Conclusions: A positive significant correlation ($p < 0.05$) between WC and average menarche: The mean values of WHR and WHtR were higher than the cut off values.

Objective: To study the influence of obesity on age at menarche.

Design and method: A cross-sectional study was conducted on the pre-menopausal women of the Zou tribe of Manipur, Northeast India. 126 adult females were studied cross-sectionally. The subjects were between the ages 15–40 years. Anthropometric measurements like body weight, height, hip circumference, waist circumference were taken by standard techniques of Weiner & Louie (1981). The age at menarche was recorded by recall method. The subjects were classified into early, average and late menarche on the basis of the percentile distribution of the menarcheal age.

Results: The average age at menarche was found to be 13.31 ± 1.04 years. There was no significant association found between the age at menarche and Body Mass Index (BMI) and the different measures of adiposity like waist hip ratio (WHR), waist circumference (WC) and waist height ratio (WHtR). However, when the correlation was dissected among the different classification of menarche, it was found that there was a positive significant correlation ($p < 0.05$) between WC and average menarche: The mean values of WHR and WHtR were higher than the cut off values.

Conclusions: There is a moderate relationship between long-term glucocorticoid abusers with hypertension ($p = 0.001$, $r = -0.396$, PR 2.344 [1.503–3.655; 95% CI]). Results showed a significant increase in systolic and diastolic blood pressure (SBP and DBP) in glucocorticoid abusers which associates with duration of abuse ($p = 0.02$ and $p = 0.03$, respectively). No significant electrocardiography changes had been found.

Objective: Lipoprotein-associated phospholipase A2 (Lp-PLA2) has been reported as a sensitive biomarker for cardiovascular disease. However, the association of Lp-PLA2 and atherosclerotic markers is not always warranted. The V279F loss-of-function variant of PLA2G7 gene encoding Lp-PLA2 is commonly seen in East Asians. To clarify the association of Lp-PLA2 and atherosclerotic markers, the PLA2G7 V279F genotypes in the general Japanese populations were investigated.

Results: Significant association of V279F genotype with triglyceride ($p = 0.15$, $P = 0.005$) and with ABI ($p = 0.12$, $P = 0.036$) were seen in men. It also showed trend of being associated with HDL-C ($p = 0.09$, $P = 0.07$) and with DBP in women ($p = 0.08$, $P = 0.080$). Men with rare T allele showed significantly higher triglyceride ($P = 0.004$) compared to those in men with GG wild type, and women with T allele showed significantly higher baPWV ($P = 0.011$) compared with those in women with GG wild type.

Conclusions: Lp-PLA2 V279F polymorphisms were significantly associated with atherosclerotic markers in the general Japanese population with gender differences.
practices or in community. The study population was adults aged 18 years and above. The outcome measure was the screening participation rate. A systematic search was conducted using 4 databases: Pubmed, CINAHL, EMBASE and Cochrane Central Register of Controlled Trials. The final search was in July 2014. Additional articles were located through forward and backward citation checks. The quality of studies was evaluated using Cochrane risk of bias assessment tool. Data were synthesized by meta-analysis using random-effects model with OpenMetaAnalyst software.

Results: From the review 21 studies were identified for cardiovascular risk factor screening. Of these, nine studies reported uptake rate of BP screening and these were included in this subgroup meta-analysis. There were four randomized or cluster randomized controlled trials (RCTs), three non-randomized controlled trials and two pre- and post-intervention studies. The risk of bias for randomized intervention was low for the RCTs and high for the other two study designs. Overall results showed that interventions increased uptake of BP screening (RR = 1.364 95%CI: 1.237–1.504). Interventions that significantly increased participation in screening included: using physician reminders (RR = 1.183 95%CI: 1.031–1.357), use of a dedicated personnel (RR = 1.702 95%CI: 1.147–2.526) and multifaceted approach (RR = 1.385 95%CI: 1.096–1.751).

Conclusions: Interventions for screening such as using physician reminders, use of dedicated personnel and use of a multifaceted approach were effective in increasing BP screening uptake.

