

E. Occupational Status:

a)	Professional	
b)	Semi Professional	
c)	Clerk/Shop owner/Farmer	
d)	Skilled	
e)	Semi skilled	
f)	Unskilled	

F. Income Group:

a)	Low (Less than 2,00,000 per annum)	
b)	Middle (Between 2,00,000 to 5,00,000 per annum)	
c)	High (More than 5,00,000 per annum)	

G. Marital Status:

a)	Single	
b)	Married	
c)	Divorced	
d)	Widowed/Widower	

H. Family History of Hypertension:

a)	Both parents	
b)	One parent	
c)	No Family History	

I. Type of Family:

a)	Nuclear	
b)	Joint	

J. Type of Diet:

a)	Vegetarian	
b)	Mixed	
c)	Non Vegetarian	

K. Smoking Habits:

a)	Current Smoker	
b)	Ex Smoker	
c)	Non Smoker	

L. Drinking Habits:

a)	Current Drinker	
b)	Ex Drinker	
c)	Teetotaler(Non Drinker)	

M. Tobacco Chewing Habits:

a)	Present	
b)	Absent	

N. Stress at Job:

a)	Present	
b)	Absent	

SECTION B

Responses in the category of Knowledge regarding Hypertension

1. Do you know what Hypertension is?
 - a) Yes
 - b) No
2. High blood pressure is known as:
 - a) Cancer
 - b) Hypertension
 - c) Diabetes
 - d) Don't know
3. Are you Hypertensive?
 - a) Yes
 - b) No
4. Hypertension is a:
 - a) Communicable disease
 - b) Non Communicable disease
 - c) Both of them
 - d) None of them
 - e) Don't know
5. Which of the following is known as 'silent killer'?
 - a) Cancer
 - b) Diabetes
 - c) Hypertension
 - d) Don't know
6. What is normal blood pressure?
 - a) 140/90 mm Hg
 - b) 130/80 mm Hg
 - c) 120/80 mm Hg
 - d) Don't know

7. Hypertension is an important health hazard.

- a) Yes
- b) No

8. Do you have family history of Hypertension?

- a) Yes
- b) No

9. What are the risk factors that cause Hypertension?

- a) Stress
- b) Salt Sensitivity
- c) Vitamin B deficiency
- d) Vitamin D deficiency
- e) Overweight
- f) Diet rich in fruits
- g) Alcohol
- h) Cigarette Smoking
- i) Tobacco Chewing
- j) High Cholesterol
- k) Oral Contraceptives
- l) High Energy Drink Intake
- m) Diabetes Mellitus
- n) None of the above

10. Do you know what affects the Hypertension?

- a) Oranges
- b) Coffee
- c) Garlic
- d) Don't know

11. Are you aware that Hypertension could lead to other complications?

- a) Yes
- b) No

If yes, what are the complications of Hypertension?

- a) Kidney Failure
- b) Diabetes
- c) Atherosclerosis
- d) Heart attack and Stroke
- e) Others.....
- f) Don't know

12. What are the symptoms of Hypertension?

- a) Headache
- b) Nosebleeds
- c) Internal Heat
- d) Restlessness/Palpitations
- e) No symptoms
- f) Don't know

13. Which factors decrease the risk of Hypertension?

- a) Dietary and lifestyle changes
- b) Use of Alcohol
- c) Physical Inactivity
- d) Unhealthy Diet/Junk food
- e) Don't know

14. Which of the following factors increases the risk of having Hypertension?

- a) Weight Lifting
- b) Drinking more than 2 cups of coffee a day
- c) Smoking a pack of cigarette daily
- d) Gaining 15 pounds
- e) Don't know

15. How can Hypertension be treated?

- a) Is cured once for all
- b) Treatment is for life
- c) Anti hypertensive drugs
- d) Don't know

16. How can Hypertension be prevented?

- a) By green leafy vegetables and fruits
- b) Regular physical exercise
- c) Excess Alcohol intake
- d) To avoid extra cooking oil in your diet
- e) High Intake of Salt
- f) To avoid Deserts and Sweets
- g) Smoking
- h) All of the above
- i) Don't know

17. Is there any role of salt in Hypertension?

- a) Yes
- b) No
- c) Don't know

If yes, how much salt is required in our diet?

