

# Evaluating the effect of maternal lactoferrin and lactadherin in breastfed vaccinated children with rotavirus gastroenteritis attending the Dr George Mukhari Hospital, 2017

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## Background

Breast milk contains immune components such as antibodies and non-antibodies like lactoferrin and lactadherin known to protect against viral pathogens. The clinical trials did not generate adequate data for rotavirus vaccine against different types of circulating strains and how maternal antibodies, lactadherin, lactoferrin in breast milk might affect the rotavirus vaccine. Thus, the aim of the study was to evaluate the potential role of rotavirus strains and the effect of maternal lactoferrin and lactadherin in breastfed vaccinated children with diarrhoea attending the Dr George Mukhari Academic Hospital (DGMAH) during 2017.

## Methods

Stool samples were collected from children under the age of 5 years who were admitted at the DGMAH and breast milk from their mothers in 2017. Samples were screened for rotavirus using ProSpecT™ Rotavirus Kit and circulating strains were determined by RT-PCR and genotyped assays. The breast milk components: lactoferrin and Lactadherin were determined using the enzyme-linked immunosorbent assay. The concentration levels were generated using graph prism and analysed using the stata program to generate statistical results.

## Results

A total of 33 samples were screened for rotavirus and 14/33 (42%) samples were rotavirus positive and 19 were rotavirus negative. The predominant strain detected was a G3P[4] (42%), followed by G9P[8] (21%), G9P[4] (14%), G1/G9P[6] (14%) and G1/G10P[6] (7%). The p values for lactoferrin between the rotavirus positive and negative children observed was 0.215, while the p value for lactadherin was 0.945. The results were not statistically significant.

## Conclusions

Although lactoferrin and lactadherin are known to protect against rotavirus infection, in this study we found that there was no correlation in the levels of lactoferrin and lactadherin in the breast milk given to children who are rotavirus positive and those who are rotavirus negative.