Hypertension Prevalence in Van, Turkey-1997

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Objective: **The aim was to investigate the prevalence of hypertension in Van.**
Method: **A total of 2010 subjects (586 male, mean age: 44.8 ± 14.9; 1424 female, mean age: 39.1 ± 14.1) between the ages of 20-74, were sampled from a target population of 315,866 according to systematic sampling technique. Blood pressure of each participant was measured by using Erka® sphygmomanometer for two times with a 3 minutes interval by a physician and an average was obtained.**
Results: **Hypertension prevalence was 34.9 % (males: 33.3 %, females: 35.5 %, p> 0.05) according to 140/90 mmHg criterium and 19.1 % (males: 14.5 %, females: 21.0 %, p < 0.001) according to 160/95 mmHg criterium. Mean systolic and diastolic blood pressures were 129.97± 27.78 mmHg (95% CI:128.7, 131.2) (males:128.20 ± 24.30 (95 % CI: 126.2, 130.2), females: 130.70 ± 29.10 (95 % CI: 129.2, 132.2), p = 0.013) and 81.95 ± 14.24 mmHg (95 % CI: 81.3, 82.6) males: 81.10 ± 13.0 (95 % CI: 80.0, 82.2), females: 82.30 ± 14.70 (95 % CI: 81.5, 83.1), p = 0.07), respectively.**
Conclusion: **In Van, hypertension is a serious health problem and efficient public health measures and education programs are needed.**

Key words: *Turkey, Van, hypertension, prevalence, epidemiology*

Hypertension is an important public health problem in Turkey. There are limited number of studies regarding the general population of Turkey, but little is known about the eastern part of Turkey, especially about Van (1,2). A cross sectional survey was conducted to estimate the prevalence of hypertension in Van in the contexture of the "Some of Importand Health Standards and Disease Prevalences Among Adults in Van" study.

Material and Method

Van is located along the eastern boundary of the Turkey with an altitude of approximately 1800 m, in which 242,974 adults (≥20 years old) live according to the general population census of 1990 (3). When projected to date of the study this number was 315,866. A total of 2010 subjects (aged between 20-74, 586 males, mean age; 44.8 ± 14.9,1424 females, mean age: 39.1 ± 14.1) from 27 localities (7 from the center, 20 from the rural areas) of Van were evaluated. Most of these people were farmers who lived in rural areas. The people were sampled via Local Health Center's "Follow-up Cards (FC)" according to systematic sampling technique and invited to their local health center in the planned day. Blood pressures were taken by resident physicians from Department of Internal Medicine of Yüzüncü Yıl University in local health centers between July and November 1997. Each participant was requested to answer the question "Have you ever been told by a doctor or nurse or other health officer that you had high blood pressure?". The blood pressure of each subject was measured by using a sphygmomanometer (Erka®) following minimum five minutes rest, from right arm of the subject while sitting. Measurement was repeated 3 minutes later and the average of these two values was used to calculate hypertension prevalence and the mean values. Hypertension was diagnosed when the mean systolic blood pressure (SBP) was over 140 or diastolic blood pressure (DBP) was over 90 mmHg, or the patient had been administered antihypertensive drugs. Another definition of hypertension was also used; SBP ≥ 160 mmHg or DBP ≥95 mmHg or receipt of current antihypertensive treatment (4,5). Thirty-seven subjects with known hypertension had normal BP and were taking antihypertensive medication. These were included in the hypertensive group and were not shown separately, but not included for the mean BP values. Consistent with the Third National Health, Nutrition and Examination Surveys (NHANES III) individuals who were reported to be hypertensive but at the time of screening, had blood pressures below the threshold while receiving non pharmacologic treatments alone or no treatments at all were not classified as hypertensive at that threshold (6). Statistical analysis was performed with computer program: Excel v.7.0 for Windows 95®. Student's t test was used for comparisions.

Results

Hypertension prevalence according to 140/90 mmHg and 160/95 mmHg criteria and mean blood pressures for men and women were shown in Table I. According to 160/95 mmHg criterium, hypertension was significantly more prevalent among women and mean systolic blood pressure was 2.5 mmHg higher when compared to men. Mean blood pressure values according to age groups for men and women were shown in Table II. Hypertension prevalence percentages according to two different blood pressure values for men and women were shown in Table III. For most of the age groups, systolic and diastolic mean blood pressures for women were higher than men.

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Discussion

Hypertension is a serious public health problem due to its catastrophic cardiovascular consequences (4). According to a meta analysis 2.9 mmHg increase of DBP causes 20-25 % increase of stroke incidence (7). This knowledge underlies the importance and danger of hypertension.

Comparison between TEKHARF study (TEKHARF is an acronym for " Heart Diseases and Risk Factors Survey of Adult Population in Turkey) and current data regarding hypertension prevalence among age groups according to 160/95 mmHg criterium was shown in figure (1). It was shown that for both gender and almost for all age groups, hypertension was more prevalent in Van when compared to the overall prevalence in Turkey . For each age group, mean BP was approximately 5 mmHg higher in Van when compared to TEKHARF. In our study,