

# Biostatistics & Epidemiology

**Group Leader: Dr. Ashwani Kumar Mishra**

## **Research**

The Biostatistics and Epidemiology Division is actively involved in imparting biostatistical and epidemiological inputs for various research studies carried out in the institute. Primarily, this involves an in depth discussion with the scientists and research scholars of the institute with special emphasis on the data management, data analysis and interpretation of results from the statistical and biological perspectives. Additionally, the section also contributes significantly in the development of new projects by providing biostatistical and epidemiological inputs on important issues of research methodology like study design, sample size determination, techniques of data collection, management of data, analysis and interpretation of the findings. The Division possesses the central facility of network license statistical package SPSS 17.0 for 10 users to meet the requirement of data handling and its subsequent analysis. Till date, the section has contributed under the following research studies:

1. Study on expression of AR in Breast Cancer and its correlation with other steroid receptors and growth factors
2. Evaluation of the predictive role of p53, p21Waf1, VEGF and CD105 for recurrence of non muscle invasive Bladder Cancer
3. Vitamin D receptor gene polymorphisms and breast cancer risk in North Indians
4. Cytokeratin immunoexpression in esophageal squamous cell carcinoma of high risk population in North East India
5. A study on the functional role and clinical sign of Androgen Receptor (AR) in breast cancer susceptibility
6. Statistical Considerations in Breast carcinoma-A Study on Association of Androgen Receptors with Clinical Response
7. Immunophenotypic and clinical findings in adult Acute Myeloid Leukemia with FLT3 Internal Tandem Duplication
8. NF-kB signaling pathway in acute leukemia: A study on expression of cell survival and proliferative genes by Real Time RT-PCR
9. Significance of TP53 codon 72 polymorphism in breast cancer showing different xenobiotic potential spectrum
10. Assessment of breast cancer risk: Genotype polymorphism in estrogen synthesizing and metabolizing genes and their contribution in breast cancer susceptibility
11. Study of Interactions between Glutathione-S-transferase Metabolic Enzymes and Smoking in Lung Cancer
12. Mutation of FLT3 gene in acute myeloid leukemia with normal cytogenetics and its association with clinical and immunophenotypic features
13. Distribution of GSTT1 and GSTM1 polymorphisms in North East Indians

## **Teaching**

As a part of collaborative academic activities, the section is involved in teaching to research scholars registered for Ph.D programmes under BITS Pilani, IndraPrastha University and Jiwaji University, Gwalior. Teaching is in the form of lectures and practical hands on exercise on topics such as basic biostatistical approaches, probability and design of studies, correlation and regression analysis, significance testing and application of computer in biostatistics.