**Nutrition data sampling and collection techniques (January – February 2021)**

**Sample**

30 purposefully sampled households (60 participants, mostly 30 husband-wife couples) took part in the data collection for seven consecutive days, during which they (1) wore an accelerometry device to capture energy expenditure; and (2) took part in daily 24h recall time-use and food intake surveys. A stratified sample of households was first drawn from the quantitative household survey, representing different levels of indebtedness. Ten households per village were randomly selected across the five indebtedness strata.

**The data**

*Time use*

Time-use data were recorded in 30-min time slots. Following the India time use model (MOSPI 2019), we pre-compiled list of activities adapted to the local context (complete list is available in Table 4 in the appendix).

*Food intake*

The food intake module used a 24-hour recall approach. We asked respondents to recall and report all foods and beverages consumed over the preceding 24 hours inside and outside the house. The 24-hour period recall started with the first item eaten in the morning until the last food item consumed before they got up the next morning. Food intake data were collected throughout the week (Day 1 to Day 7). The food intake module is divided in 6 different meals: i) Breakfast; ii) Morning snack before lunch; iii) Lunch; iv) Afternoon snack before dinner; v) Dinner; vi) Snack after Dinner. The questionnaire listed a comprehensive list of food items and drinks developed with Dr Keovathanak Khim, nutrition consultant. There were 37 pre-coded items and 3 “Other” options, where enumerators could input items missing in the pre-coded foods (Table 2).

*Energy expenditure*

Energy expenditure data were computed with data collected using accelerometry devices, or motion sensor devices. Accelerometry devices are increasingly popular tool to capture population-level data due to their flexibility and accuracy (Westerterp, 2009). We used research-graded tri-axial ActiGraph GT3X+ accelerometers to capture physical activity. Using an elastic belt, the unit is worn on the waist, positioned over their right iliac crest. Data were collected at 30Hz/second and movements were translated to energy expenditure using cut points based on age used by (Troiano et al., 2008) and validated by (Trost et al., 2011). We asked each participant to wear the accelerometry device for seven consecutive days. The accelerometry literature recommends 4-7 days of wear to account for periods of non-wear (Hart et al., 2011).

**Study design**

The workflow of the data collection is summarised in Table 3. On the first day, an enumerator visits the household and administers the individual questionnaire (including demographic and health information, anthropometric data). One man and one woman from the household are selected based on their willingness to wear the accelerometry devices for 7 full consecutive days. When possible, the head of the household and his or her spouse are invited to be part of the study. After initialising the devices, the enumerator gives one to each participant with instructions to wear it all the time - except when bathing or sleeping - for the next 6 days. On each of the following 6 days, the enumerator returns to the household to administer the individual questionnaire to the man and the woman wearing the accelerometry devices. On the seventh day, the enumerator returns to the household and administers the last day time-use and food intake questionnaire to the man and the woman and collects the devices from the participants. On average, each interview takes around 30 minutes.

Table 2. Data collection workflow.

Table

Description automatically generated