

Prevalence of Hypertension and Risk Factors among University Employees of King Khalid in Bisha

Eman N. Ramadan¹, Abeer M. Zakaria² and Lamiaa M. Elbosaty¹

¹ Community Health Nursing Department, ² Administration Nursing Department Collage of Applied Medical Science, King Khalid University, Bisha
dremannabil@yahoo.com

Abstract: Hypertension is a common problem facing people all over the world is known as the silent killer. **The aim** of this study was to determine the prevalence of hypertension and risk factors among university employees of King Khalid in Bisha. **A study design** :A descriptive was used in this study, **Setting**: conducted in King Khalid University in Bisha, **Sample**: a purposive sample was used to select hypertensive employees from total number of university employees (650), the sample was 60 patient, they divided into two hypertensive groups (controlled and uncontrolled), **Tools**: three tools were used for data collection, **First** : an interview questionnaire to assess the socio-demography and medical history of employees and their knowledge, **Second** : A measuring tool to assess employees blood pressure, weight and height and urine analysis, **Third**: Employees record to collect total number of employees working in males and females Faculties of King Khalid University in Bisha. **The study results** revealed that the prevalence of hypertension were **9.2% (60)** employees divided into controlled hypertension **5.4%** and uncontrolled hypertension **3.8%** Out of the total **(650)** employees working at faculties of King Khalid University in Bisha. **Conclusion**: Prevalence of hypertension increased significantly with risk factors such as illiterate, rural areas and Body Mass Index. There were highly statistically significant relation between prevalence of hypertension and the life style of employees such as psychological stress, feeling of stress during work, No and irregular practice of exercises, missed social and emotional support, smoking and drinking stimulus tea & coffee & salt diet and deficit knowledge. **Recommendations**: Design and implement health education program for Lifestyle modification for a variety of population in primary health care centers, schools and homes to modification risk factors of hypertension. [Eman N. Ramadan, Abeer M. Zakaria, and Lamiaa M. Elbosaty. **Prevalence of Hypertension and Risk Factors among King Khalid University Employees in Bisha**] *J Am Sci* 2013;9(7):394-403]. (ISSN: 1545-1003). <http://www.jofamericanscience.org>. 48

Keywords: Prevalence, Hypertension, Risk Factors for Hypertension, Bisha

Introduction

Hypertension is a common health problem in developed countries, and its prevalence is probably increasing in nations of the developing world⁽¹⁾.

There are at least 970 million people worldwide who have elevated blood pressure (hypertension). In the developed world, about 330 million people have hypertension, as do around 640 million in the developing world. The problem is growing in 2025 it is estimated there will be 1.56 billion adults living with high blood pressure⁽²⁾.

Hypertension estimated to cause 4.5% of the global disease burden and is as prevalent in many developing countries as in developed countries⁽³⁾. Worldwide, seven million premature deaths have been attributed to hypertension⁽⁴⁾. In recent decades, it has become increasingly clear that the development of stroke, ischemic heart disease, and renal failure have been attributed by hypertension. Treating hypertension has been associated with a 40% reduction in the risk of stroke and about 15% reduction in the risk of myocardial infarction⁽¹⁾. Hypertension is increasing in prevalence in KSA affecting more than one fourth of the adult Saudi population⁽⁴⁾.

Various risk factors have been associated with hypertension, including age, sex, race, physical activity, and socioeconomic class⁽⁵⁾. Among risk factors for HTN, stress, especially work stress, has drawn increasing attention⁽⁶⁾.

Significance of the study

In Saudi Arabia, studies have estimated its prevalence among adults to range from 4% to 15%⁽⁴⁾.

Over the last twenty years, Saudi Arabia has witnessed major socioeconomic development leading to significant changes in its standard of living and lifestyle. The transformation of the society has also resulted in changes in dietary habits and related social practices, many of which are not necessarily healthy ones. This has been compounded by a lack of exercise among large segments of the society. These factors and others have contributed to the emergence of degenerative diseases of adult life such as obesity, and hypertension. These have essentially replaced communicable diseases as the principal causes for morbidity and mortality^(7, 8). Nurses can be more effective while serving as resources for developing and implementing of health education program for Lifestyle modification.

