

Results from Pith Moromo

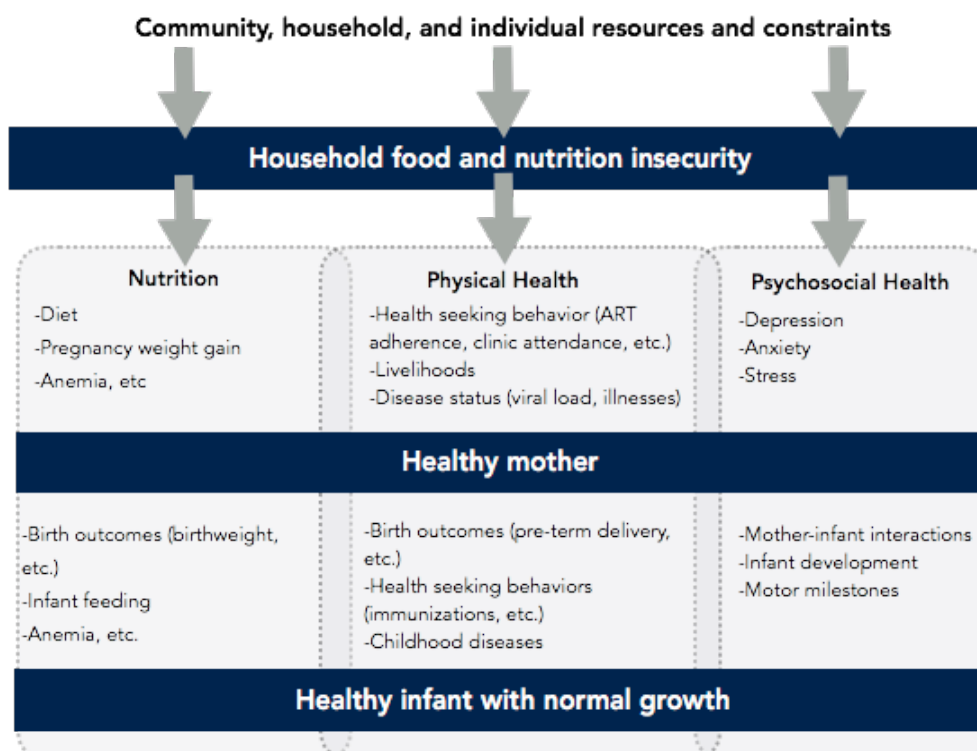
WHAT IS FOOD INSECURITY AND HOW DOES IT AFFECT HEALTH?

Food insecurity is when a person worries about having enough of the right foods to eat in the quantities and frequency they would like. A person does not have to be hungry to be food insecure. Food insecurity is scored on a scale from 0 to 27 points. Scores between 0-9 points mean that the individual has mild food insecurity. Scores between 10-19 points mean the individual has moderate food insecurity. Scores between 20-27 points mean the individual has severe food insecurity. We wanted to test if food insecurity affects the health of the mother and child in 3 ways: their nutrition, physical health, and psychosocial health (Figure 1).

ENROLLMENT INTO THE STUDY

The goal of this study was to explain how food insecurity affects the health of mothers and their infants. We screened 1,250 women and enrolled 371 of these women (both HIV positive and HIV negative) at 14-30 weeks of pregnancy. We followed them until 9 months after delivery. The study was based in Kisumu District Hospital, Nyahera Sub-county Hospital, Rongo Sub-county Hospital, Ongo Health Center, Migori County Hospital, Nyamaraga Health Center and Macalder Sub-county Hospital. Data collection began on 5th August 2014 and ended on 23rd May 2016.

