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Research Article

Prevalence of young adult hypertension among students of applied medical sciences college, Taif University – KSA.

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ABSTRACT

Background: Hypertension remain one of the most major cardiovascular disorders, it affects people from all age group. Objective: (1) To determine the prevalence of hypertension among the students of applied medical sciences college. (2) To identify the common risk factors predispose those students to develop hypertension. **Material and Methods:** randomly 141 students from the college have been surveyed by well-trained nursing students using a calibrated mercurial sphygmomanometers and stethoscopes. The body mass index was (BMI) also recorded to the same students. **Results:** The prevalence of systolic and diastolic hypertension among students is 12.1% and 24.1 % respectively. The study revealed 22.7% of students were overweight their (BMI) is (>25.5). and 8.5 % of them were obese (BMI≥30). **Conclusion:** the study revealed the importance of body weight control as a risk factor in hypertension especially in young adults (p=0.000).

Keywords: Hypertension, Body mass index, Prevalence, Young adult.

INTRODUCTION

Worldwide the cardiovascular diseases account for approximately 17 million deaths annually, among these complications hypertension is responsible for at least 9.4 million of deaths every year globally. Hypertension is responsible for at least 45 percent of deaths due to heart disease, and 51 percent of deaths due to stroke [1]. The definition of hypertension in adults is based on outcome data that demonstrate a strong relationship between a blood pressure (BP) level above 140/90 mmHg and risk for subsequent cardiovascular (CV) events. Similar data are not available in young adult. Therefore, hypertension is defined somewhat differently in adolescents than in adults, depending on the age of the adolescent[2].

Hypertension rarely causes symptoms in the early stages and many people especially young adult remain undiagnosed. The health and economic gains associated to early detection, efficient treatment and good control of hypertension are considerable. Efforts should direct towards early recognition and successful control of hypertension in an attempt to diminish the associated complications. Obesity also plays an important role in hypertension. Studies showed that reduction in body weight results in reduction in blood pressure [3]. The prevalence and rate of diagnosis of hypertension in adolescents and young adult appear to be increasing. [4]. This due in part to the increasing prevalence of obesity as well as

growing awareness of this disease.[5]. An update of recommendations for diagnosis, evaluation, and treatment of childhood and young adult hypertension is provided in the fourth report by the National High Blood Pressure Education Program (NHBPEP) working group on high blood pressure children and adolescents. [6.7.8]. Reports have shown an association between blood pressure and body mass index (BMI), [3.9] suggesting that obesity is a strong risk factor for developing young adult hypertension.[10].

MATERIAL AND METHODS

Screening of hypertension among the whole students of the college by the a group of well trained nursing students using a calibrated mercurial sphygmomanometers and stethoscopes, for each participant the blood pressure was measured during standing position from both arms, the blood pressure was taken twice a day(morning and evening) for two days , after each two consecutive measurement of BP with 5 minutes space in between the average of reading was recorded. The diagnosis of hypertension will be based on the following criteria; hypertensive who had more than and/ or 135/85 mmHg (*based on national institute of health and care excellence*) [11].according to the average age of the college of students. (BMI) for each participant was calculated according to the following formula [12]

$$BMI = \frac{weight}{(hight\ [m])2}$$

Data analysis: Mean, standard deviation and compare mean of all data will be calculated by use of the SPSS version 16.

RESULTS & DISCUSSION

Young adult are less likely than older adult to believe they have hypertension and less likely to check their blood pressure regularly. Undetected hypertension may lead to life-threatening problems such as stroke, and kidneys and heart disorders. The results were agree with study carried out to assess the prevalence of hypertension in young adult which indicates that the blood pressure is increase among 19% of young adults [10] . This study found that the obesity and overweight are the main risk factor for high blood pressure among young adult, it showed that 22.7% of students were overweight their body mass index was ranged between (25.5 to 29). And 8.5 % of them were obese their BMI is over 30. The relation between blood pressure and body weight is highly significant (p=0.000). This result was corresponded with study[13] approved the role obesity in hypertension.