Aim of the study:

The aim of this study was to determine the prevalence of hypertension and risk factors among university employees of King Khalid in Bisha ,through:

- Assessing employees knowledge and risk factor leading to hypertension.
- Assessing lifestyle habits such as smoking, psychological pressure and socio-emotional support.

Research question:

-Is there relation between socio demography and prevalence of hypertension?

-Is there relation between hypertensive employees and risk factors specially BMI, salt diet, smoking and Feeling of stress during work?

-Is there relation between employees knowledge and prevalence of hypertension?

-Is there relation between employees lifestyle as rest and sleep , exercise , socio-emotional support and prevalence of hypertension?

Research design: A descriptive used in these study.

Setting: The study was conducted in the all Faculties of King Khalid University in Bisha

Sample: A purposive sample was used in this study. All hypertensive patients (60 patients) were taken after diagnosed as hypertensive patients from total (650) employees working at males and females Faculties of King Khalid University in Bisha, under certain criteria: all nationalities, age: above 30-60 years old. Hypertensive Patients sample included (28 males and 32 females) sample divided into controlled and uncontrolled hypertension.

Research instruments (tools): three tools were used to collect study data:

1-An interviewing Questionnaire: It was developed by the researchers to collect data about: a) A study subjects' characteristics as age, gender, education level, residence, occupation and income. b)Assessment for knowledge about disease (definition, symptoms and complication) , nutrition patterns (foods elevated pressure &foods reduced pressure, healthy diet, amount of daily fluids), stress management ,social and emotional support, prevention of hypertension .**Regarding question of Suffering of psychological pressure the answer score was given as (0) for** or Never ,(1) for Rarely ,(2) for Usually ,(3) for Sometimes ,and (4) for usually. **Regarding answer of Feeling of stress during work question the answer score was given as (1) for mild,(2) for moderate, and (3) for sever.** Regarding question of **Daily period of rest(0) for** or Never ,(1) for Rarely ,(2) for Usually ,(3) for Sometimes ,and (4) for usually. **Regarding question of Sleeping easily the answer score was given as (0) for** or Never ,(1) for Rarely ,(2) for Usually ,(3) for Sometimes ,and (4) for usually. Regarding

question of Recreation during holiday the answer score was given as (0) for or Never, (1) for rarely, (2) For usually, (3) for Sometimes, and (4) for usually.

c)Personal and family medical history, Follow drug regimen and information on lifestyle habits such as smoking, drinking coffee and tea, fat and salt diet, physical activity.

2-Measuring tool to assess :a) blood pressure was measured based on a standardized procedure according to the American Heart Association guidelines ⁽⁹⁾. Positive diagnosis of hypertension was made when the systolic blood pressure was ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg on three occasions taken on different days. b) Weight and height the weight was taken using a calibrated weighing scale and the height was measured using a portable measuring tape. The scoring and interpretation for BMI was calculated using a simple equation (body weight in kg divided by height in m²). According to WHO (2002) index

$$\text{BMI} = \text{wt in Kgm} / (\text{ht in cm})^2$$

BMI was ranked according to the following classification:

*-BMI: 18.5-24.9= (normal weight).

*-BMI: 25-29.9 = (overweight).

*-BMI: 30 -40 =Grade 1of obesity.

*-BMI: > 40 =Grade 2 of obesity.

c) Urine test for sugar and albumin by urinary dipstick to exclude out diabetes and albumin in the urine as a result of the high pressure.

3) Employees record to collect total number of employees working in males and females Faculties of King Khalid University in Bisha .

The content clarity and applicability test ; It was revised by consultants in the Community Health Nursing and Medical Surgical Nursing.

Pilot study:

A pilot study was carried out on 10% of employee (6 employees) recruited to test the tools content clarity and applicability to determine the needed time for filling in application to tools and assessment checklist .Necessary modifications have been considered.

