

## PREVALENCE OF NON - COMMUNICABLE DISEASES AND THEIR RISK FACTORS IN TRIBAL SOUTH INDIA - A COMMUNITY BASED CROSS SECTIONAL STUDY

Charles Pon Ruban<sup>1</sup>, Manjunath K<sup>1</sup>, Jasmine Prasad<sup>1</sup>, Mini Joseph<sup>2</sup>, Thomas N<sup>2</sup>, Jacob John J<sup>1</sup>

<sup>1</sup>Departments of community health, <sup>2</sup>Endocrinology, Diabetes & metabolism, Christian medical college, Vellore

**Background:** Non communicable diseases are the leading cause of morbidity and mortality in India. Cardio vascular disease accounts for majority of non communicable diseases related deaths. This cross-sectional study was conducted among the residents of Jawadhu hills which is situated in Vellore and Tiruvannamalai districts of Tamil Nadu. The main objective of this study was to estimate the prevalence of diabetes mellitus, hypertension, dyslipidaemia and metabolic syndrome and their risk factors among the residents of Jawadhu hills aged between 30-60 years.

**Methods:** This study was conducted in 14 villages of Jawadhu hills in Tiruvannamalai district. Two stage cluster sampling method was used. Villages were selected by probability proportionate to size sampling. Consecutive Households were selected from village starting point in clockwise direction as per the algorithm until the required sample size was obtained. Totally 480 people (males-225 & females-255) were surveyed from February 2016 to July 2016 using modified WHO-STEPS questionnaire. Socio demographic factors, behavioural and metabolic risk factors and anthropometric measures were collected. Fasting and post prandial (2 hour) blood glucose were collected for 480 people by using glucometer. Among the subset of 138 people (one participant from alternate household) fasting lipid samples were collected.

**Results:** Of the subjects (480) studied, 3.3% had diabetes mellitus, 7.6% had prediabetes, 17.7% had hypertension. Among the sub group of 138 people, 51.5% had abnormalities in any one of the lipid parameters. 16.7% of the study population had hypercholesteremia, 24.6% had hyper triglyceridemia, 26.8% had low HDL, 18.1% had high LDL, 10.8% had high total cholesterol/HDL ratio (>4.5) and 12.3% had metabolic syndrome. Out of 480 people, 11.7% had low physical activity (less than the WHO recommended). Using Asian cutoff, prevalence of obesity, overweight and central obesity were 20%, 4.8% and 9.8%

respectively. Most of the participants were from low socio economic status. Alcohol use and smoking is common among men (72.9%and 64% respectively). In the multivariate analysis, overweight was significantly associated with hypertension and dyslipidaemia. Low levels of physical activity and obesity were associated with and metabolic syndrome.

**Conclusion:** Prevalence of diabetes in this tribal population is low (3.3%). However, 51.5% had dyslipidaemia and 17.7% had hypertension. High prevalence of behavioural and metabolic risk factors calls for urgent intervention.

Key words: Jawadhu hills, NCD risk factors, Tribal Tamil Nadu