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# Maternal nutritional status and child feeding practices: a retrospective study in Santal communities, Birbhum District, West Bengal, India

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## Abstract

**Background:** In West Bengal, according to the National Family Health Survey (NFHS-4) 2015-16, undernutrition and anemia are particularly common among scheduled tribe women and children. The purpose of this research is to assess the nutritional status of Adivasi mothers and child feeding patterns, relevant for clinical practice and the design of future preventive actions. These baseline characteristics were obtained in the scope of a feeding trial aimed at improving the hemoglobin concentration of the index child (6–39 months).

**Methods:** In February 2015, the baseline survey was conducted in 21 tribal villages. In total, 288 mothers and 307 children were recruited for their hemoglobin levels (HemoCue Hb201+), as well as anthropometric indices height/length, weight and MUAC. By questionnaire-based interview aspects on child feeding practices, childcare, family scheduling, and prenatal care were elucidated.

**Results:** The majority of mothers belong to the Santal tribe (93.8%). Nearly half of mothers suffered from underweight including severe forms (BMI < 18.5: 49.4%), and the majority of mothers were anemic (Hb < 12 g/dl: 86.2%). Similarly, undernutrition was highly prevalent among the index children. Ever breastfeeding was almost universal in the study area (99.6%), with all infants aged < 12 months at the time of the interview still being breastfed. The majority of children were breastfed within the first hour after birth (75.7%), still every third child (32.2%) was deprived of colostrum. Merely 32.9% of infants were exclusively breastfed for 6 months (180 days) according to the recommendations of the WHO/UNICEF. When relating to the proposed complementary feeding (CF) indicator then 89.6% of children have received CF (mainly family foods/biscuits/plain rice) during the first 6 to 8 months, and 46.8% of children aged 6 to 23 months fulfilled the minimum acceptable diet (2 to 3 meals per day and ≥ 4 food groups per day), corresponding to 58.1% among children aged 12 to 23 months versa 25% among infants aged 6 to 11 months.

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**Conclusion:** The maternal nutritional status was poor and showed interrelations with the nutritional status of the index child. Inadequate feeding and caring practices were common. In particular the younger age group (< 12 months) was found at risk of being offered inadequate CF, which needs to be tackled by future programs.

**Trial registration:** The trial was retrospectively registered at the German Clinical Trials Register on the 1st July 2019 ([DRKS00017388](https://www.clinicaltrialsregister.de/ct2/show/study/DRKS00017388)).

**Keywords:** Breastfeeding, Complementary foods, Infant/child feeding, Child care, Maternal anemia, Undernutrition, Santals, Adivasi, West Bengal, India