

# OTHER ACTIVITIES

## 4.1 Biomedical Informatics Centre of ICMR

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**Commencement:** July, 2013      **Duration:** Five Years      **Status:** Ongoing

**Funding Agency:** Indian Council of Medicine Research (ICMR) (Extramural)

### OBJECTIVES

1. To identify genetic loci associated with diseases of National interest such as Diabetes, Cancer, Stress, Mental illness etc. in Indian population.
2. To develop solutions for controlling pathogens causing diseases of National interest such as Tuberculosis, Malaria, and AIDS etc.
3. To develop a National Repository of clinical information/data, high-throughput data, genotype and phenotype.
4. To promote applications of cutting-edge technologies in medical research.

### PROGRESS

#### Meta analysis for the associates of Diabetes mellitus

With the objectives such as, to investigate risk factors associated with diabetes as derived through a relevant systematic review and meta-analysis, to determine cause & effect relationship of risk factors either individual or as co-group having significant implication in DM pathogenesis and to find out existing gaps and planning selected wet lab experiments, an exhaustive meta analysis exercise has been undertaken during reported period.

Extensive literature search and data mining was done on various scientific databases such as pubmed, medline, clinical trials (clinicaltrial.gov), published studies and reviews (cochrane reviews.org) to develop a knowledge stock of risk factor in consideration with DM risk. Longitudinal studies with having different treatment groups for dietary factor in consideration were included. Appropriate combination of MeSH (Medical Subject Heading) terms was used to search relevant literature and clinical studies. Studies focusing on risk of DM development were included. Studies done on diabetic population or not having groups with differential exposure of factor in consideration were excluded.

To conduct meta-analysis STATA software (STATA Corp. TX USA) was used. “Meta” command of STATA software was used for performing calculations of meta-analysis. Combined RR (Relative Risk) was calculated by using adjusted RR from individual studies.

Results suggest potent role of non-vegetarian, western diet, and animal protein in developing DM pathogenesis. Results are intriguing as they indicates role of dietary animal protein, non-vegetarian diet and western pattern in DM pathogenesis. While vegetable protein, legumes, soyabean and prudent pattern are found to decrease risk of DM. No role of fat is seen. Overall role of protein type in modulating DM risk and negligible role of dietary fat are intriguing and needs further investigation.