elevated hemoglobin and leukopenia were associated with dengue and low phosphorous was associated with malaria.

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Decadal study of incidence and control of Malaria in Tribal Population – with special reference to Khammam district of Telangana State
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Background: It is stated that 80 percent of the malaria cases in India are confined to 20 percent population of which tribals living in hilly, forest and mountain slopes are significant. Low level of literacy, ignorance and poor health seeking behavior of the tribals are the major reasons for the prevalence of malaria in the agency areas inhabited by the tribals. Health facilities are limited to most of the tribals in view of the logistic problems and inaccessibility. Geographical isolation, remoteness, persistence of vector – conducive environment, poverty, low level of awareness, traditions and superstitionis, malnutrition. This research study takes place in Khammam district of the Telangana State where S.T. Population is 27.4 percent, the highest among the districts of South India. The tribal districts of the State are on the edges of the river Godavari. Khammam district is located close to chattisgarh and odisha where the incidence of malaria is relatively high.

Methods & Materials: The district administration has taken different innovative measures by organizing health – camps where the needed tests are conducted. Fever survey, awareness programmes at the village level, free transportation of the malaria positive persons for treatment, distribution of medicines freely, specialist doctors to treat the Patients and free supply of food to the patient’s families besides initiating preventive measures like spraying ACM 5%. (Irs spray), Supply of mosquito nets (LLIN) and mosquito coils. RTD KITS, Micro Slides, Microscope, JSB 1, JSB 2, Methly Alcohol, M1, M2, M3, M4 Records, Anti larvae, ACT KITS, Chloroquine - Primaquine.

Results: The study analyses the cases of malaria in the district between 2001-2015 (up to September), extending over a period of 15 years. There are ups and downs in the number of cases though the maximum is 4811 in 2010 and the minimum is 803 in 2003. More ever, infected migrants to the district from the border states are high during November – February

Conclusion: Community as a whole has been motivated to tackle the challenge of malaria. All the measures of the district authorities are depicted in this paper along with suggestions.

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Genotypic, phenotypic and functional profiles of NDM harboring Carbapenem resistant Escherichia coli from India
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Background: The emergence of Carbapenem resistant E. coli has been established as a major public health threat and represents a new challenge in the treatment of infectious diseases. India has been implicated in the transmission of NDM1 E. coli across the continent. It is therefore pertinent to investigate the current prevalence and characterize Carbapenem resistant superbugs in India.

Methods & Materials: A total of ∼510 isolates were screened for Carbapenemase production followed by PCR amplification and sequencing of NDM genes. Antibiotic sensitivity towards 20 different antibiotics was performed using disk diffusion technique. MIC was determined based on HI-comb MIC test. Conjugal transfer was performed either by broth mating or filter paper based method. Adhesion, invasion, biofilm formation and serum resistance assays were performed to assess in vitro virulence properties. Isolates were genotyped by ERIC-PCR fingerprinting.

Results: Thirty nine (8%) out of the 510 E. coli were found to be Carbapenem resistant, of these 94% of the strains were positive for NDM gene. They comprised mainly (75%) of NDM-1 allele while other NDM types like NDM-5, NDM-7 and NDM-4 were also detected in rest of the isolates at varied proportions. NDM positive E. coli demonstrated higher resistance rates to both β- and non-β-lactam antibiotics in comparison to the non-ESBL producing E. coli. In vitro conjugation suggests NDM transmission via plasmids. Particularly, FIA and FIB types of plasmids were identified in NDM positive E. coli. The NDM strains did not exhibit close genetic relatedness nor did they possess any specific virulence profiles. However, virulence assays underlined moderate pathogenicity of these isolates that could enable them to cause infections and protect themselves of different environmental stresses and insults.

Conclusion: Our study demonstrated that NDM-1 was the most prevalent metallo-beta-lactamase among Carbapenem resistant E. coli isolates in India, and demonstrated that there are no endemic NDM E. coli clones currently represented in our collection. Nevertheless horizontal gene transfer (via plasmids) was identified to be the potential mechanism for the spread of NDM genes. Therefore, early detection and surveillance of NDM-1 producing E. coli is urgently needed to prevent epidemic spread.

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