Fieldwork:

Approval was obtained upon letters issued from the dean of male's faculties (literature and science, Education, and Community) and female's faculties (literature and Administration, Science and Home Economics and Female Applied Medical Science) to obtain permission for conduction of the study. All hypertensive employees 60 selected from total employees 650 after blood pressures was measured for three times. Each subject was interviewed for 20-30 minutes from 9am-12pm for three days| week; the average number interviewed| day was around 5 employees. Measuring for hypertension; blood

pressure, weight and height , urine analysis was done , 35 employees out of 60 were diagnosed as controlled hypertension and 25 out of 60 diagnosed as uncontrolled hypertension , The study was conducted in 3 months from December 2012 until February 2013.

Ethical Consideration

A complete description of the purpose and nature of the study was approached to the participants and an oral consent was taken from each of them.

Statistical analysis

The collected data were tabulated and analyzed using Statistical Package of Social Science (SPSS), version 16. A variety of statistical methods were used to analyze the data in this study as percentage, mean, t-test, independent t-test chi square, correlation coefficient. Level of significance was considered at p value ≤ 0.05 .

3. Result

Figure (1) shows the overall prevalence of hypertension in this study was 9.2%. Out of the total 650 subject there were 60 subjects with hypertension (28 males and 32 females) divided To affected controlled (5.4%) and affected uncontrolled(3.8%).

Table (1) shows statistically significant relation ($p < 0.05$) between male, illiterate, worker, rural and body mass index and uncontrolled hypertension.

Table (2) shows statistically significant relation ($p < 0.05$) between new history of hypertension, irregular treatment, no regular checkup and uncontrolled hypertension and highly statistically

significant relation between no doctor prescribed medication and uncontrolled hypertension.

Table (3) shows that, there was a highly significant relationships between deficit knowledge of patient about hypertension disease and uncontrolled hypertension ($p < 0.05$).

Table (4) reveals that there were highly statistically significant relationships between Suffering of psychological pressure and uncontrolled hypertension. ($P < 0.001$) and statistically significant relationships between Feeling of stress during work, unstable family, and uncontrolled hypertension.

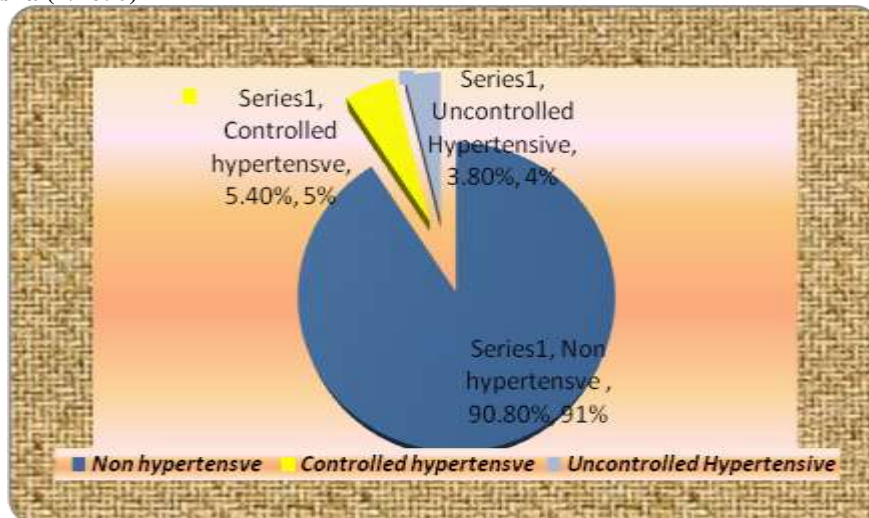
Table (5) reveals that, there were highly statistically significant relationship between rarely take daily period of rest and uncontrolled hypertension ($P < 0.001$) and statistically significant relationships between rarely Sleeping easily, no regular and no any type practice of exercises and uncontrolled hypertension ($p < 0.05$).

