Abstract Title: Novel findings on Omani Families with Intellectual disabilities

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Abstract

Intellectual disability (ID) is an early-onset neurodevelopmental disorder that impacts on daily living skills. It is a major health issue among young adults, with a worldwide estimated prevalence of about 2-3%. Affected individuals cannot meet the personal and social demands expected of them. They have a significantly reduced ability with regard to intellectual reasoning and adaptive skills such as self-care, independence and interpersonal communication. These deficits are reflected by an IQ (intelligence quotient) score of less than 70.

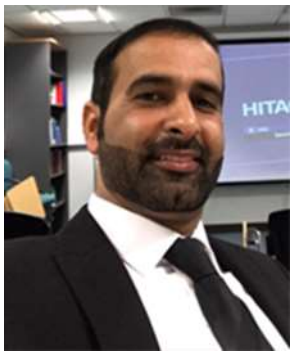
Intellectual disabilities can be caused by genetic or environmental factors. Environmental causes include problems with pregnancy or childbirth, post-natal toxicity, malnutrition, infection or injury. Genetics, on the other hand, have contributed by not less than 50% of the ID cases. In fact, there is considerable genetic heterogeneity underlying familial ID, and > 800 genes have already been identified. The huge expansion in the number of the genes identified for ID in recent years could be significantly attributed to the revolutionary technology of whole exome sequencing (WES) that allowed the massively parallel sequencing of the DNA.

In Oman, intellectual disabilities are major health issues. Due to the effect of environmental factors such as poor medical care, infection and malnutrition, ID generally tends to be more common in developing countries. It should be also mentioned that majority of Arab countries still have high rates of consanguineous marriages, which would impact the prevalence of recessive diseases. In this project, WES and homozygosity mapping have been used to study consanguineous Omani families with ID and a group of novel findings would be reported!

Keywords— Intellectual disability, consanguineous marriages, whole exome sequencing, homozygosity mapping

Professional Biography

Dr. Ahmed Al Amri is a young molecular scientist who completed his PhD from the University of Leeds. His work has been focused on the genetic basis of intellectual disabilities and psychosis. He is a senior lab specialist (A) at the National Genetic Centre, Royal Hospital, Oman. Dr. Ahmed has participated in a number of international conferences and published a group of articles in field of neurogenetics.



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