Genetic Disorders in Arabs

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Impact of GDs in the Arab World

- Chronic in nature with lifelong management and no definitive cure
- Common GDs in Arabs reached epidemic proportions (SCD, AT, HT, DM)
- Spontaneous abortion, neonatal death, morbidity and mortality in children and adults

Economics of GDs in the Arab World

- Longer and more frequent hospital admissions
- Higher number of surgeries
- Total costs paid are more expensive
- Come frequently from outside major cities and travel farther to obtain better treatment
- Families end up by paying the bill
- SCD: 6300$ required annually excluding indirect and tangible costs

Preventive Aspects of Genetic Disorders

- Expertise and resources to initiate prevention programs are available in the region
- Newborn and carrier screening programs
- Abnormal findings should lead to clinical management of genetic disorders
- Cost effectiveness
- Extensive educational activities
- Sensitivity to cultural backgrounds

The CTGA Database

www.cags.org.ae
Consanguinity in Arab Populations

Spectrum of Genetic Disorders in Arabs
- Teebi type of Hypertelorism (1987)
- Teebi-Shaltout syndrome (1989)
- Al-Gazali syndrome (1994)
- Megarbane syndrome (2001)

Spectrum of Genetic Disorders in Arabs
- Lebanese type of mannose 6-phosphate receptor recognition defect (1984)
- Algerian type of spondylometaphyseal dysplasia (1988)
- Kuwaiti type of cardioskeletal syndrome (1990)
- Yemenite deaf-blind hypopigmentation syndrome (1990)
- Nablus mask-like facial syndrome (2000)
- Jerash type of the distal hereditary motor neuropathy (2000)
- Omani type of spondyloepiphyseal dysplasia (2004).

Geography of GDs in the Arab World
- Bare lymphocyte syndrome, type II
- Limb-girdle muscular dystrophy, type 2C
- Hemolytic-uremic syndrome
- Ankylosing spondylitis
- Alpha-thalassemia
- Cystic fibrosis
- Beta-thalassemia
- Familial Mediterranean fever
- Glucose-6-phosphate dehydrogenase deficiency

GDs in Arabs: Gene Mapping
- Diseases not mapped
- Arab
- UAE

Challenging Issues: Scientific Reporting
- Inconsistencies in reporting (patient origin, family history)
- Occur more in international articles
- Unified system for clinical and molecular reporting
**Challenging Issues: Research Directions**

- Clinical reports vs. molecular studies
- Lack of large-scale data of DNA or protein sequences, mutations, and SNPs data
- Data necessary to address urgent health needs
- Constructive engagement of global efforts to build sustainable research activity based upon education and improvement of human health