### LUNG FUNCTION DIFFERS AMONGST ETHNIC POPULATIONS IN THE MINORITY AREAS OF CHINA

Runhua Yan1, Wei Li2, Kun Hua1, Shelly Tse3, Lu Yin1, Yang Wang1, Jian Bo4, Lisheng Liu1. 1Medical Research & Biometrics Center, Fuwai Hospital, National Center for Cardiovascular Diseases, China, 2Department of Cardiac Surgery, Beijing Anzhen Hospital, Capital Medical University, China, 3Department of School of Public Health and Primary Care, Faculty of Medicine, Chinese University of Hong Kong, China, 4Department of Cardiology, Beijing Hypertension League Institute, Chinese Hypertension League, China

**Objective:** None previous studies had examined variations of lung function among different ethnic populations in China. This study aims to investigate whether lung function differs amongst ethnicities in the minority areas of China.

**Design and method:** Being a part of an international, community-based prospective study, we recorded forced expiratory volume in 1 s (FEV1) and forced vital capacity (FVC) from 46,285 individuals in 115 urban and rural communities across China mainland. Never smokers who were aged 35–70 years with body height of 130–190 cm, residing in the minority areas of China, and free from physician-diagnosed chronic diseases were analyzed. We compared lung function among four major minority populations (Uyghur, Hui, Mongolian and Dai) relative to Han Chinese, by using nonlinear multiplicative regression model after taking consideration of age, height, gender, education, and urban versus rural location.

**Results:** Among a total of 7137 individuals enrolled from the minority areas in China, 2005 subjects fulfilled the eligible criteria, of which, 1575 (78.6%) were minorities. For all ethnicities, lung function increased with height but decreased with age; lung function was consistently higher in men than women. Compared with Han Chinese, adjusted FEV1 was 2.71% (95% confidence interval [CI]: 0.60 to 4.82%) higher in Mongolians, 3.87% (95% CI: 1.40 to 6.33%) lower in Uygurs, 3.68% (95% CI: 2.36 to 5.36%) lower in Hui people, and 5.61% (95% CI: 2.87 to 8.36%) lower in Dai people. We recorded similar differences in FVC.

**Conclusions:** We detected a significant lung function variation among different ethnic groups in China, after taking consideration of height, age, gender, and socio-economic status. Such a disparity may be attributed to environmental risk factors indoors that deserve further investigation.

### EVOLUTIONARY PERSPECTIVES ON HYPERTENSION IN AFRICAN AMERICANS

Kum-II Kim1. Tessa Pollard2. 1Department of Medical Humanities, Busan National University School of Medicine, Korea, Republic of; 2Department of Anthropology, Durham University, United Kingdom

**Objective:** Characteristics of hypertension in African American include high prevalence, earlier onset and greater severity, hypertension-associated kidney disease with a poor kidney-protective response to medications, and high incidence of the end-stage renal disease. The aim of this poster presentation is to demonstrate evolutionary perspectives on hypertension in African American.


**Results:** Two key evolutionary hypotheses on hypertension in African Americans were identified. Human and hominid species evolved for about 2 million years in a low salt environment where there was strong selection pressure for genes and mechanisms to preserve salt. This trait has been more prominent for those who have lived in tropical Africa where sweating levels are high in response to high temperatures. Among the genes that influence blood pressure, allele which increases salt avidity (i.e. GNB3 825T, AGT A(-6)/M235) is more frequent in African than non-African population.

An all allele hypothesis focuses on the antagonistic pleiotropy of gene (APOL1 risk alleles G1 and G2), which may have been selected to protect against Trypanosoma infection. This gene also predisposes to chronic renal disease (focal segmental glomerulosclerosis) and consequent hypertension. The prevalent area of trypanosomiasis roughly matches with the most enslaved areas in sub-Saharan Africa. 51% of African Americans carry at least one risk allele of APOL1 compared to 0% of European Americans.

**Conclusions:** The high prevalence of hypertension in African Americans may be partially explained by an evolutionary perspective. Guidelines on salt restriction should be more fine-tuned for genetically susceptible subgroups such as African Americans. Hypertension in African American is more likely to foretell ongoing chronic kidney disease compared to European American.