Moreover the study showed insignificant relation between age and blood pressure which reflected the age was not a risk factor for high blood pressure among young adult as compared with elderly adults.

RECOMMENDATIONS

Health education programs for youth about the healthy life style e.g. health balanced diet, practice of physical exercise, smoking and drugs cessation and stress reduction...etc. Ensure sport and exercise facilities to enable the students to practice physical and sport activities. The study also recommends the important of body weight and blood pressure control and regular assessment especially for those overweight and prehypertension students.

Table 1
Distribution of study group according to age

Age in years	n	Percent	Mean	SD
19	13	9.2%	23.034	4.36
20	44	31.2%		
21	38	27.0%		
22	27	19.1%		
23	12	8.5%		
24	6	4.3%		
26	1	.7%		
Total	141	100%		

Table 2
Distribution of study group according to systolic blood pressure

Categories of systolic blood pressure	n	Percent	Mean of systolic BP	SD
Normal systolic BP*	118	83.7%	114	6.69
Presystolic hypertension	6	4.3%		
Systolic hypertension	17	12.1%		
Total	141	100%		

*Systolic BP ≥130 mmHg was considered high

Table 3
Distribution of study group according to diastolic blood pressure

Categories of diastolic blood pressure	n	Percent	Mean of diastolic BP	SD
Normotensive*	101	71.6%	80	8.77
Per diastolic hypertension	6	4.3%		
Diastolic hypertension	34	24.1%		
Total	141	100%		

*Diastolic BP≥85 mmHg was considered high

Table 4
correlation of diastolic blood pressure and body mass index

Measures	Diastolic BP N= 141	BMI N=141	Paired *t.* test	P:value
Mean	80	23.034	-7.738	0.000
Standard deviation	8.77	4.36		

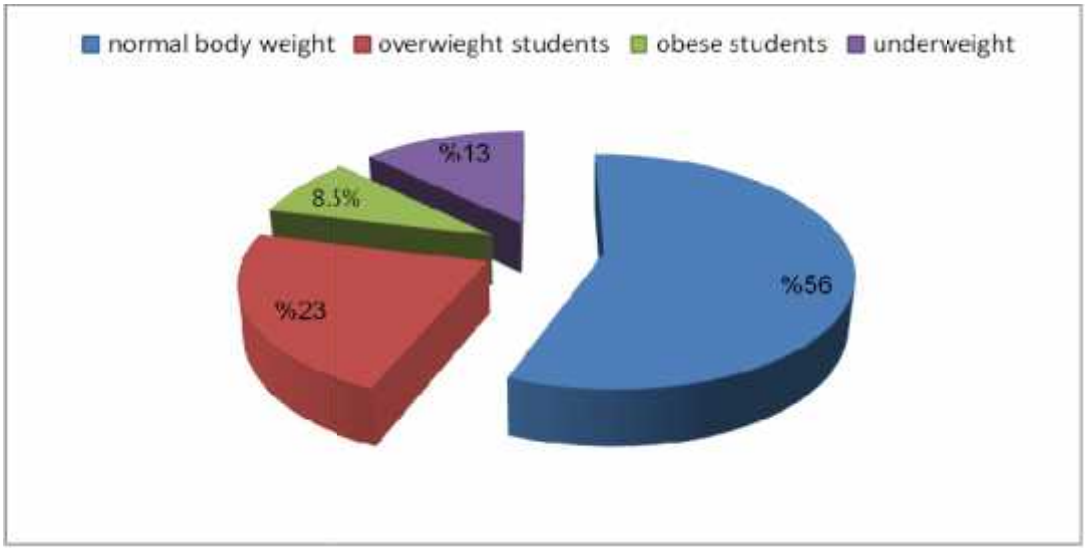

Figure 1
Distribution of study group according to body mass index (BMI)

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