

Introduction

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder that affects the person’s capability to socially interact with others, communicate and reply to stimulations in their environments. It is having been estimated that out of every 1000 child, 3–6 of them would have autism worldwide and the prevalence is higher in males compared to females. Studies have found that autism prevalence is 0.6% in the Kingdom of Saudi Arabia, 1.4% in Oman and 1.14% in Qatar. Although neonatal and prenatal risk factors were the focus of numerous epidemiological studies over 40 years, Autism etiology is still unknown. One of the factors that have been linked to autism and is related to genetic is consanguinity. Almost 20% of the world’s population lives in societies that favor consanguineous. In Qatar, consanguinity is estimated to be 54%.

With the growing worldwide prevalence of ASD, as well as in Qatar (1.14%), research should have rapidly progressed efforts to improved understand the increase in it is incidence and co-morbidities.

Aim

We aim to estimate the global prevalence of consanguinity among the ASD families and compare it among different populations.

Methods and Materials

Meta-Analysis of observational studies reporting prevalence of consanguinity among ASD families were searched systematically in important databases including EMBASE, PubMed and Academic Search Complete. Individual studies were screened by two reviewers independently, extracted data and assessed the risk of bias using a risk of bias tool (Hoy’s tool). Random Effect model was used to calculate pooled weighted estimates due to considerable heterogeneity. Subgroups analysis were also calculated.

Results

10 publications were identified based on our inclusion criteria from 8 different countries, 4 of them were from the Gulf Cooperation Council (GCC) and the rest were from: Lebanon (2 studies), Egypt, Jordan, Iran, and Israel). Studies varied in ASD cases numbers as it ranged between 49–500, and the total ASD individuals in all studies were 1581. All studies address consanguinity among the ASD families despite the variation in the methods.

The pooled estimate of consanguinity among ASD families was 24%. Subgroup analysis by the study country led to a higher pooled estimate of consanguinity of 38% in the GCC countries compared to other than GCC countries with a pooled estimate of 16%. Also, the overall odd ratio calculated from the case-control studies included in our meta-analysis was 1.5.

Conclusions

The globally estimated pooled consanguinity prevalence among ASD patients was 24%, GCC countries showed a higher pooled prevalence (38%).

Discussion

To our knowledge, this is the first meta-analysis that studied the prevalence of consanguinity among ASD families worldwide. Children born to consanguineous parents have been reported to have lower social behavior and cognitive ability, which are the main problems with ASD children. Our study qualitatively reviewed the prevalence of consanguinity among ASD families worldwide. Children born to consanguineous parents have been reported to have lower social behavior and cognitive ability, which are the main problems with ASD children. Our study qualitatively reviewed the prevalence of consanguinity among ASD families worldwide.

References


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Nothing to disclose

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