

Traditional food consumption and nutritional status of *Dalit* mothers and young children in rural Andhra Pradesh, South India

Projekt: 302b

Martina A. Schmid (Ph.D. thesis submitted to McGill University, Montreal, Canada)

Protein-energy malnutrition (PEM) and vitamin A and iron deficiencies are major public health problems in India. Traditional food systems are known to be sustainable, high in species variety and have rich nutrient sources. This thesis describes nutritional status in *Dalit* mothers and children living in villages with the Alternative Public Distribution Program (APDS), a community food security program based on traditional agriculture, and in control villages.

We recruited 263 *Dalit* mother-child (6 - 39 months) pairs from 19 APDS and 18 control villages in the Medak District. Food frequency questionnaires and 24-hour recalls were used during two seasons in 2003. A socio-cultural questionnaire including anthropometry and clinical eye examination were obtained during rainy season.

In summer, mothers from APDS villages consumed more frequently millet (18% vs 8%, $P = 0.04$) every week, and had higher intake of energy (mean \pm SD: $12,197 \pm 3,515$ kJ vs. $11,172 \pm 3,352$ kJ; $P = 0.02$) and protein (77.5 ± 25.1 g vs. 71.1 ± 25.2 g; $P = 0.05$). During rainy season, they had higher intakes of energy ($11,168 \pm 3,335$ kJ vs. $10,168 \pm 3,730$ kJ; $P = 0.04$), protein (68.9 ± 22.6 g vs. 60.4 ± 23.8 g; $P < 0.01$) and iron (15.8 ± 6.6 mg vs. 13.7 ± 9.1 mg; $P < 0.01$). Overall, 58% of mothers were chronic energy deficient (BMI < 18.5 kg/m²) and intake of pulses (g / day) was inversely associated with chronic energy deficiency (OR = 0.98, $P < 0.01$). Sorghum consumption (OR = 0.99, $P = 0.03$) was inversely correlated with the occurrence of clinical vitamin A deficiency symptoms which was prevalent in mothers (16%). More children from APDS villages weekly consumed millet (18% vs. 7%, $P = 0.05$) in summer and sorghum (76% vs. 60%, $P = 0.02$) every day during rainy season. The prevalence of stunted, wasted and underweight children was 33%, 52%, and 63%, respectively.

Our findings show that dietary patterns, but not nutritional status, differ between mothers from villages with and without APDS. Malnutrition (PEM, vitamin A deficiency) is a prevalent problem in these rural poor communities and traditional food consumption plays a key protective role.