Figure 1. Ways that food insecurity may impact the health and wellbeing of women and children



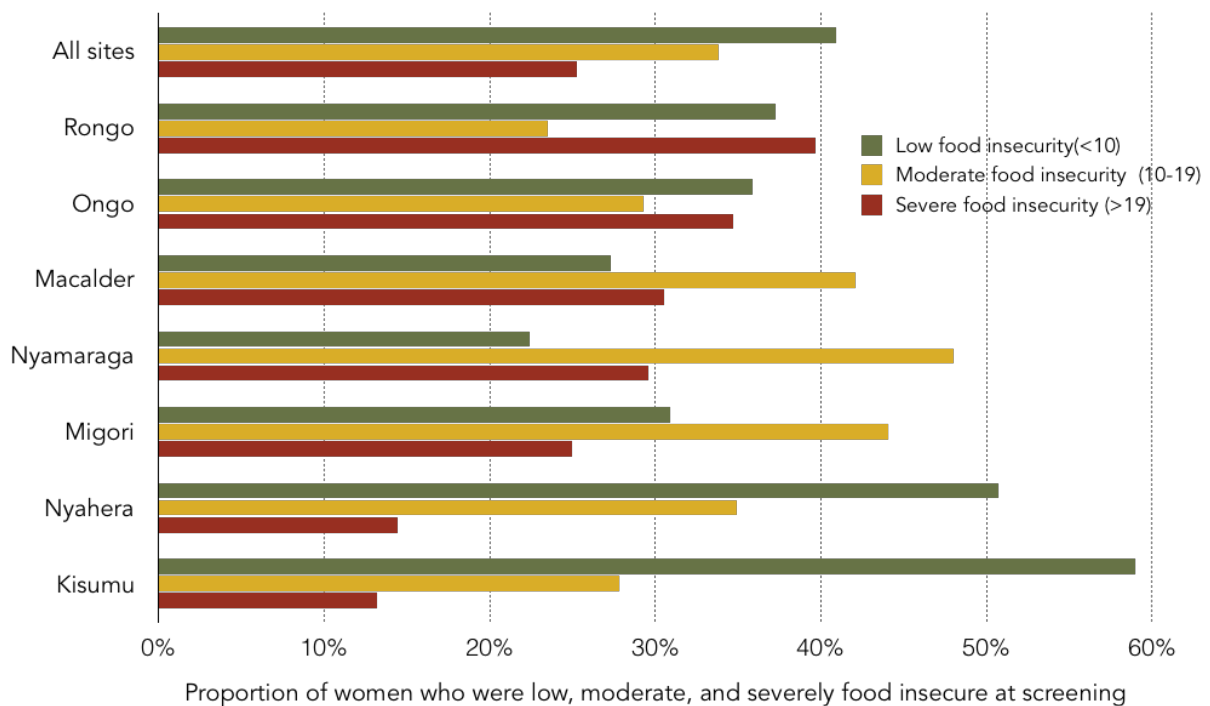
WHO WERE OUR PARTICIPANTS?

Out of the 371 women enrolled, a total of 46 women left the study between enrollment and 9 months postpartum. 13 women withdrew from the study and 7 women were lost to follow-up. Women were also graduated from the study for many reasons: 13 women were graduated due to infant death, 9 were graduated due to stillbirth, and 4 were graduated due to miscarriage.

1. RESULTS: HOW COMMON WAS FOOD INSECURITY?

To answer this question, we asked 1,250 pregnant women 9 questions about food insecurity using the food insecurity scale we described above (Figure 2). We found that food insecurity was most severe in Rongo, where in the previous month, 67% of women reported going to bed hungry, 55.4% reported that they went a whole day and night without having any kind of food to eat, and 83.4% ate foods they did not prefer.

Figure 2. Food insecurity at screening by study site (n=1247)



2. RESULTS, MATERNAL NUTRITION: DOES FOOD INSECURITY AFFECT HOW MOTHERS GAIN WEIGHT DURING PREGNANCY?

No, food insecurity did not affect how mothers gained weight during pregnancy. However, mothers who knew they were HIV positive gained less weight during pregnancy than those who were HIV negative or HIV positive. Food insecurity was

not related to body changes of the mother, suggesting that a mother's nutritional status may be protected during severe food insecurity.

3. RESULTS, MATERNAL NUTRITION: DOES FOOD INSECURITY AFFECT MATERNAL DIETARY DIVERSITY?

Yes, People with the moderate and severe food insecurity ate the fewest food groups. There were 12 food groups that we asked about: cereals (ugali, flour), roots and tubers (Irish potatoes, sweet potatoes), vegetables (tomatoes, etc.), fruits (mangoes, papaya, etc.), meat (chicken, beef, liver, etc.), eggs, fish, legumes (ground nuts, etc.), milk, oil, sugar and honey, and other (tea, coffee, etc.). Each food group represented a number on a scale from 0 to 12. The average dietary diversity score of mildly food insecure participants was 5.0. The average dietary diversity score of moderately food insecure participants was 4.5. The average dietary diversity score of severely food insecure participants was 4.2.

