

Food Insecurity Among Households With And Without Podoconiosis In Gojjam, Ethiopia: A Comparative Study

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Background : Household food insecurity exists when one or more of the food security components (availability, accessibility and utilization) are not fulfilled . Food insecurity is increasing globally, and an estimated 925 million people were undernourished in 2010. Of these, about 900 million people were living in low-income countries .

Household's food insecurity affects health and well-being throughout the life cycle and has been associated with child dietary intake and weight status. In addition, it has an adverse physical or mental health effects, including underweight, obesity, poor growth, micronutrient inadequacy, anxiety and depression have been evidenced among adults or children in developed and developing settings .

Podoconiosis is a non-infectious geochemical disease among barefoot subsistence farmers who have long-term contact with irritant red clay soil. It can cause substantial disability and deformity and is associated with morbidities such as acute adenolymphangitis, mossy lesions and open wounds among productive age adults. The prevalence of podoconiosis in the population aged 15 years and above in study area was found to be 3.3% in Debre Elias and 3.4% in Dembecha districts. Eighty seven percent of cases were in the economically active age group (15–64 years).

Methods: A community-based comparative cross-sectional study was conducted in East and West Gojjam in February 2016. Multi-stage sampling was employed to select heads of 208 households(HHs) in which at least one individual was affected with podoconiosis and 400 households in which no one was affected, in 32 *kebeles* (administrative subunits). The questionnaire was adopted from the Household Food Insecurity Access Scale (HFIAS) measurement tool of Food and agricultural organization. This can be used to classify households into two levels of food security, that is, 'food secure' if the household head responds 'no' to all of the items, and 'insecure' if the head of the household responds 'yes' to at least one of items 1-9 . Bivariate and multiple variable logistic regression analyses were performed, and associations were measured using adjusted odds ratios (AOR) and 95% CI (confidence intervals). Ethical clearance was obtained from Institutions' research review board, college of medicine and health sciences, Debre Markos University. A sort of discussion was made with all the respected institutions for permission. Selected respondents were informed about the objective of the study.

Conclusion: Food insecurity was more common and more severe among podoconiosis-affected than unaffected households. Being unable to write and read, the absence of off-farm activities, not using fertilizers and living further from the market were significantly associated with food security among podoconiosis affected households.

While food insecurity must be addressed throughout the study area, podoconiosis-affected families are particularly vulnerable. Interventions to improve literacy extend asset-building programs and use modern fertilizers must specifically target households affected by podoconiosis.

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Results- In total, 636 were recruited. Out of which 608 (208 podoconiosis and 400 non- podoconiosis) households were included in this analysis. Female headed HHs were 57(27.4%) in podoconiosis and 71(17.8%) in non- podoconiosis respectively. Majority of HHs had <5 years' children 130(62.5%) in podoconiosis and 225(56.2%) non-podoconiosis. More than five family size 80(38.4% in podoconiosis and 216(54%) in non-podoconiosis HHs. Female headed HHs in podoconiosis were more food insecure than non-podoconiosis (23.6% versus 21%). Food insecurity was more common among podoconiosis-affected than non-affected households (83.7% versus 53%, p=0.0001). The level of food insecure is different between the two groups(Figure 1).

In podoconiosis-affected households, food insecurity was associated with inability to read and write (AOR = 5.84, 95% CI: 2.14, 15.95), lack of off-farm activities (AOR = 4.90, 95% CI: 1.60, 14.95), not using fertilizer (AOR = 4.38, 95% CI: 1.15, 16.67) and living > 5km from a market (AOR = 4.47, 95% CI: 1.38, 14.48).

In unaffected households, food insecurity was associated with lack of perennial plants (AOR = 2.11, 95% CI: 1.17, 3.34), not using improved seeds (AOR = 2.20, 95% CI: 1.25, 3.87), lack of access to asset building programs (AOR = 2.07, 95% CI: 1.27, 3.34), and living at medium or low altitude (AOR = 8.87, 95% CI: 1.81, 43.40 and 10.04, 95% CI: 1.90, 52.93, respectively).

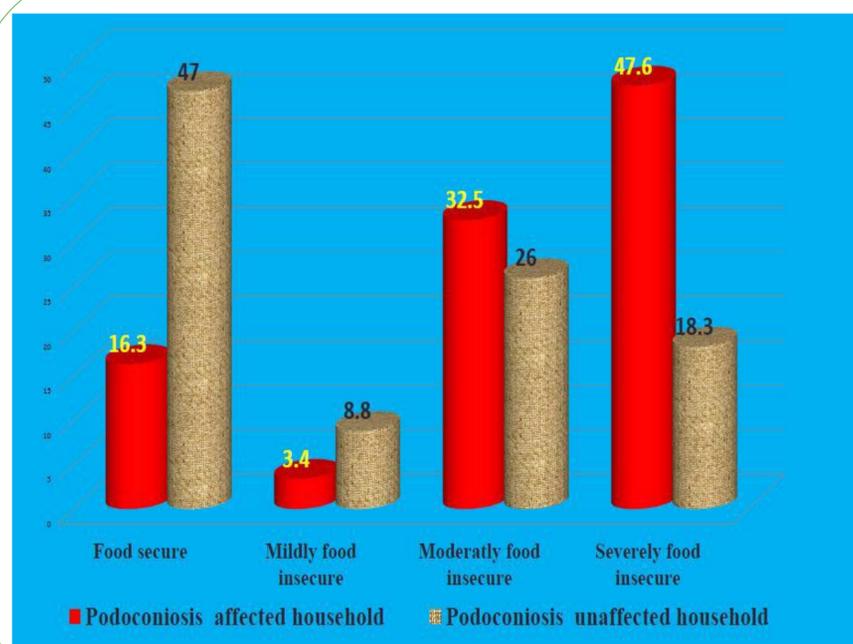


Fig 1: Percentage of food insecurity status among podoconiosis-affected and unaffected households in Gojjam Zones, Ethiopia, 2016.

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