- a) Extra added salt
- b) Low salt
- c) Medium salt
- d) High salt

18. Eating less salt usually makes blood pressure:

- a) Go down
- b) Stay the same
- c) Go up

19. How can blood pressure be reduced without drug treatment?

- a) Diet rich in potassium and calcium
- b) Exercise
- c) Alcohol Intake
- d) Smoking
- e) Restriction of salt intake
- f) Don't know

20. Stroke is related to Hypertension?

- a) Yes
- b) No
- c) Don't know

21. Hypertension in children and adolescent exist

- a) Yes
- b) No
- c) Don't know

Responses in the category of Attitude regarding Hypertension

22. Do you think regular checking of your Blood Pressure level is important?

- a) Yes
- b) No

23. How frequently you go for blood pressure measurement?

- a) At least once weekly
- b) Once a month
- c) Once every 3 months
- d) Once every 6 months
- e) Irregular
- f) Not at all

24. Do you keep in touch with physician regularly?

- a) Yes
- b) No

25. Do you exercise regularly?

- a) Yes
- b) No

26. How often do you do physical activity?

- a) Daily
- b) 1-3 times a week
- c) 3-5 times a week
- d) Inconsistently
- e) None

27. Do you always find ways to exercise and be physically active?

- a) Yes
- b) No

28. Do you want to reduce salt intake to prevent Hypertension?

- a) Yes
- b) No
- c) Don't have Hypertension

29. Do regular use of medication is beneficial for treating Hypertension?

- a) Yes
- b) No
- c) Don't know

30. Would you like to reduce smoking/Drinking habit, if present?

- a) Yes
- b) No
- c) No habit

Responses in the category of Practices regarding Hypertension

31. What practices you do for prevention of Hypertension.

- a) Weight reduction and regular exercise
- b) Reduce dietary sugar
- c) Continuing tobacco use and Alcohol consumption
- d) Reduce Stress
- e) Intake of Caffeine
- f) All of the above

32. What are the common foods you restrict for prevention of High blood pressure.

- a) Sweets, Sugar and Jaggery
- b) Banana and Apple
- c) Mutton
- d) Egg Yolk
- e) Pickles, papads and Chutney
- f) Bakery Items
- g) All of the above

33. How much salt you intake per day?

- a) >5 gm
- b) <5 gm
- c) Absence of salt intake
- d) Don't know

34. If you make healthy lifestyle changes you won't need medication for high blood pressure

- a) Yes
- b) No
- c) Don't know

35. What type of physical activity do you currently do?

- a) Aerobic Workout
- b) Running/Jogging
- c) Walking
- d) Bicycling
- e) Swimming
- f) Yoga/Meditation
- g) None
- h) Others.....

36. What type of physical activities do you have while at work?

- a) Light
- b) Moderate
- c) Active

37. How much time do you usually spend sitting or reclining on a single day?

- a) 1-2 hours
- b) 2-4 hours
- c) 4-6 hours
- d) More than 6 hours

38. How much time do you usually spend watching television/laptop a single day?

- a) 1-2 hours
- b) 2-4 hours
- c) 4-6 hours
- d) More than 6 hours

39. Do you smoke?

- a) Yes
- b) No

40. How many number of cigarettes/Bidis you take per day

- a) Nil
- b) 1 Packet
- c) <10
- d) >10

41. Do you drink alcohol?

- a) Yes
- b) No

Tables and Graphs

Response to knowledge questions

Serial No.	Questions	Number of Employees answered correctly	Percentage of Employees answered correctly
1.	Do you know what Hypertension is?	148	85
2.	High Blood pressure is known as?	149	85
3.	Which type of disease is Hypertension?	107	61
4.	Which of the following is known as 'silent killer'?	95	54
5.	What is normal level of Blood Pressure?	154	88
6.	Is Hypertension an important health hazard?	147	84
7.	Do you know what badly affects Hypertension?	110	63
8.	What are the complications of Hypertension?	145	83
9.	Which factors decrease the risk of Hypertension?	120	69
10.	Is there any role of Salt in causing Hypertension?	142	81
11.	Is Stroke is related to Hypertension?	133	76
12.	Do Hypertension in children and adolescent exist?	95	54
13.	What is the effect of eating less salt on Blood	102	58

	pressure?		
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Response to attitude questions