4. RESULTS, INFANT NUTRITION: DOES FOOD INSECURITY IMPACT BABY BODY SIZE AND WEIGHT?

No, baby body size at the time of delivery, birth weight, and baby weight at 6 weeks did not differ by food insecurity status. However, babies whose mothers had little food insecurity were longer at 6 weeks than babies whose mothers had severe food insecurity.

5. RESULTS, MATERNAL PSYCHOSOCIAL HEALTH: IS FOOD INSECURITY ASSOCIATED WITH INCREASED STRESS OR DEPRESSION?

Yes, food insecurity is associated with increased stress and depression. We found that women who have moderate and severe food insecurity are more likely to be stressed and/or depressed than those with low food insecurity.

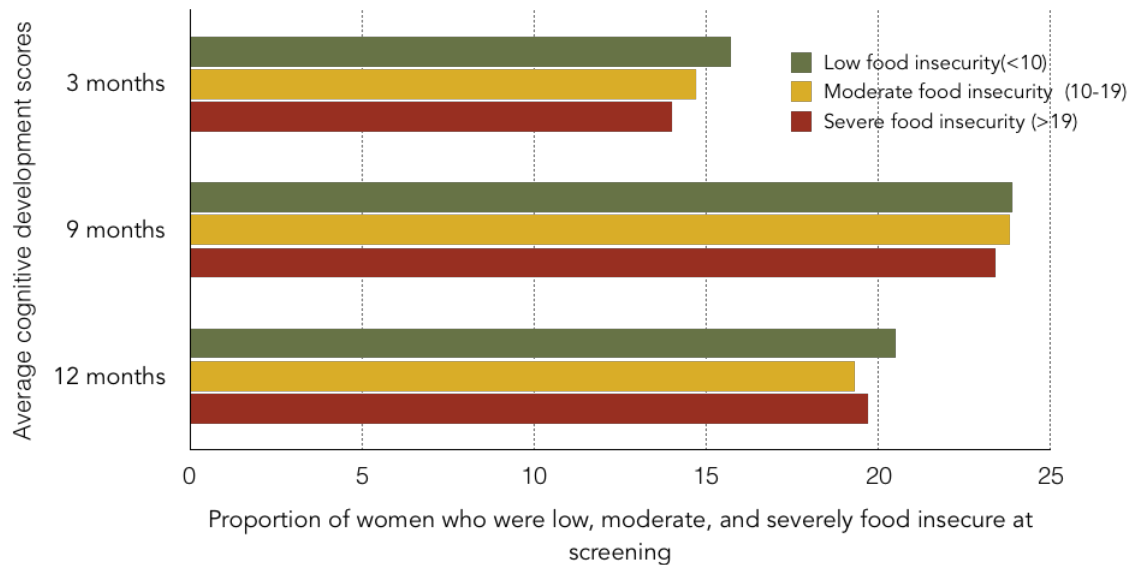
3a. We measured stress by asking 10 questions related to stress and by measuring cortisol levels (a body chemical release during stress) in the hair. We found that women with severe food insecurity are more likely to be stressed.

3b. We measured depression by asking each woman 20 questions about depression. We found that food insecurity was associated with depression and women who had severe food insecurity were more likely to be depressed.

6. RESULTS, INFANT PSYCHOSOCIAL HEALTH: IS FOOD INSECURITY HARMFUL TO CHILD DEVELOPMENT?

Yes, our results show that children born to mothers with less food insecurity developed faster and had higher development scores than children born to mothers with moderate or severe food insecurity at 3, 9, and 12 months (Figure 3).

Figure 3. Number of developmental milestones achieved by food insecurity status and infant age (n=224)



We still have more work to do to understand the data. If you would like to be informed about the future results, please tell your nurse or tracker. Also, ask your nurse or tracker any questions you may have and we will do our best to answer them.

Thank you for participating in our research study. Your hard work has been important in helping understand the existence and consequences food insecurity among pregnant and postpartum women in Kenya. We are so grateful!

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