Table (6) reveals that, there were highly statistically significant relationships between rarely take recreation period during holiday and uncontrolled hypertension ($P < 0.001$) and statistically significant relationships between no emotional support from others and uncontrolled hypertension ($p < 0.05$).

As evident from **Table (7)** there were statistically significant differences between smoking and drinking stimuli (tea & coffee) and uncontrolled hypertension ($p < 0.05$).

As evident from **Table (8)** there were statistically significant relation between types of fat diet, Salt intake and uncontrolled hypertension ($p < 0.05$).

Figure (1) percentage distribution of the prevalence of hypertensive groups among King Khalid University Employees in Bisha (N=650)



This figure revealed that affected hypertension worker was (9.2%) the affected hypertension worker is divided to affected controlled (5.4%) and affected uncontrolled (3.8%).

According to research questions No1&2 : Is there relation between socio demography and prevalence of hypertension?

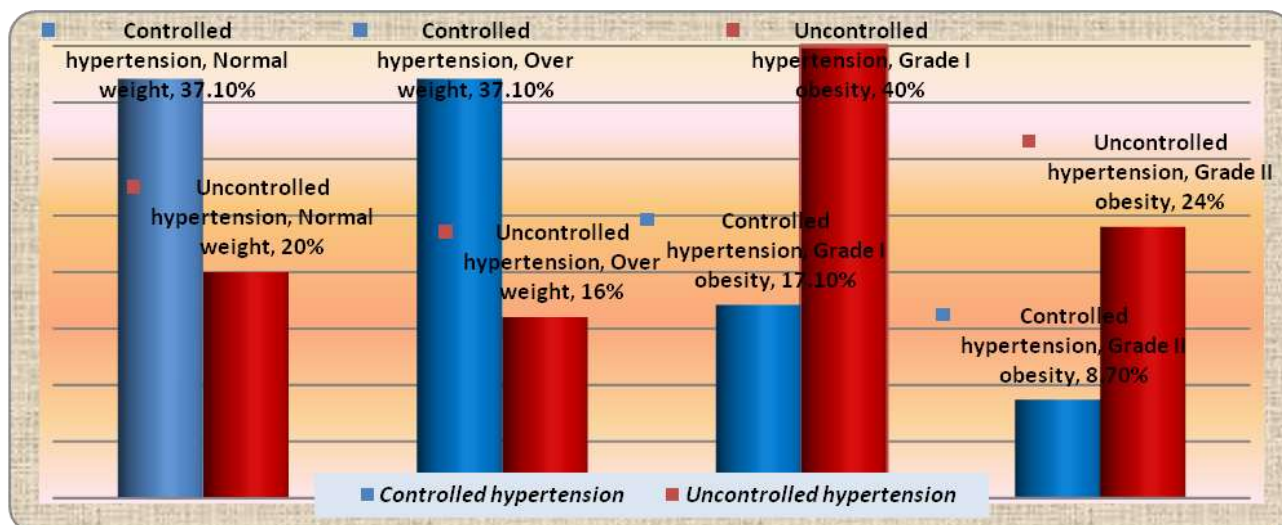
Is there relation between hypertensive employees and risk factors specially BMI?

Table (1): Relations between prevalence hypertensive groups (control & uncontrolled) and their socio demography characteristics (NO: 60)