Serial No.	Questions	Number of Employees answered correctly	Percentage of Employees answered correctly
1.	Do you think regular checking of BP level is important?	155	89
2.	How frequently you go for BP measurement?	21	12
3.	Do you keep in touch with physician regularly?	87	50
4.	Do you exercise regularly?	121	69
5.	How often do you do physical activity?	103	59
6.	Do you always find ways to exercise and be physically active?	134	77
7.	Do you want to reduce salt intake to prevent Hypertension?	112	64
8.	Do regular use of medication is beneficial for treating Hypertension?	98	56
9.	Would you like to reduce smoking/drinking habit?	60	34

Response to practice questions

Serial No.	Questions	Number of Employees answered correctly	Percentage of Employees answered correctly
1.	What practices done for prevention of Hypertension?		
a.	Weight reduction and regular exercise	109	62
b.	Reduce dietary sugar	40	23
c.	Reduce Stress	108	62
2.	What are the common foods you restrict for prevention of high Blood Pressure?		
a.	Sweets, sugar and Jaggery	52	30
b.	Mutton	71	41
c.	Egg Yolk	42	24
d.	Pickles,papads and Chutney	63	36
e.	Bakery Items	34	19
3.	How much salt you intake per day?	67	38
4.	If you make healthy lifestyle changes you won't need medication for high blood pressure?	34	19
5.	What type of physical activity do you currently do?		
a.	Aerobic Workout	17	10
b.	Running/Jogging	52	30
c.	Walking	100	57
d.	Bicycling	14	8
e.	Swimming	10	6
f.	Yoga/Meditation	58	33
g.	None	22	13
6.	What type of physical activities you do while at work?		
a.	Light	102	58
b.	Moderate	49	28
c.	Active	24	14

7.	How much time do you usually spend sitting or reclining on a single day?		
a.	1-2 hours	31	18
b.	2-4 hours	37	21
c.	4-6 hours	56	32
d.	More than 6 hours	51	29
8.	How many numbers of cigarettes/bidis you take per day?		
a.	Nil	148	85
b.	1 Packet	4	2
c.	<10	12	7
d.	>10	11	6

Knowledge about the risk factors related to Hypertension

Serial No.	Questions	Number of Employees answered correctly	Percentage of Employees answered correctly
1.	Stress	147	84
2.	Salt Sensitivity	61	35
3.	Vitamin D Deficiency	5	3
4.	Overweight	93	53
5.	Alcohol Intake	93	53
6.	Cigarette Smoking	89	51
7.	Tobacco Chewing	76	43
8.	High Cholesterol	85	49
9.	Oral Contraceptives	20	11
10.	High Energy Drink Intake	27	15
11.	Diabetes Mellitus	42	24
12.	None of the Above	8	5

Socio Demographic details of the study population involved in assessment of KAP's of hypertension

Serial No	Variables	Number of Employees	Percentage of Employees
A.	Age		
a.	25-30	48	27
b.	31-35	47	27
c.	36-40	21	12
d.	41-45	11	6
e.	46-50	12	7
f.	51-55	15	9
g.	56-60	21	12
B.	Gender		
a.	Male	139	79
b.	Female	36	21
C.	Literacy Status		
a.	Illiterate	3	3
b.	Matriculation/Secondary	6	3
c.	Higher Secondary	24	14
d.	Non Technical Diploma	0	0
e.	Technical Diploma	9	5
f.	Graduate	42	24
g.	Post Graduate	83	47
h.	PhD/Doctoral Degree	6	3
D.	Religion		
a.	Hindu	174	99
b.	Muslim	1	1
E.	Occupational Status		
a.	Professional	73	42
b.	Semi Professional	34	19

