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**

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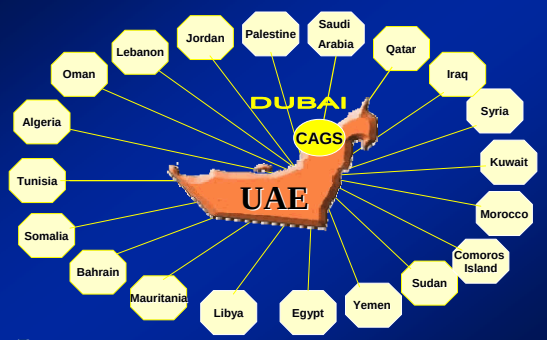
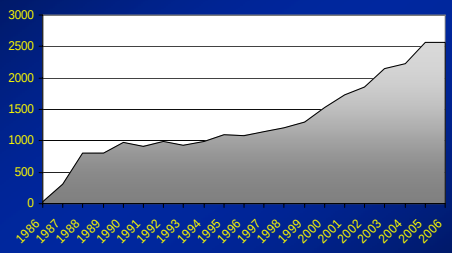


The CTGA Database

www.cags.org.ae

Arab Biomedical Publications



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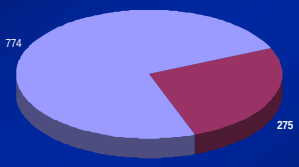
Genetic Disorders in Arabs



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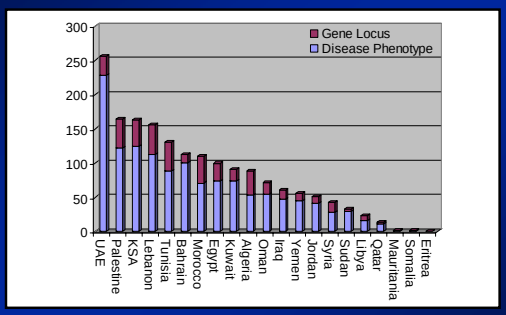
Genetic Disorders in Arab Countries



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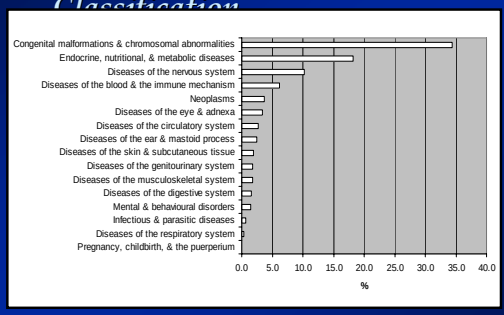
GDs in Arabs: Disease Classification



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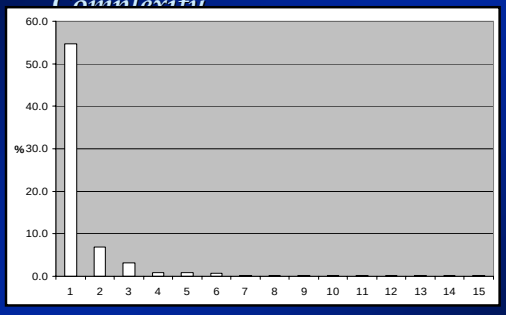
GDs in Arabs: Molecular Complexity



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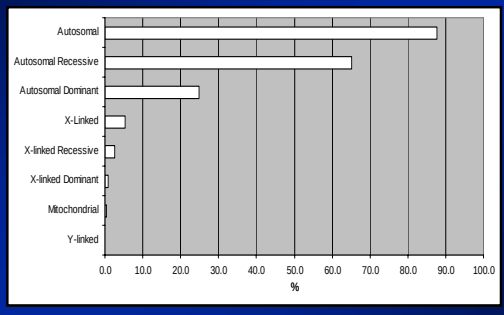
GDs in Arabs: Mode of Inheritance



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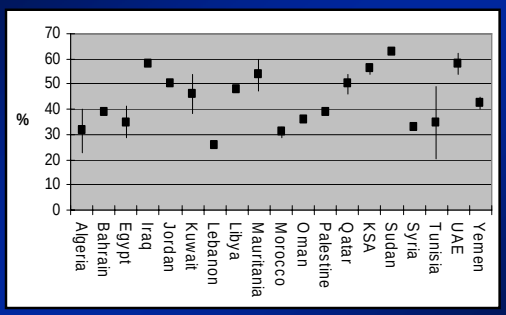
Consanguinity in Arab Populations



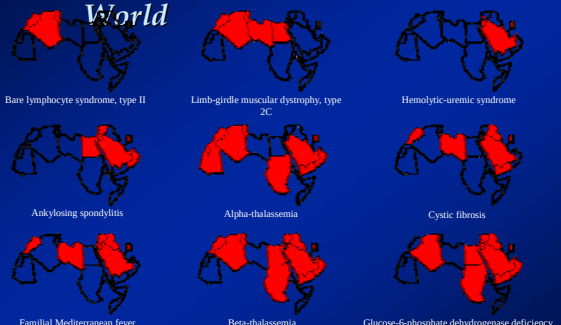
Spectrum of Genetic Disorders in Arabs

- **Teebi type of Hypertelorism (1987)**
- **Teebi-Shaltout syndrome (1989)**
- **Al-Gazali syndrome (1994)**
- **Megarbane syndrome (2001)**

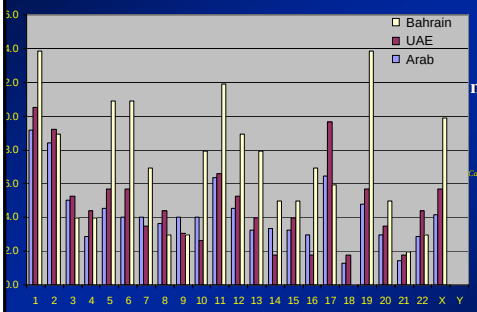
Spectrum of Genetic Disorders in Arabs

- **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)**
- **Karak syndrome (2003)**
- **Omani type of spondyloepiphyseal dysplasia (2004).**

Geography of GDs in the Arab World



GDs in Arabs: Gene Mapping



Diseases not mapped

31.7%

Candidates for linkage studies?

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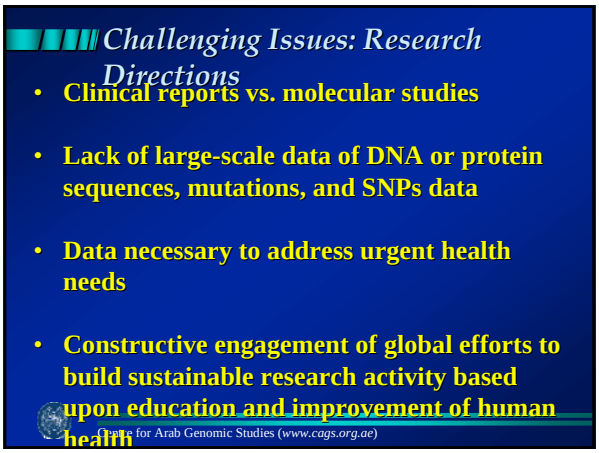
Challenging Issues: Scientific Reporting

- **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
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