



University of Venda

**RELATIONSHIP OF FEEDING PRACTICES, ANTHROPOMETRIC  
STATUS AND GUT FUNCTION IN INFANTS IN DZIMAULI  
COMMUNITY IN SOUTH AFRICA**

**A mini dissertation submitted to the Department of Nutrition in partial fulfilment of the  
requirements for the award of Master of Science Degree in Public Nutrition, University  
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## ABSTRACT

**Background and objectives:** Inappropriate feeding practices affect gut function in infants by damaging the mucosa of the small intestine. Feeding practices such as formula feeding and early introduction of weaning food can have profound consequences on growth, development, and survival chances of infants and young children. The purpose of this study was to determine the relationship between feeding practices and gut function in infants in Dzimauli community in South Africa.

**Methods:** A prospective birth cohort study was carried out in Dzimauli community in Limpopo Province, South Africa. One hundred and thirty three children were recruited. Length and weight were measured monthly for the duration of 12 months for anthropometric assessment. Data on feeding practices was collected twice weekly using the 24 hour recall methods. Lactulose: mannitol data was obtained at 3, 6 and 9 months intervals. Bivariate analysis was used to correlate the relationships.

**Result:** Although almost all infants (92.5%) 123/133 were breastfed, none were breastfed exclusively for six months. On average, exclusively breastfeeding was only for 21 days. Water and formula milk were the first foods introduced to infants. Intestinal permeability was mostly poor at three months (67.6%) but improved with time as shown by 43.5% by month nine. No significant relationship was observed between any forms of feeding in exception of feeding colostrum which correlated positively with intestinal permeability. Children who were introduced to water and semi solids before three months had poorer anthropometric status at months 6 and 9. Mother's age had a negative influence on introduction of solid foods as older mothers introduced solids food earlier.

**Conclusion:** Poor trends of infant feeding still prevail in Dzimauli community shown in the current study. Infants fed colostrum showed better intestinal permeability as compared to their counterpart. Gut function was not associated with any of the reported feeding practices. Stunting was also observed as one of the challenges in the current study. Health education campaigns focusing on mothers to exclusively breastfeed up to six months in Dzimauli are needed. Studies to discover why mothers still introduce non-breast milk food earlier to their infants need to be conducted.

**Key words:** Feeding practices, gut function, lactulose:Mannitol, anthropometric status