Characteristic	Hypertension categories			x ²	P value		
	Controlled hypertension No of patient	%	Uncontrolled hypertension No of patient			%	
Nationality							
	Saudian	15	42.9	13	52.0	0.490	>0.05
	Non-Saudian	20	57.1	12	48.0		
Sex							
	Male	11	31.4	17	68.0	7.83	<0.05*
	Female	24	68.6	8	32.0		
Age in years							
	30-	15	42.9	6	24.0	2.91	>0.05
	40-	13	37.1	10	40.0		
	50-60	7	20	9	36.0		
Educational level							
	illiterate	4	11.4	12	48.0	10.99	<0.05*
	Secondary	16	45.7	9	36.0		
	University	3	8.6	1	4.0		
	Postgraduate	12	34.3	3	12.0		
Occupation							
	Worker	2	5.7	8	32.0	8.04	<0.05*
	Employee	17	48.6	11	44.0		
	Assistant staff member	7	20	3	12.0		
	Staff member	9	25.7	3	12.0		
Years of experience							
	≤5	17	48.	3	12.0	13.26	<0.001**
	6≤15	16	45.7	13	52.0		
	≥15	26	5.7	9	36.0		
Income level							
	1000 >4000	16	45.7	11	44.0	2.83	>0.05
	4000 >7000	11	31.4	11	44.0		
	7000 >10000	3	8.6	0	0.0		
	≥1000016	5	14.3	3	12.0		
Residence							
		4	11.4	6	24.0	9.16	<0.05*
	Urban	25	71.4	8	32.0		
	Rural	10	28.6	17	68.0		
Body Mass Index							
	Normal weight	13	37.1	5	20.0	8.90	<0.05*
	Over weight	13	37.1	4	16.0		
	Grade I obesity	6	17.1	10	40.0		
	Grade II obesity	3	8.7	6	24.0		

*Statistically significant difference ($p \leq 0.05$)

Figure (2): percentage distribution of body mass index among studied group NO. 60



This figure revealed that statistically significant relationships ($p < 0.05$) between body mass index (Grade I obesity 40% & Grade II obesity 24%) and uncontrolled hypertension .

Table (2) : Relations between prevalence hypertensive groups (control & uncontrolled) and medical history (NO :60)

medical history	Hypertensive groups		x ²	P value
	Controlled hypertension No of patient	Uncontrolled hypertension No of patient		
Onset of hypertension (years)	≤5	21	60.0	4.96 <0.05*
	6-10	14	40.0	
	≥10	0	0.0	
Treatment of hypertension	Regular	25	28.6	8.00 <0.05*
	Irregular	10	71.4	
	No	0	0.0	
Causes of no treatment	Medication time at working hours	3	8.6	3.39 >0.05
	Forget time	3	8.6	
	Medication side effect	2	5.7	
Person prescribed medication	Doctor	35	100.0	11.09 <0.001**
	Other	0	0.0	
Measure blood pressure	Yes	19	54.3	0.231 >0.05
	No	16	45.7	
Times of measuring blood pressure	Twice/day	7	45.7	14.38 <0.001**
	Once/day	3	8.6	
	Every week	3	8.6	
	Every month	6	17.1	
Site where measuring blood pressure	Home	7	20.0	10.14 <0.05*
	Health center	3	8.6	
	Hospital	9	25.7	
Regular check up	Yes	23	65.7	3.89 <0.05*
	No	12	34.3	

**Highly statistically significant difference ($P \leq 0.001$) *Statistically significant difference ($p \leq 0.05$)

According to research questions No3 : Is there relation between employees knowledge and prevalence of hypertension?

Table (3): Relations between prevalence hypertensive groups(control &uncontrolled) and knowledge of patient regarding hypertension disorder (NO: 60)

knowledge of patient		Hypertensive groups			x ²	P value
		Controlled hypertension		Uncontrolled hypertension		
		No of patient	%	No of patient	%	
Hypertension is a dangerous disease	Yes	20	57.1	5	20.0	8.27
	No	15	42.9	20	80.0	
Signs and symptoms of hypertension	Blurred vision	18	51.4	11	44.0	13.05
	Coma	6	17.1	4	16.0	
	Headache	11	31.4	10	40.0	
Affected with hypertension without symptoms	Yes	19	54.3	6	24.0	5.50
	No	16	45.7	19	76.0	
Meaning of hypertension	Blood pressure is more than 140/90 mmhg	20	57.1	9	36.0	12.52
	Blood pressure is more than 160/100mmhg	7	20	0	0.0	
	Don't know	8	22.9	16	64.0	
Types of diet decrease blood pressure	Low fatty diets	12	34.3	11	44.0	13.05
	Low salty diets	17	48.6	2	8.0	
	Increase vegetables intake	0	0.0	1	4.0	
	Don't know	6	17.1	11	44.0	
Types of diet increase blood pressure	Fatty diets	11	31.4	6	24.0	13.41
	Preserved food	11	31.4	0	0.0	
	Salty diets	5	14.3	4	16.0	
	Stimuli	8	22.9	15	60.0	
	Don't know					
Factors leading hypertension	Unhealthy notional habit	9	25.7	7	28.0	8.14
	Psychological stress	6	17.1	7	28.0	
	Smoking	9	25.7	8	32.0	
	Don't know	11	31.4	10	40.0	
Hypertension can be prevented	Yes	13	37.1	11	44.0	2.09
	No	22	62.9	14	56.0	

