عنوان مقاله:

Isfahan Twin Cohort: A Ten-Year Longitudinal Prospective Study Based on A Twin Registry

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خلاصه مقاله:

Background: The Isfahan Twin Cohort (ITC) aims to provide a comprehensive understanding of the interplay between genetics and environment in the development of Non-Communicable Diseases (NCDs). As a type of specialized epidemiological investigation, twin studies are designed to quantify the contribution of genetics to a particular phenotype when confronted with environmental factors. In this context, the present study aims to present a detailed overview of the ITC methodology.Methods: The ITC is a prospective longitudinal study started in ۲۰۲۰. Data collection, including the demographics, socioeconomic status, health-related habits, medical history, and zygosity of the participants, was performed using validated questionnaires. Moreover, anthropometric measurements and blood pressure assessments were performed by a trained nurse. Also, fasting blood and morning urine samples were collected during a morning visit, and biochemical investigations were conducted at the central laboratory of the Isfahan Cardiovascular Research Institute. The participants underwent follow-up telephone interviews biannually, in which brief questionnaires were filled out on the changes in the lifestyle factors of the participants, such as diet, physical activity, psychological factors, and smoking habits. The second and final follow-up visit will include complete assessments, including blood and biological sample collections, similar to the baseline assessment. Results: The ITR has registered a total of ۱۱۲ (n=۲۲۴) monozygotic and ۲۹۱ (n=۵۸۲) dizygotic twin pairs during two years. The age range

of the participants is ۱ month to ۵۶ years. Until November ۲۰۲۰ / ۲۰۲۱, the registered twins were categorized by age and included ۴۸ pairs (n=۹۶) in the infant group (monozygotic: ۷ pairs, dizygotic: ۴۱ pairs); ۲۸۳ pairs (n=۵۶۶) in the early childhood, late childhood, and adolescent groups (monozygotic: ۷۴ pairs, dizygotic: ۲۰۹ pairs); and ۷۲ pairs (n=۱۴۴) in the adult group (monozygotic: ۳۱ pairs, dizygotic: ۴۱ pairs). Conclusions: The cohort is being prospectively followed with plans to investigate the clinical utility of the newly developed biomarkers and gene-environmental interactions in the future.

کلمات کلیدی:
twin, cohort, longitudinal, Cardiometabolic

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