

Abstract ID:- 14

Abstract Topic:- Statistical genetics and genetic epidemiology

Abstract Title:- Prevalence of Intellectual Disability(1-18years) in Tirupattur District, Tamilnadu – Community Based Study

Presenting author name :- Parandhaman Arumugam

Presenting author institute:- Pugazh Centre for Genetic Counseling, Tirupattur

Co-authors name:- Retd. Prof. Dr. Srilakshmi Rajagopal, Prof Jayesh Sheth, Prof Dr Rema Devi, Prof Dr Shriraam Mahadevan, Dr Sudha Rathna Prabhu, Dr Vanishree Shriraam

Co-authors institute:-Medical Geneticist, TNDRMGRMU, Chennai, FRIGE Institute of Human Genetics, Ahmedabad., HOD, Department of Anatomy, PIMS, Pondicherry, HOD, Department of Endocrinology, SRMC, Chennai, Director, SVASAM Health Care Centre, Chennai, Associate Professor, Department of Community Medicine, SRMC, Chennai

Aims:-To find out the prevalence of Intellectual disability in children from Tirupattur district, Tamilnadu, India.

Methods:- An extensive community-based survey of disability covering 3,22,887 children in Tirupattur District, Tamil Nadu state was conducted during the years 17th December 2021 to 7th September 2023 using a specially designed case sheet.

1. All the children are physically verified from schools, Early Intervention centre, Day care centres and houses.
2. Children were identified via key persons of villages (School teachers, Anganwadi teacher, Panchayat leader, VHN and ASHA workers)
3. Based on the previous medical records from Medical Officers & experts from Institute of Child Health and hospital for children, Christian Medical College and Government Medical Colleges, disability card of the children were analysed and included in the study as Intellectual Disability (ID) and Autism. After inclusion of kids in our study we took detailed pedigree analysis, provided Genetic counseling to their families for the prevention of further damage in the kid and pre-pregnancy genetic counseling for a healthy baby.

Results:- - Children between the ages of 1 and 18 years were seen.

- Population size - Rural 217133, Urban 92422 and Tribal 13332 (Total 322887 children).

- Total number of disabled children 1481. Out of which intellectually disabled are 743, Autism spectrum disorder 21, hearing impaired 158, visually impaired 59, and intellectual disability with multisystem involvement 105.

- Family history of ID in 16%

- Consanguinity in 63%. Out of which Second degree consanguinity in 24% and third degree consanguinity in 39%

- Antenatal history medication taken for acute or chronic conditions in first trimester is 3%

- Antenatal genetic testing and /or counseling: practically nil.

Conclusions:- The state has NO database of Genetic, endocrine or metabolic disorders that occur at birth, for the 11 lakh children born in the state every year. Such conditions lead to death within the first four weeks, or it stunts growth and causes irreparable damages to the brain. Genetics conditions are not RARE it seems to be under diagnosed or ignored. The present study will create an awareness for maintaining community genetics workup to prevent intellectual disability.

Preventable measures are,

1. Community based awareness program about Genetic disorders.
2. New Born Screening (NBS), for all babies.
3. Improving Maternal and Child Health.

Keywords:- Consanguinity, Genetic Counseling, Intellectual Disability.