**Highly statistically significant difference ($P \leq 0.001$)*statistically significant difference ($p \leq 0.05$)

According to research questions No2: Is there relation between hypertensive employees and risk factors specially Feeling of stress during work?

Table (4) : Relations between prevalence hypertensive groups and psychological life style (NO : 60)

psychological life style		Hypertensive category			x ²	P value
		Controlled hypertension		Uncontrolled hypertension		
		No of patient	%	No of patient	%	
Suffering of psychological pressure	Usually	5	14.3	11	4.0	15.34
	Sometimes	4	11.4	8	32.0	
	Rarely	12	34.3	4	16.0	
	Never	14	40.0	2	8.0	
Feeling of stress during work	Mild	11	31.0	4	16.0	5.74
	Moderate	15	42.9	7	28.0	
	Sever	9	25.7	14	56.0	
Feeling comfort regarding human relation at work	Comfort	18	51.4	14	56.0	0.122
	Uncomforted	17	48.6	11	44.0	
Family	Highly stable	14	40.0	5	20.0	4.77
	Stable	12	34.3	7	28.0	
	Unstable	9	25.7	13	52.0	

**Highly statistically significant difference ($P \leq 0.001$) *Statistically significant difference ($p \leq 0.05$)

According to research questions No4: Is there relation between employees lifestyle as rest and sleep , exercise and prevalence of hypertension?

Table (5) : Relations between prevalence hypertensive groups(control & uncontrolled) and their life style (NO :60)

Employees life style		Hypertension groups			x ²	P value		
		Controlled hypertension		Uncontrolled hypertension				
		No of patient	%	No of patient	%			
Daily period of rest		Usually	12	34.3	1	4.0	15.08	<0.001**
		Sometimes	9	25.7	2	8.0		
		Rarely	12	34.3	16	64.0		
		Never	2	5.7	6	24.0		
Sleeping easily		Usually	6	17.1	3	12.0	6.55	<0.05*
		Sometimes	16	48.6	10	40.0		
		Rarely	12	34.3	11	44.0		
		Never	0	0.0	3	12.0		
Taking sedatives		Yes	11	31.4	11	44.0	0.992	>0.05
		No	24	68.6	14	56.0		
Regular practice of exercises		Yes	27	77.1	10	40.0	8.51	<0.05*
		No	8	22.9	15	60.0		
Type of exercises		Mild exercises	16	45.7	7	28.0	8.89	<0.05*
		Walk	6	17.1	2	8.0		
		Heavy exercises	5	14.3	1	4.0		
		No	8	22.9	15	60.0		

**Highly statistically significant difference ($P \leq 0.001$) *Statistically significant difference ($p \leq 0.05$)

According to research questions No4: Is there relation between employees lifestyle as socio-emotional support and prevalence of hypertension?

Table (6): Relations between prevalence hypertensive groups(control & uncontrolled) and socio-emotional support (NO :60)

		Hypertensive groups			x ²	P value		
		Controlled hypertension		Uncontrolled hypertension				
		No of patient	%	No of patient	%			
Recreation during holiday		Usually	17	48.6	1	4.0	14.31	<0.001**
		Sometimes	11	31.4	12	48.0		
		Rarely	7	20.0	12	48.0		
		Never	0	0.0	0	0.0		
Times with relatives		Yes	20	57.1	12	48.0	0.490	>0.05
		No	15	42.9	13	52.0		
sharing others regarding problems		Yes	27	72.1	12	48.0	5.44	<0.05*
		No	8	22.9	13	52.0		
Who		Husband-wife	5	14.3	0	0.0	8.70	<0.05*
		Relatives	15	42.9	6	24.0		
		Friends	7	20.0	6	24.0		
Emotional support from others		Yes	18	51.4	6	24.0	4.57	<0.05*
		No	17	48.6	19	76.0		
Who		Husband-wife	9	25.7	4	16.0	4.96	<0.05*
		Relatives	9	25.7	2	8.0		

