To Find the Association Between Fat Intake and Hypertension

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Synopsis

Introduction/Background

Hypertension (HTN) or high blood pressure, sometimes called arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries is elevated. Blood pressure is summarized by two measurements, systolic and diastolic, which depend on whether the heart muscle is contracting (systole) or relaxed between beats (diastole). This equals the maximum and minimum pressure, respectively. There are different definitions of the normal range of blood pressure. Normal blood pressure at rest is within the range of 100–140 mmHg systolic (top reading) and 60–90 mmHg diastolic (bottom reading). High blood pressure is said to be present if it is often at or above 140/90 mmHg.

Globally, the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008. The proportion of the world’s population with high blood pressure, or uncontrolled hypertension, fell modestly between 1980 and 2008. However, because of population growth and ageing, the number of people with uncontrolled hypertension rose from 600 million in 1980 to nearly 1 billion in 2008.

Across the WHO regions, the prevalence of raised blood pressure was highest in Africa, where it was 46% for both sexes combined. Both men and women have high rates of raised blood pressure in the Africa region, with prevalence rates over 40%. The lowest prevalence of raised blood pressure was in the WHO Region of the Americas at 35% for both sexes. Men in this region had higher prevalence than women (39% for men and 32% for women). In all WHO regions, men have slightly higher prevalence of raised blood pressure than women. This difference was only statistically significant in the Americas and Europe.\(^1\)

Hypertension is counted as the major cause and most important factor in the development of cardiovascular diseases worldwide.\(^2\) However, even in the presence of efficacious antihypertensive agents and intensive research data, large numbers of patients in actual clinical practice still suffer with uncontrolled hypertension. Studies indicate that control rates vary according to various countries and geographic regions.\(^3,4\) Even though, the rate of awareness towards hypertension is quite prominent from 62% in Australia to 72% in US, the control rates are quite discouraging as with to 24% and 35% respectively. In the South Asian region, the scenario is more threatening as China reported only 8% control rates and India with 6% in management of hypertension.\(^5\) At present, it is estimated that about 1 billion people worldwide have hypertension (>140/90 mmHg), and this number is expected to increase to 1.56 billion by 2025.\(^6\)
A similar scenario is seen in Pakistan. The National Health Survey of Pakistan estimated that hypertension affects 18% of adults and 33% of adults above 45 years old. In another report, it was shown that 18% of people in Pakistan suffer from hypertension with every third person over the age of 40 becoming increasingly vulnerable to a wide range of diseases. It was also mentioned that only 50% of the people with hypertension were diagnosed and that only half of those diagnosed were ever treated. Thus, only 12.5% of hypertension cases were adequately controlled. Some remote areas like Baluchistan, there is a paucity of data but the control rate is likely to get even worse.
**Methodology**

1. **Study Design**
   This will be a Descriptive, observational study conducted at Medicine Wards of Services Hospital Lahore.

2. **Target Population**
   Hypertensive patients admitted to the Medicine wards of Services Hospital Lahore.

3. **Sampling Technique**
   Non-probability type of convenient sampling technique will be applied to this research.

4. **Inclusion Criteria**
   Hypertensive patients taking high fat diet.

5. **Exclusion Criteria**
   Patients of the Renal problems.

6. **Software Used**
   - SPSS

7. **Sampling unit**
   Patients having blood pressure of 140/90mmHg or greater and are obese (BMI more than normal) coming to hospital

8. **Sample Size**
   Sample size will be 30.

**Data Collection and Analysis**
Collection of data on basis of interview and questionnaire and analysis of data will be done by using Statistical Package for Social Science (SPSS) software version 16. Data will be presented in form of tables, graphs and charts.
Objectives

1. To find the association between fat intake and hypertension.
2. To find the association between obesity and hypertension.
3. To identify other associated risk factors of hypertension in obese patients.
Literature Review

A western study i.e. Canadian Heart Health Survey showed very less prevalence of sedentary lifestyle in elderly population. This difference is may be due to a more active lifestyle a more participation in leisurely activities by the elders in the western countries. The study shows that the prevalence of risk factors of hypertension are high both in rural and urban population. These factors are widely prevalent in population. Irrespective of culture and socioeconomic factors two most common risk factors are sedentary lifestyle and smoking.

In another study the reported prevalence of hypertension varied around the world with lowest prevalence in rural India (3.4% in male and 6.87% in female) and highest prevalence in Poland (68.9% in male and 72.5% in female). Awareness of hypertension was reported for 46% of the subjects and varied from 25.2% in Korea to 75% in Barbados. Treatment varied from 10.77% in Mexico to 66% in Barbados and control {Blood pressure is less than 140/90mmHg while on anti-hypertensive medication} varied from 5.4% in Korea to 58% in Barbados.

In a study in Pakistan prevalence of overweight and obesity weighted to general Pakistani population, was 25% (95% confidence interval {CI} 21.82%-28.2%). The prevalence of obesity was 10.3% (95%{ CI} 7%-13.2%). The factors independently and significantly associated with overweight and obesity included greater age, being female, urban residence, being literate and having a high economic status and high intake of meat. With receiver operating curves found that use of even lower BMI cut values (21.2 and 22.1 kg/m² for men and 21.2 and 22.9 kg/m² for women) then those recommended for indo-Asian population yielded the optimum areas under the curve for an association with hypertension and diabetes respectively.

In another study done on 700 hypertensive patients admitted in General Hospital from march 2010 to march 2013, out of all patients 35.87% had a family history of hypertension, 30% were diabetics, 42% were smokers and 91% were from low socioeconomic status.
References

1. WHO
Questionnaire

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Name of the Interviewer: _______________________

Date of Interview: ______________________________

Place of Interview: ______________________________

Demographic Data of Patient

Name: ________________________________

Age: ________________________________

Gender: ________________________________

Address: ________________________________

BMI (weight in kg/height in m²): __________

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<tr>
<th>Weight (Kg)</th>
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Occupation: ________________________________

Socioeconomic status: _________________________
Questions
1. Do you know high blood pressure is also called hypertension? Yes/No
2. Can high blood pressure be due to continuous anxiety? Yes/No
3. Does blood pressure increases with increasing age? Yes/No
4. Do obese patients have greater risk of high blood pressure? Yes/No
5. Does high fat diet can cause high blood pressure? Yes/No
6. Is smoking one of the causes of high blood pressure? Yes/No
7. Does morning walk and physical activity helps to maintain blood pressure? Yes/No
8. Does high salt intake can predispose to high blood pressure? Yes/No
9. Can this disease be Genetic? Yes/No
10. Can contraceptive pills predispose to high blood pressure? Yes/No
11. Does chronic hypertension leads to a Heart attack? Yes/No
12. Should patients of hypertension monitor their blood pressure? Yes/No
13. Does hypertension prevail in both male and female? Yes/No
14. Is maintaining weight can lower hypertension? Yes/No
15. Does alcoholism can cause hypertension? Yes/No
16. Do consuming vegetables and fruits can help maintain blood pressure? Yes/No
17. How many times have you gone to emergency for high blood pressure in last 6 months?

__________________________________________________________
18. What medications do you take for high blood pressure?

__________________________________________________________

19. What type of diet you mostly take?

__________________________________________________________

20. What is your last cholesterol reading?

__________________________________________________________

21. What type of physical activity do you do?

__________________________________________________________

22. How often you do this activity?

__________________________________________________________

23. Does anyone in family have this problem?

__________________________________________________________

24. Any measures for weight reduction?

__________________________________________________________

25. Any modification in lifestyle or diet?

__________________________________________________________