c.	Clerk	49	28
d.	Skilled	12	7
e.	Semi skilled	4	2
f.	Unskilled	3	2
F.	Income Group		
a.	Low(Less than 2,00,000 per annum)	47	27
b.	Middle(Between 2,00,000-5,00,000 per annum)	78	45
c.	High(More than 5,00,000 per annum)	50	29
G.	Marital Status		
a.	Single	34	19
b.	Married	141	81
H.	Family History of Hypertension		
a.	Both parents	26	15
b.	One parent	34	19
c.	No family History	115	66
I.	Type of Family		
a.	Nuclear	81	46
b.	Joint	94	54
J.	Type of Diet		
a.	Vegetarian	61	35
b.	Mixed	94	54
c.	Non Vegetarian	20	11
K.	Smoking Habits		
a.	Current Smoker	28	16
b.	Ex Smoker	16	9
c.	Non Smoker	131	75
L.	Drinking Habits		
a.	Current Drinker	51	29
b.	Ex Drinker	22	13
c.	Teetotaler(Non Drinker)	102	58
M.	Tobacco Chewing Habit		
a.	Present	35	20
b.	Absent	140	80

N.	Stress at Job		
a.	Present	118	67
b.	Absent	57	33

Association of Selected Socio Demographic Variables with Knowledge regarding Hypertension

Serial No	Variables	Number of Employees	Knowledge regarding Hypertension	Percentage of Employees having knowledge about Hypertension
A.	Age			
a.	25-30	48	6	13
b.	31-35	47	5	11
c.	36-40	21	1	5
d.	41-45	11	1	9
e.	46-50	12	2	17
f.	51-55	15	1	7
g.	56-60	21	3	14
B.	Gender			
a.	Male	139	14	10
b.	Female	36	5	14
C.	Literacy Status			
a.	Illiterate	3	0	0
b.	Matriculation/Secondary	6	0	0
c.	Higher Secondary	24	0	0
d.	Non Technical Diploma	0	0	0
e.	Technical Diploma	6	0	0

f.	Graduate	42	4	10
g.	Post Graduate	88	13	15
h.	Phd/Doctoral Degree	6	2	33
D.	Religion			
a.	Hindu	174	19	11
b.	Muslim	1	0	0
E.	Occupational Status			
a.	Professional	73	16	22
b.	Semi Professional	34	2	6
c.	Clerk	49	1	2
d.	Skilled	12	0	0
e.	Semi skilled	4	0	0
f.	Unskilled	3	0	0
F.	Income Group			
a.	Low(Less than 2,00,000 per annum)	47	1	2
b.	Middle(Between 2,00,000-5,00,000 per annum)	78	6	8
c.	High(More than 5,00,000 per annum)	50	12	24
G.	Marital Status			
a.	Single	34	4	12
b.	Married	141	15	11
H.	Family History of Hypertension			
a.	Both parents	26	4	15
b.	One parent	34	5	15
c.	No family History	115	10	9
K.	Smoking Habits			
a.	Current Smoker	28	4	14
b.	Ex Smoker	16	3	19
c.	Non Smoker	131	12	9

L.	Drinking Habits			
a.	Current Drinker	51	8	16
b.	Ex Drinker	22	2	9
c.	Teetotaler(Non Drinker)	102	9	9
M.	Tobacco Chewing Habit			
a.	Present	35	0	0
b.	Absent	140	19	14
N.	Stress at Job			
a.	Present	118	13	11
b.	Absent	57	6	11

Association of Selected Socio Demographic Variables with Knowledge of risk factors regarding Hypertension

Serial No	Variables	Number of Employees	Knowledge of employees regarding risk factors	Percentage of employees having knowledge about risk factors of Hypertension
A.	Age			
a.	25-30	48	0	0
b.	31-35	47	0	0
c.	36-40	21	1	5
d.	41-45	11	0	0
e.	46-50	12	0	0
f.	51-55	15	0	0
g.	56-60	21	1	5
B.	Gender			
a.	Male	139	2	1
b.	Female	36	0	0
C.	Literacy Status			
a.	Illiterate	3	0	0
b.	Matriculation/Secondary	6	0	0

