Linking Aims, Hypotheses, Study Design and Analytic Approach

Aims need to be clear, specific and actionable, hypotheses need to be testable, study design should be appropriate. Analyses need to lead to testing of hypotheses and accomplishment of aim

1. To evaluate the impact of intervention X on outcome Y
   a. Ex: To evaluate the impact of prenatal supplements on maternal micronutrient status at the end of pregnancy (36-38 weeks)
      i. Hypothesis: The plasma zinc concentrations of women at the end of pregnancy will be higher at the end of pregnancy than those not receiving prenatal supplements
   b. Ex: To evaluate the impact of “Programa CRED” on the somatic and linear growth of children from 6-24 months of age
      i. Hypothesis: The lengths and weights of children receiving the program will be greater at 24 months than the children in the control group (adjusted for values at 6 months of age)
      ii. Analysis:

2. To establish an important relation (NOT relationship!) between 2 factors
   a. Ex: To evaluate the effect of maternal pre-conceptional acute malnutrition (MUAC < 18) on risk of miscarriage.
      i. Hypothesis: women with MUAC < 18 will be at increased risk for miscarriage (definition) as compared to women with MUAC >=18, adjusted for age, gravidity, and....(?)
      ii. Analysis:
   b. Ex: to evaluate whether the degree of exposure to the program affects somatic and linear growth of children from 6-24 months of age
      i. Hypothesis: Children who are more exposed to the program (#visits, caregiver remembering the content) will have greater weights and lengths at 24 months (adjusted for values at 6 months of age)
      ii. Analysis:

Some aims seek to answer questions or achieve a goal but not test hypotheses or involve statistical analyses, per se

3. Formative research, implementation research, qualitative research
   a. Ex: to conduct formative research to develop the SBCC materials for the program
   b. Ex: to understand women’s perceptions of their child’s health
   c. Ex: what are the beliefs and practices around feeding eggs to young children?
   d. Ex: To develop a culturally-appropriate program to deliver X to Y

NOTE: For some audiences it may be more appropriate to state your aims as questions