**Hoveyzeh Cohort Study:**

**The First Megaproject Addressing Non-Communicable Diseases among Arab Adults in Iran**

**Introduction:**

Non-communicable diseases (NCDs) have emerged as a significant health burden in Arab countries, with their prevalence increasing due to behavioral risk factors and changing lifestyles. Despite this alarming trend, policy responses have been inadequate, and governments have not sufficiently prioritized the issue of NCDs. Research on genetics and NCDs in Arab countries has primarily been descriptive and clinically focused, revealing gaps in the study of highly heritable diseases and common NCDs. While nutritional research related to NCDs in these countries has shown promising progress, there are still deficiencies in study designs, dietary assessment methods, and population focus. Lifestyle interventions that incorporate behavioral therapy and personalized goals for diet and physical activity have demonstrated improvements in health outcomes, particularly in longer-duration studies with follow-ups. To effectively tackle the NCD crisis, a multispectral approach, strengthened health systems, and continuous monitoring are essential.

**Methods:**

The Hoveyzeh Cohort Study (HCS) is a population-based cohort study conducted in Hoveyzeh County, located in southwestern Iran. HCS focuses on common chronic diseases, disorders, and risk factors associated with non-communicable diseases (NCDs) within the Arab population.

A total of 10,009 participants aged 35 to 70 years were recruited for this prospective cohort study conducted from May 2016 to August 2018. HCS data was collected by trained interviewers using interviewer-administered questionnaires. Additionally, anthropometric measurements, physical examinations, clinical assessments, ophthalmological evaluations, auditory examinations, and respiratory and cardiovascular assessments were conducted using standard instruments. Biological samples, including blood, urine, hair, and nails, were collected and stored in a biobank.

The study is currently in the follow-up phase. Participants were monitored for one year after entering the study using both active methods (home visits and information obtained from hospitals, health, and treatment centers) and passive methods (telephone follow-ups). All medical documents and questionnaire data are uploaded online, and the results related to non-communicable diseases—including cardiovascular diseases, strokes, heart diseases, respiratory diseases, and kidney diseases—are verified by internal specialists and subspecialists from various fields.

**Achievements of the Hoveyzeh Cohort Center:**

**- Achievements in Health Provisions and Promotion**

1. Laboratory screening, including biochemical factors, hematology, and urinalysis.

2. Anthropometric Measurements

3. Oral and Dental Examination

4. Mental health assessment and screening for common conditions, including depression.

5. Diagnosis, Referral, and Treatment of Common Non-Communicable Diseases (Diabetes, Hypertension, Cancer, Anemia, etc.)

6. Screening for Diagnosis, Referral, and Treatment of Hearing System Disorders

7. Screening for Diagnosis, Referral, and Treatment of Respiratory System Diseases

8. Screening for Diagnosis, Referral, and Treatment of Cardiovascular Diseases

9. Screening for diagnosis, referral, and treatment of visual system diseases include determining eyeglass prescriptions, testing near and far vision, examining refractive errors, and conducting retinal examinations.

**- Scientific Achievements of the Hoveyzeh Cohort Center**

1. A reliable estimation of the prevalence and incidence rates of non-communicable diseases, along with an examination of their risk factors within the studied population.

2. Contribution to the Enhancement of Research Projects, Theses, and University Articles

3. Significant cost savings for research projects.

4. Approval of 75 research projects utilizing data from the Hoveyzeh Cohort Research Center.

5. Approval of 18 theses across various educational levels utilizing data from the Hoveyzeh Cohort Research Center.

6. Publication of 30 academic articles utilizing data from the Hoveyzeh Cohort Research Center.

**-Infrastructure Achievements for the Hoveyzeh Center Cohort**

1. Establishing appropriate infrastructure for field visits and training for students and other researchers.

2. Trained experienced local researchers among the staff employed at the Hoveyzeh Cohort Center.

3. Create a standardized academic biobank covering an area of 250 square meters, with a capacity of at least 24 freezers.

**Conclusion:**

The high prevalence of diabetes, hypertension, metabolic syndrome, and non-alcoholic fatty liver disease was observed among the Hoveyzeh cohort participants. Additionally, several risk factors have been identified, including high levels of physical inactivity, a substantial percentage of smokers, obesity, and lipid profile disorders. These factors may contribute to the development of non-communicable diseases in the future. Given the similarities in genetic factors, lifestyle, and geographical characteristics among the Iranian Arab population and those in the Persian Gulf region, these findings may also be can be generalized to these areas.