c.	Higher Secondary	24	1	4
d.	Non Technical Diploma	0	0	0
e.	Technical Diploma	6	0	0
f.	Graduate	42	0	0
g.	Post Graduate	88	1	1
h.	PhD/Doctoral Degree	6	0	0
D.	Religion			
a.	Hindu	174	2	1
b.	Muslim	1	0	0
E.	Occupational Status			
a.	Professional	73	0	0
b.	Semi Professional	34	1	3
c.	Clerk	49	0	0
d.	Skilled	12	1	8
e.	Semi skilled	4	0	0
f.	Unskilled	3	0	0
F.	Income Group			
a.	Low(Less than 2,00,000 per annum)	47	0	0
b.	Middle(Between 2,00,000-5,00,000 per annum)	78	1	1
c.	High(More than 5,00,000 per annum)	50	1	2
G.	Marital Status			
a.	Single	34	0	0
b.	Married	141	2	1
H.	Family History of Hypertension			
a.	Both parents	26	1	4
b.	One parent	34	1	3
c.	No family History	115	0	0
K.	Smoking Habits			

a.	Current Smoker	28	1	4
b.	Ex Smoker	16	0	0
c.	Non Smoker	131	1	1
L.	Drinking Habits			
a.	Current Drinker	51	1	2
b.	Ex Drinker	22	0	0
c.	Teetotaler(Non Drinker)	102	1	1
M.	Tobacco Chewing Habit			
a.	Present	35	1	3
b.	Absent	140	1	1
N.	Stress at Job			
a.	Present	118	2	2
b.	Absent	57	0	0

Association of employees having and not having Hypertension with the existing Knowledge

Serial No	Question	Number of Employees	Knowledge of employees who are Hypertensive/Non Hypertensive
1.	Are you Hypertensive?		
a.	Yes	34	5
b.	No	141	14