**Highly statistically significant difference ($P \leq 0.001$) *Statistically significant difference ($p \leq 0.05$)

According to research questions No2: Is there relation between hypertensive employees and risk factors specially smoking?

Table (7) : Relations between prevalence hypertensive groups(control & uncontrolled) and employees life style of smoking and drinking stimuli (NO : 60)

smoking and drinking stimuli		Hypertension categories			x ²	P value
		Controlled hypertension		Uncontrolled hypertension		
		No of patient	%	No of patient	%	
Smoking	Yes	4	11.4	9	36.0	9.10
	No	4	11.4	6	24.0	
	Previous smoker	3	8.6	2	8.0	
Exposure to negative smoking	Yes	19	54.3	20	80.0	4.23
	No	16	45.7	5	20.0	
Drinking tea	Yes	17	48.6	19	76.0	4.57
	No	18	51.4	6	24.0	
Number of cup/daily	>5	18	51.4	3	12.0	31.8
	5- ≥10	0	0.0	16	64.0	
		0	0.0	0	0.0	
Drinking coffee	Yes	13	37.1	17	68.0	5.55
	No	22	62.9	8	32.0	
Number of cup/daily	>5	8	22.9	3	12.0	16.6
	5- ≥10	5	14.3	5	20.0	
		0	0.0	4	16.0	

**Highly statistically significant difference ($P \leq 0.001$) *Statistically significant difference ($p \leq 0.05$)

According to research questions No2: Is there relation between hypertensive employees and risk factors specially salt diet?

Table (8): Relations between prevalence hypertensive groups (control & uncontrolled) and nutritional life style (NO :60)

nutritional life style		Hypertension categories			x ²	P value
		Controlled hypertension		Uncontrolled hypertension		
		No of patient	%	No of patient	%	
Types of fat	Corn oil	17	48.6	1	4.0	14.69
	Sun oil	10	28.6	10	40.0	
	Olive oil	4	11.4	6	24.0	
	Margarine	4	11.4	8	32.0	
Salt intake	Mild	11	31.4	0	0.0	10.12
	Moderate	11	31.4	9	36.0	
	Sever	13	37.1	16	64.0	
Eating salty diet	Yes	18	51.4	19	76.0	3.72
	No	17	48.6	6	24.0	
Eating takeaway meals	Yes	15	42.9	18	72.0	5.00
	No	20	57.1	7	28.0	
Amount of fluid intake	>6 cups	6	17.1	6	24.0	0.438
	6-8 cups	21	60.0	14	56.0	
	>8 cups	8	22.9	5	20.0	

**Highly statistically significant difference ($P \leq 0.001$) *Statistically significant difference ($p \leq 0.05$)

4. Discussion:

HTN is a challenge for public health bodies all over the world. In current study divided study group to controlled & uncontrolled hypertension because observed whom control weight, diet, exercise, stress, treatment regime, knowledge they were controlled hypertension rather than uncontrolled hypertension .

The overall prevalence of Hypertension in the present study employees were 9.2% among age group

from 30-60year (table,1) .This is similar to Madhukumar et al⁽¹⁰⁾ who found that Prevalence of Hypertension was 8.06%and Bani⁽¹¹⁾found The prevalence of hypertension 11.8% in Jazan region, Saudi Arabia and Abolfotouh et al⁽¹⁾ found The prevalence of hypertension 11.1% in south-western Saudia Arabia.

