We investigated the association of FLI with incident hypertension and cardiovascular disease outcomes in a large cohort of adults with prehypertension.

**Design and method:** We included 179,028 healthy Korean subjects from the National Health Insurance Service-National Sample Cohort without traditional risk factors who underwent a health examination between 2009 and 2014. Primary outcomes were new-onset hypertension and major adverse cardiac and cerebrovascular events (MACCE) in prehypertensive adults. Multivariate Cox proportional hazards regression analysis was used to assess the association between the FLI and the primary outcome.

**Results:** During a median follow-up of 8.3 years, 34,667 subjects (19.3%) developed hypertension (HTN). All subjects were divided into two groups based on BP, and categorized into quartile groups based on FLI. New-onset hypertension was significantly greater in 'high normal BP' group than in 'normal BP' group (23.3% vs. 1.5%, p<0.0001). The incidence of the new-onset hypertension was significantly greater in the subjects with higher FLIs according to the FLI quartile values in both groups (p<0.0001).

In a median follow-up of 9.1 years, 3,339 cases (1.87%) of MACCE occurred. MACCE occurred more frequently in 'high normal BP' group than in 'normal BP' group (2.33% vs. 1.51%, p<0.0001). In 'high normal BP' group, MACCE was also associated with FLI quartiles. With increasing FLI quartiles, subjects had significantly more events. In the multivariable models adjusted for factors, the hazard ratio for MACCE comparing the highest vs. lowest quartiles of the FLI was 1.640 (95% confidence interval [CI], 1.409-1.910) and 1.363 (95% CI, 1.141-1.627) in the ‘high normal BP’ group and ‘normal BP’ group, respectively.

**Conclusions:** FLI was independently associated with development of hypertension and MACCE in prehypertensive Korean adults without traditional risk factors. FLI may be an important predictor of new-onset hypertension and adverse CV outcomes.

**CAN ANTHROPOMETRIC INDICES PREDICT THE CHANCE OF HYPERTENSION? A MULTICENTRE CROSS-SECTIONAL STUDY IN IRAN**

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**Objective:** This study aimed to assess the prevalence of hypertension (HTN) and determine the relationship between HTN and anthropometric indices including fat distribution, body mass index (BMI), waist-to-hip ratio (WHR) and waist-to-height ratio (WHHR) in Shiraz Heart Study.

**Design and method:** Setting: In this cross-sectional study, subjects were enrolled in 25 clinics in Shiraz, I.R. Iran between 2019 and 2021. Participants: A total number of 7225 individuals were selected, aged between 40 and 70 years of whom 52.3% were female. Among the people living in Shiraz, individuals living far from clinics were not included, because of mental or physical disability and documented cardiovascular diseases were excluded.

Primary and secondary outcome measures:

Primary outcome: The association of body composition, WHR, WHHR and BMI with HTN.

Secondary outcome: The sensitivity and specificity of the WHR for the prediction of HTN.

**Results:** A total number of 7225 adults were enrolled. HTN prevalence was 19.3%. Obesity prevalence was estimated to be 28.5%. WHR and lean body mass showed a significant association with HTN (p=0.05). Receiver operating characteristic for WHR yielded an area under the curve of 0.62 (95% CI 0.61 to 0.64) and 0.63 (95% CI 0.62 to 0.65) for males and females, respectively. The optimal threshold value yielded 0.54 in men and 0.61 in women. The sensitivity was 72.3% and 73.9% in women and men, with specificity of 48.4% and 44.3%, respectively.

**Conclusions:** HTN had a meaningful association with all the noted anthropometric indices. WHR performed well as a predictor of HTN.

**HUNGARY’S COMPREHENSIVE HEALTH SCREENING PROGRAM 2010-2021 - ANALYSIS OF BLOOD PRESSURE VALUES**

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**Objective:** The Comprehensive Health Screening Program of Hungary 2010-2020-2030 (MAESZ) (http://www.egeszsegprogram.eu) is the only complex screening program in Hungary, in whose aim was to map the health status of our country.

**Design and method:** Between 2010 and 2021, the truck screening program was present at 2,212 locations nationwide and performed more than eight million screening tests for more than 643,172 citizens. Based on the data obtained in the period between 2010-2021, we analyzed the parameters reflecting the state of health and the effect of the factors affecting them in different age groups.

**Results:** In the period between 2010-2021, we processed the data of a total of 204,748 individuals (119,433 women and 85,315 men). The average age of women (=119,433) who participated in the screening tests was 42.85 years, and for men (n=85,315) it was 40.43 years. We measured abnormal values in 32% of men and 21% of women. During the evaluation of each stage, we measured values above 160/100 mmHg in more than 21,000 individuals, nearly 13%, of which more than 5,000 visitors (2,439 women, 2,679 men) had a blood pressure above 180/110 mmHg. During the questionnaire evaluation, 38% of the respondents by comparing the measured values and the questionnaires, 13.7% of all women and 36.6% of all men did not know about their elevated blood pressure. During the questionnaire evaluation, 38% of the respondents indicated that there is a hypertensive patient in the family. In all age groups and in groups with elevated blood pressure in both sexes, higher body mass index and abdominal circumference values occur in greater numbers. The correlation of BMI and diabetes with the amount of body fat and blood pressure was significant. (by chi2 test p < 001). Based on the risk assessment questionnaire, 26% of those who appeared in the family had a heart attack, and 18% had a stroke.

**Conclusions:** Based on the blood pressure data of the screening program, in the light of its statistical data, it can be stated that a large proportion of those participating in the tests belong to the high-risk group.

**PRECLINICAL VASCULAR ORGAN DAMAGE AND VASCULAR AGING ASSESSMENT IN NON-ALCOHOLIC FATTY LIVER DISEASE AND METABOLIC ASSOCIATED FATTY LIVER DISEASE PATIENTS**

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**Objective:** Non-alcoholic fatty liver disease (NAFLD) and metabolic associated fatty liver disease (MAFLD) are a growing health problem, with a growing prevalence due to its association with metabolic syndrome and diabetes. It is known to

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**Table 2** Distribution of HTN in male and female gender grouped by WHR and BMI, n=7225 adults in Shiraz Heart Study 2021

| Variable       | Female (n=3612) | Male (n=3613) |
|----------------|-----------------|---------------|
| BMI            |                 |               |
| No HTN         | 1577 (43.7)     | 1518 (42.1)   |
| P value        |                 |               |
| HTN            | 995 (27.5)      | 995 (27.5)    |
| WHR            |                 |               |
| No HTN         | 790 (21.9)      | 790 (21.9)    |
| P value        | 0.902 (0.01)    | 0.902 (0.01)  |
| WHHR           |                 |               |
| No HTN         | 2162 (59.8)     | 2162 (59.8)   |
| P value        | 0.963 (0.01)    | 0.963 (0.01)  |
| BMI            |                 |               |
| No HTN         | 1647 (19.2)     | 2699          |
| P value        | 0.987 (0.01)    | 0.987 (0.01)  |

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**BMI, body mass index; HTN, hypertension; WHR, waist-to-hip ratio; WHHR, waist-to-height ratio.**

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