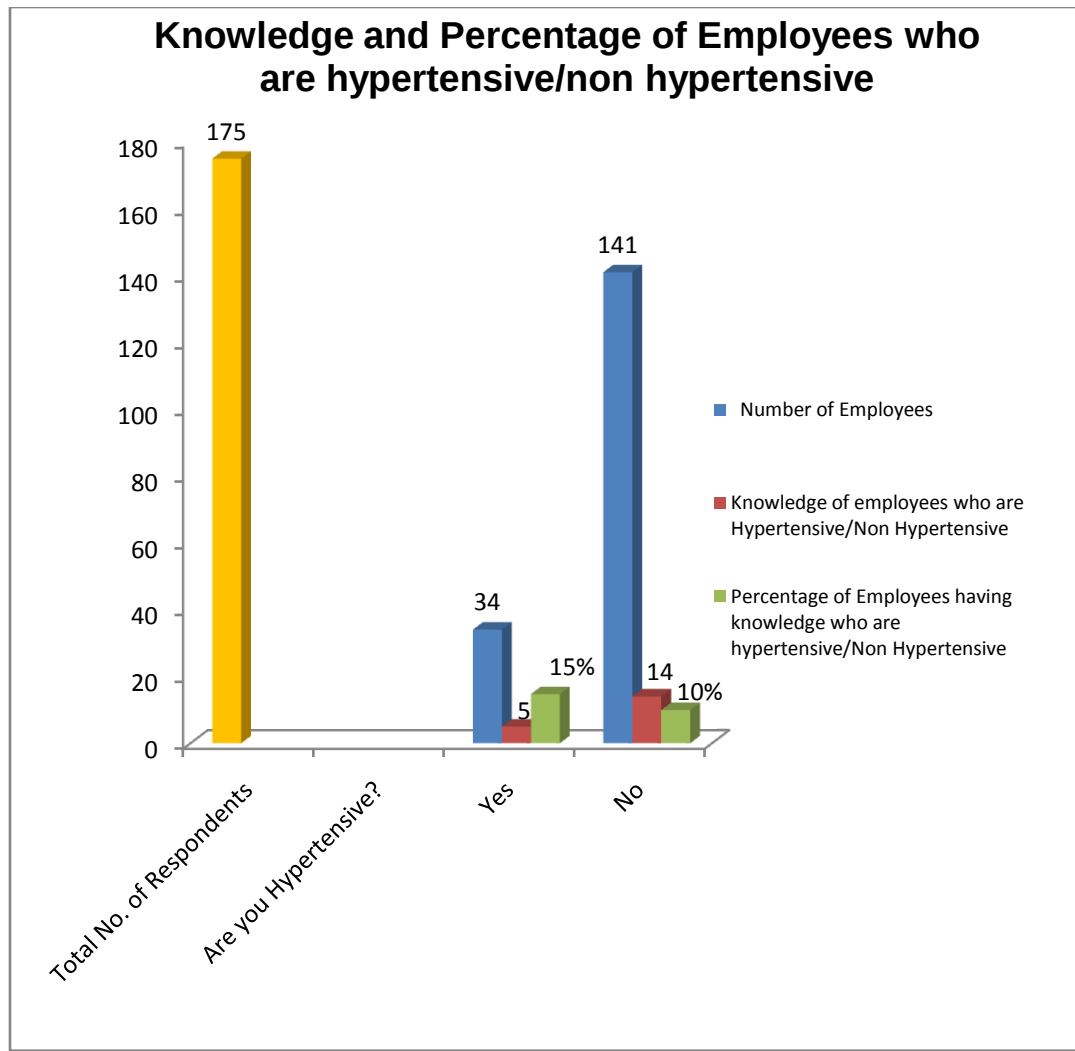


Figure 23. Knowledge and Percentage of Employees who are Hypertensive/Non Hypertensive

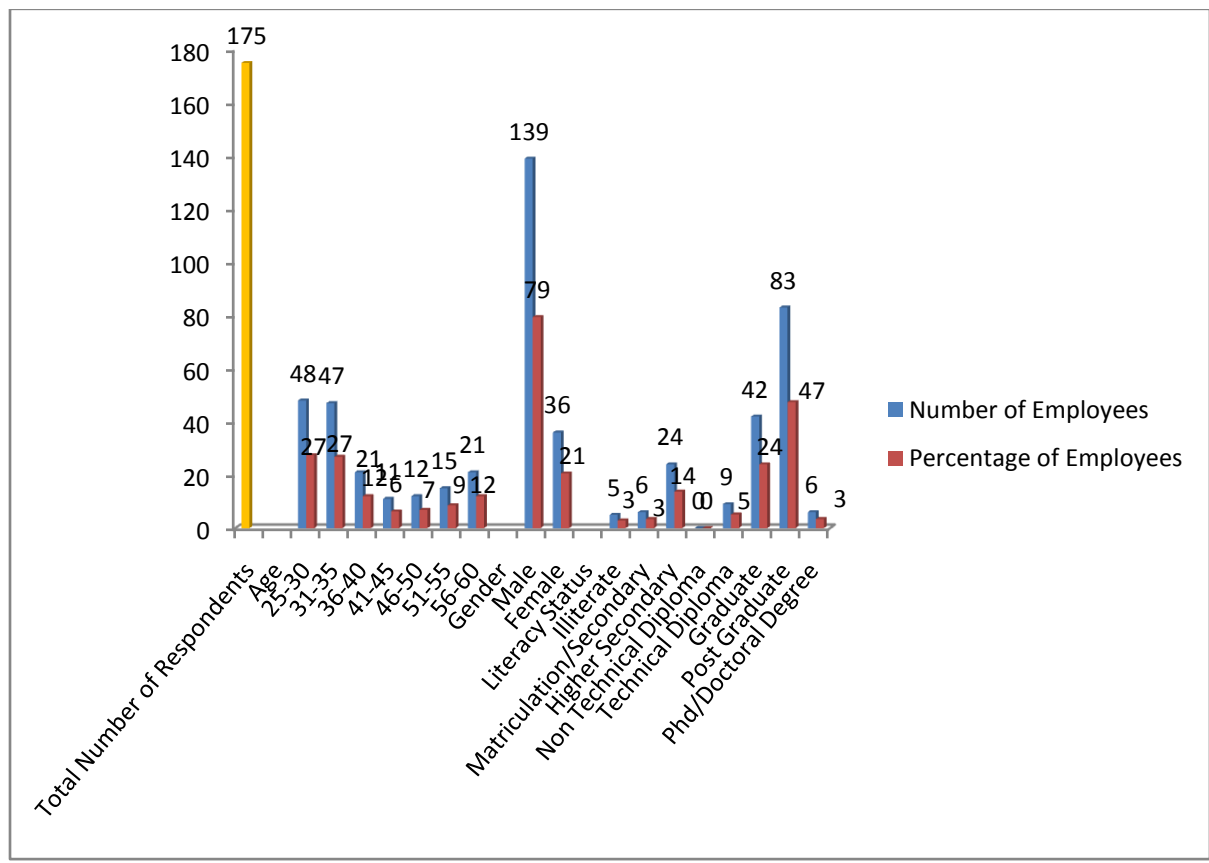
Association of employees and its percentage with stress

