Microbial Quality of Home Prepared Complementary Foods in Slum Households with Children of Age 6-24 Months in Addis Ababa: A Community Based Cross-sectional Study

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Abstract:

Background: Foodborne disease is a worldwide challenge. It causes a huge burden of diarrhea in children mostly in developing countries and this is common during the complementary feeding periods. As home serve as the proliferation ground for microbial pathogens, home- prepared complementary foods, coupled with unhygienic feeding practice and contamination, it is the cause of child morbidity and poor nutritional status. This is worse in slum households. However, recent evidence is very scarce and further study is very necessary. Objective: To investigate the microbiological quality of home-prepared complementary foods in slum households with children of 6-24 months in Addis Ababa, 2021. Methods: A community-based cross-sectional study design was used and a total of 91 households were included. Three sub-cities in Addis Ababa and slum settlements within each sub-city were randomly selected by lottery method. Households with children of age from 6- 24 months were selected by systematic random sampling. Laboratory investigation was used for microbial identification and excel sheet was used for data entry and cleaning. SPSS V. 23 was used for data analysis. Result: The median and interquartile range of aerobic plate count, S.aureus, yeast, molds and total coliforms are log5.75cfu/ml, Log1.84cfu/ml; Log4.7cfu/ml, Log5.46cfu/ml; Log5.29 cfu/ml, Log3.68cfu/ml; Log4.17cfu/ml, Log4.70cfu/ml; and Log0, Log3.5cfu/ml, respectively. Fecal coliform and E.coli were observed in 19% and 10% of complementary food samples. Conclusion: The load of aerobic plate count, S.aureus, yeast, molds, and total coliform are high in samples of complementary foods. Therefore, intervention studies for further identification of contamination sources should be made in order to minimize contamination of complementary foods and associated infections.

Keywords: Complementary foods, Microbial quality, Slum households