

ISSN 0972-3757

*International Journal of*

# HUMAN GENETICS

## *Special Volume*

© Kamla-Raj 2010

Int J Hum Genet, 10(1-3): 105-112 (2010)

PRINT: ISSN 0972-3757 ONLINE: 2456-6360

DOI: 10.31901/24566330.2010/10.01-3.15

### **Young Mothers Produce More Chromosomal Syndrome Babies in Mysore, South India**

**Suttur S. Malini and Nallur B. Ramachandra**

*Human Genetics Laboratory, Department of Studies in Zoology, University of Mysore,  
Manasagangothri, Mysore 570 006, Karnataka, India*

**KEYWORDS** Young Mothers. Chromosomal Aneuploidy. Advanced Maternal Grandmothers Age. Odds

**ABSTRACT** Chromosomal syndromes contribute significantly to reproductive failure, birth defects, mental retardation, delayed puberty, and hermaphrodites in humans. It has been estimated that at least 5% of all human conceptions are aneuploids, most of them resulting in pregnancy loss. The well-established factor to produce babies with chromosomal syndromes is advanced age of mothers. However, in India, more of young mothers give birth to babies with chromosomal syndromes. The present study has been attempted to investigate the possible causes. A total of 175 children with chromosomal aneuploidy and 300 controls were screened for cytogenetic investigation from major hospitals of Mysore city. Genetic register was established, pedigree was constructed and degree of consanguinity was studied for the cases where parental consanguinity was evident. Cytogenetic and statistical analysis were carried out using logistic regression. Logistic regression of case-control study of babies with chromosomal aneuploidy revealed that the odds ratio was significant for advanced father and maternal grandmother's age when all the variables were used together. The effect of age of father and age of maternal grandmother were increased in odds by 16% and 46% per extra year respectively. Along with the established risk factors like advanced age of parents, maternal grandmother's age is also the potential possible risk factor for the manifestation of babies with chromosomal aneuploidy in young mothers.