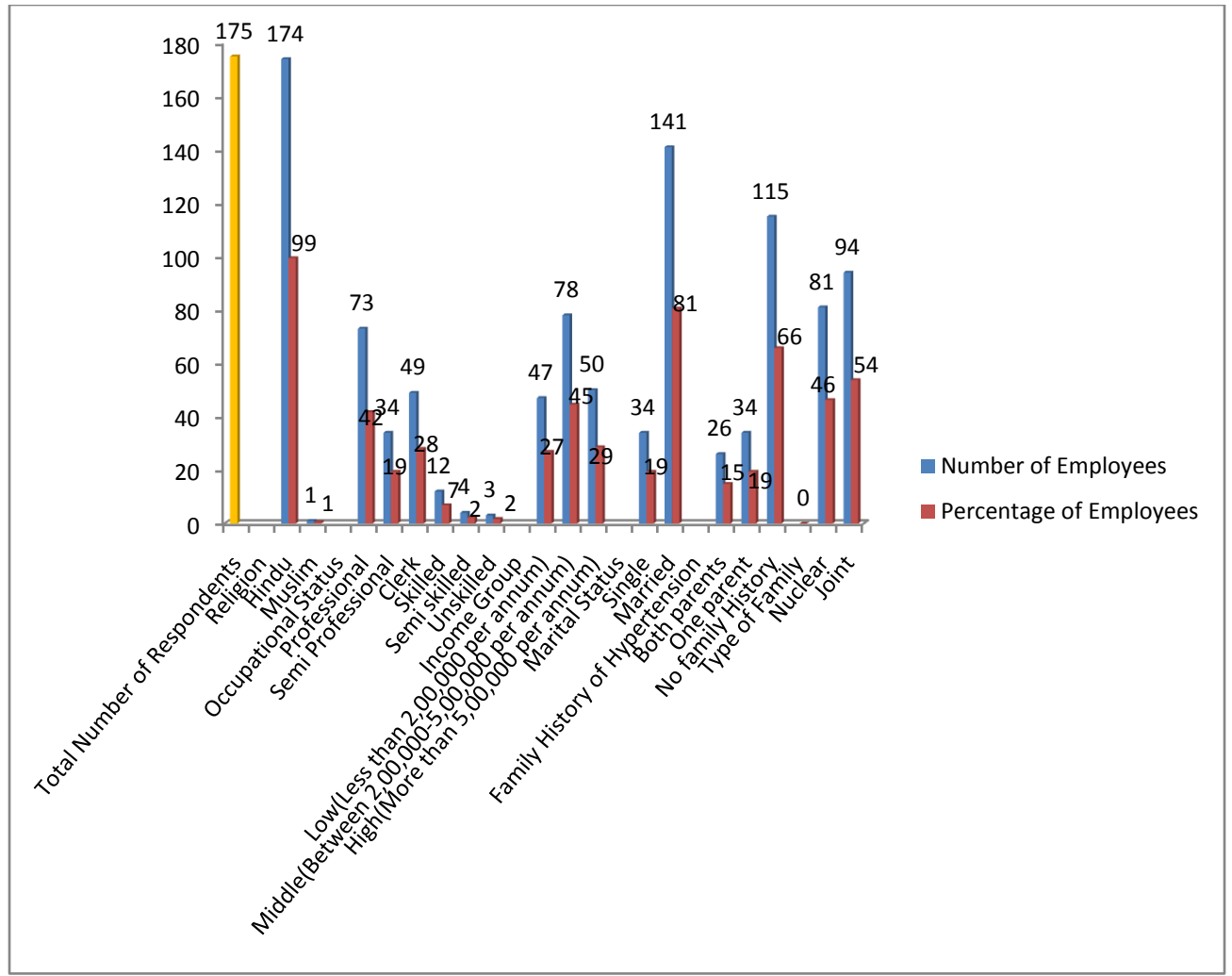
Stress	Number of Employees	Percentage of Employees
Present	118	67
Absent	57	33



