

Interventions addressing genetic disease burdens in the MENA region: A scoping review

Madison Grant, MPH HPCH

Advisor: Dr. Tamar Kabakian

Second reader: Dr. Soha Yazbek

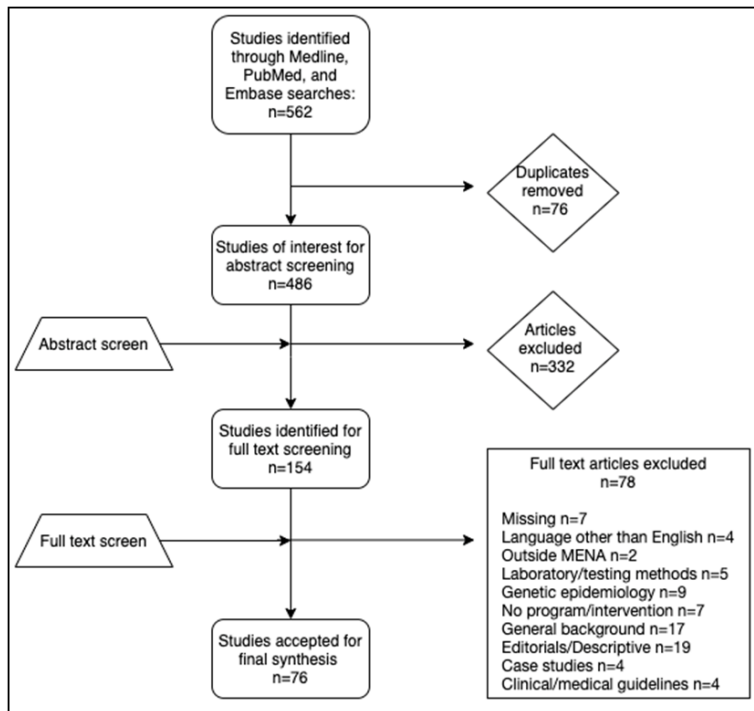
Rationale

- The MENA region is disproportionately affected by the burden of genetic disease due to the cultural practice of consanguinity
- No previous research provides a comprehensive view of all types of genetic health interventions present within this region
- The aim of this study was to identify how genetic disease burdens are being managed within MENA nations

Objectives

- Identify interventions in the MENA region that address genetic disease burdens linked to consanguinity
- Synthesize literature to map interventions by their geography, characteristics, and any associated outcomes and impact
- Identify gaps to inform potential areas for research in the region

Process



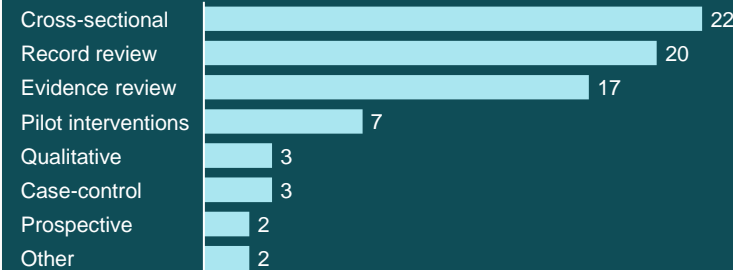
Methodology

- Scoping review process followed the Arksey & O'Malley framework and the PRISMA guidelines for reporting
- Three databases utilized: Medline Ovid, Embase, PubMed
- Abstract screening performed independently, full-text screen performed with two collaborators
- Numerical analysis presented for study types, geographic regions, genetic disease targets, prevention levels, and type of interventions

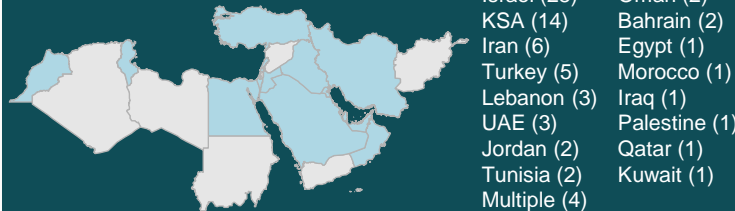
Results

A total of **76 articles** were included in the final synthesis spanning **16 MENA nations**

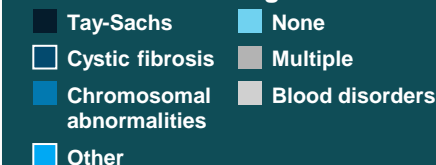
Study type



Geography



Genetic disease targets



Prevention level



Programs and interventions



Conclusions

- More research is needed to pilot effective community-based genetics programs for those most impacted by genetic disease
- Research gaps highlight the need to expand prevention efforts to more prevalent genetic diseases
- Better evaluations are needed for national level programs to realize progress on disease burden impact
- Capacity building is needed to improve genetic services such as genetic counselling

Recommendations

- A systematic review is warranted to provide evidence on program development strategies suitable to the MENA context

Ethics

- The religious ban on abortions in many MENA nations have implications for program development