According to sociodemography characteristics ,the study shows controlled hypertension 5.4% and

uncontrolled hypertension 3.8% and The prevalence of uncontrolled hypertension was more than two thirds in males, in comparison to females less than one third .This agrees with several findings as **Madhukumar et al**, **Bani, Yadav et al** ^(10,11,12) **Mahesar et al** ⁽¹³⁾ and **Al-Nozha et al** ⁽⁴⁾, also study found high prevalence of hypertension more in males than females.

Also in present study uncontrolled hypertension between illiterate was less than half, than academic staff , more than one tenth, this agrees with **Bani, Kalantan et al** ^(14, 10), **Chataut et al** ⁽¹⁵⁾, **Tee et al** ⁽¹⁶⁾, they found high prevalence of hypertension more among illiterate education. The study also indicated high prevalence of uncontrolled hypertension among rural subjects that consistence with **Gupta et al** ⁽¹⁷⁾ who reported that the prevalence of hypertension is much higher in rural areas of India.

As regard Body Mass Index **(table,1)** this study reveals that high prevalence of uncontrolled hypertension among increase of weight $BMI \geq 30$ 24% and 40% The similar finding was reported by **Gupta et al** ⁽¹⁷⁾ in India and **Kalantan et al** ⁽¹⁴⁾ and **Al-Jarky et al** ⁽¹⁸⁾.

In this study the high prevalence of uncontrolled hypertension were among irregular treatment this **(table,2)**. agrees with the study conducted by **Abolfotouh et al** ⁽¹⁾ who reported that patient noncompliance with treatment was common in hypertension. And high prevalence among newly onset of hypertension, and irregular checkup.

As regard psychological life style , the present study showed that high prevalence of uncontrolled hypertension among feeling of stress during work were more than half followed by unstable family , also no sharing others regarding their problems , not receive emotional support from others were more than three quarters and suffering of psychological pressure were less than one third **(table,4)** ,this similar with **Daniela et al** ⁽¹⁹⁾ who found stress would be the cause of increase blood pressure.

As regard the employees life style , the present study showed that the high prevalence of uncontrolled hypertension among no regular practice of exercises and less than two thirds were not done any type of exercise **(table,5)**. These findings are in congruence with **Daniela et al** ⁽¹⁹⁾ **Al.Jarky et.al** ⁽¹⁸⁾ **Ibrahim et al** ⁽⁶⁾ and **Kokikinos et al** ⁽²⁰⁾ they agree with the current study and stated that regularly performed aerobic exercise significantly lowers blood pressure in patients with essential hypertension.

Regarding smoking and drinking stimuli as coffee and tea the current results revealed that high prevalence of uncontrolled hypertension among Smoking ,exposure to negative smoking and drinking

coffee and tea **,(table,7)** .This finding was supported by **Chataut et al** ⁽¹⁵⁾, **Ibrahim et al** ⁽⁶⁾ and **Kumar et al** ⁽²¹⁾ they found positive correlation between smoking, and high blood pressure.

The present study has also revealed a higher proportion of uncontrolled hypertension in subjects add sever salt intake and eating salty diet were more than three quarters, **(table, 8)**. This consistence with **Madhukumar** ⁽¹⁰⁾ who found that high prevalence of hypertension in high salt intake group.

The current study revealed that significance correlation between high prevalence of uncontrolled hypertension and deficit knowledge about disease **(table,3)**.

Conclusion: According to the finding and research questions

The prevalence of Hypertension among employees working at Faculties of King Khalid University in Bisha was 9.2%. Prevalence of hypertension increased significantly with risk factors such as illiterate, rural areas and Body Mass Index There were highly statistically significant relation between prevalence of hypertension and the life style of employees such as psychological stress, feeling of stress during work, No and irregular practice of exercises, missed social and emotional support, smoking and drinking stimulus tea & coffee & salt diet and deficit knowledge .

Recommendations:

Based on the study findings of the current study the following recommendations can be deduce: Design and implement health education program for Lifestyle modification for a variety of population in primary health care centers, schools and homes to modification risk factors of hypertension. Further studies are needed to be conducted on a larger sample size in order to general the results of the study.

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