Figure 24. Number of Employees showing level of Stress at Job

Socio Demographic details of the study population involved in assessment of KAP's of hypertension





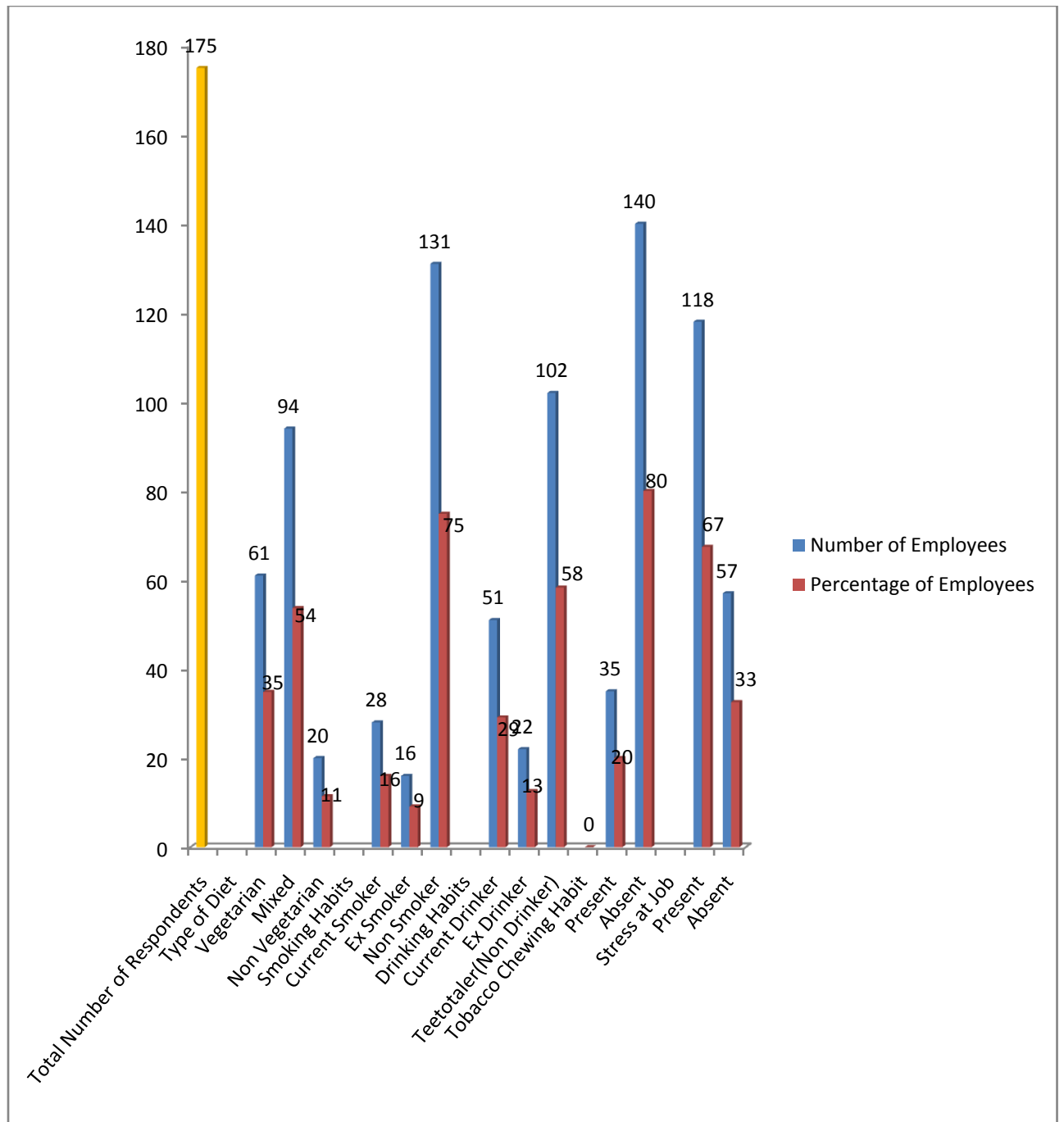


Figure 25. Socio Demographic details of the study population involved in assessment of KAP's of hypertension