

# **Exploring exclusive breastfeeding practices of infants in South Africa in the context of HIV and change**

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# Study Overview

- Background
- Objective
- Methods – 2 models to assess factors associated with EBF
- Results
- Discussion
- Limitations

What do I feed my baby?



# Background

- Decision making regarding breastfeeding and exclusive breastfeeding (EBF) is multi-faceted.
- SA public health policy supports breastfeeding by all mothers.
- Infant and young child feeding guidelines (IYCF) for HIV positive mothers changed several times since 2000. In 2011, there was a declaration to actively increase uptake of breastfeeding as an intervention to improve infant health. This included counselling and supporting HIV positive mothers to EBF their infants for 6 months whilst taking their antiretroviral treatment as prescribed.

- Previous findings from the SA national HIV survey (Shisana *et al.*, 2008):

25.7% EBF

- Latest SADHS (2019) data:

31.6% (n=345) of infants under 6 months were EBF

1 in 4 infants younger than 6 months were not breastfeeding at all

31.5% EBF

1 in 4 not any BF

- The need remains, to understand the complexity of factors affecting breastfeeding and EBF.

# Objective

## Aims

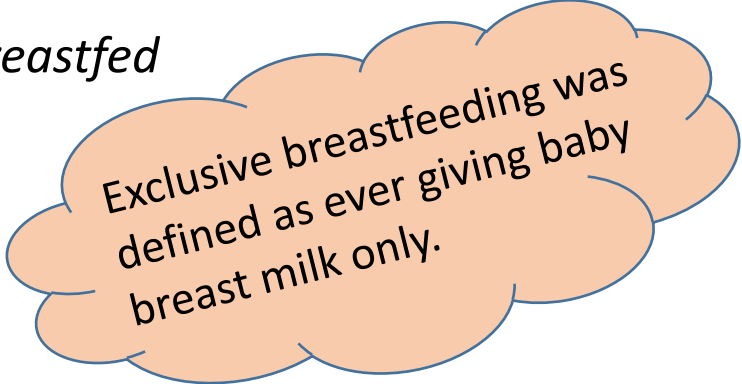
- Proportion of women who self-reported EBF
- Explore factors associated with EBF

Who are the women who are EBF and not EBF?



# Methods: *data & variables used*

- Data: 5<sup>th</sup> South African National HIV prevalence, incidence, behaviour and communication survey (“SABSSM 2017”), including additional districts
- Population group: mothers who said they exclusively breastfed their infants aged 0 to 2 years of age
- Composite binary outcome variable: women who self reported *ever breastfed* and *ever exclusively breastfed* (EBF).
- EBF variable did not take in account duration of EBF.
- Explanatory variables: included mothers’ age categorised into five year intervals, race groups, marital status, educational status, employment status, resident geotype/locality, wealth index, birth facility, birth attendant, sought antenatal care, ever fed breast milk from another woman (yes/no), mothers’ self-rated health status, timing of HIV test ( $\leq$  one year,  $>$  one year), tested and aware of HIV status, mothers’ & infants’ laboratory confirmed HIV status.



Exclusive breastfeeding was defined as ever giving baby breast milk only.

# Methods: *analyses framework*

- Descriptive statistics reported, using row proportions, sample totals and Chi<sup>2</sup> test statistics assessing the association among categorical variables.
- Univariate and multivariate logistic regression models were constructed, reporting unadjusted and adjusted odds ratios (OR).
- All analyses were performed in Stata version 15, reporting 95% confidence intervals (95% CI); significance at  $p=0.05$  using data weighted and stratified by province.

# Results: *descriptive analysis*

- Significant differences in EBF observed by locality, whether or not mother had sought antenatal care & infant's HIV status
- 51% of mothers (n=2116) said they had EBF.
- Over half of the women who EBF were from urban areas (55.6%, 95% CI 52.5-58.6) and rural farming areas (52.1%, 95% CI 45.4-58.6).
- Also more mothers who EBF said they had sought antenatal care (54.8%, 95% CI 52.5-57.1)
- More HIV negative babies were EBF than HIV positive babies (55.5%, 95% CI 52.0-59.0)

Exclusive breastfeeding				
Variable	No % [95% CI]	Yes % [95% CI]	Total (N)	p value
<b>Locality</b>				< 0.001
Urban	44.4[41.4-47.5]	55.6[52.5-58.6]	1031	
Rural (farms)	47.9[41.4-54.6]	52.1[45.4-58.6]	217	
Rural informal (tribal/traditional areas)	55.3[52.0-58.6]	44.7[41.4-48.0]	868	
Total	49.2[47.1-51.4]	50.8[48.6-52.9]	2116	
<b>Mother sought antenatal care</b>				< 0.001
Yes	45.2[42.9-47.5]	54.8[52.5-57.1]	1758	
No	69.6[64.6-74.1]	30.4[25.9-35.4]	355	
Total	49.3[47.2-51.4]	50.7[48.6-52.8]	2113	
<b>Baby's HIV status</b>				0.02
Positive	68.0[47.8-83.2]	32.0[16.8-52.2]	25	
Negative	44.5[41.0-48.0]	55.5[52.0-59.0]	760	
Total	45.2[41.8-48.7]	54.8[51.3-58.2]	785*	

- HIV testing coverage was lowest among children and infants ≤ two years of age (Simbayi et al., 2017).

# Results: *descriptive analysis: provincial coverage*

## significant provincial differences

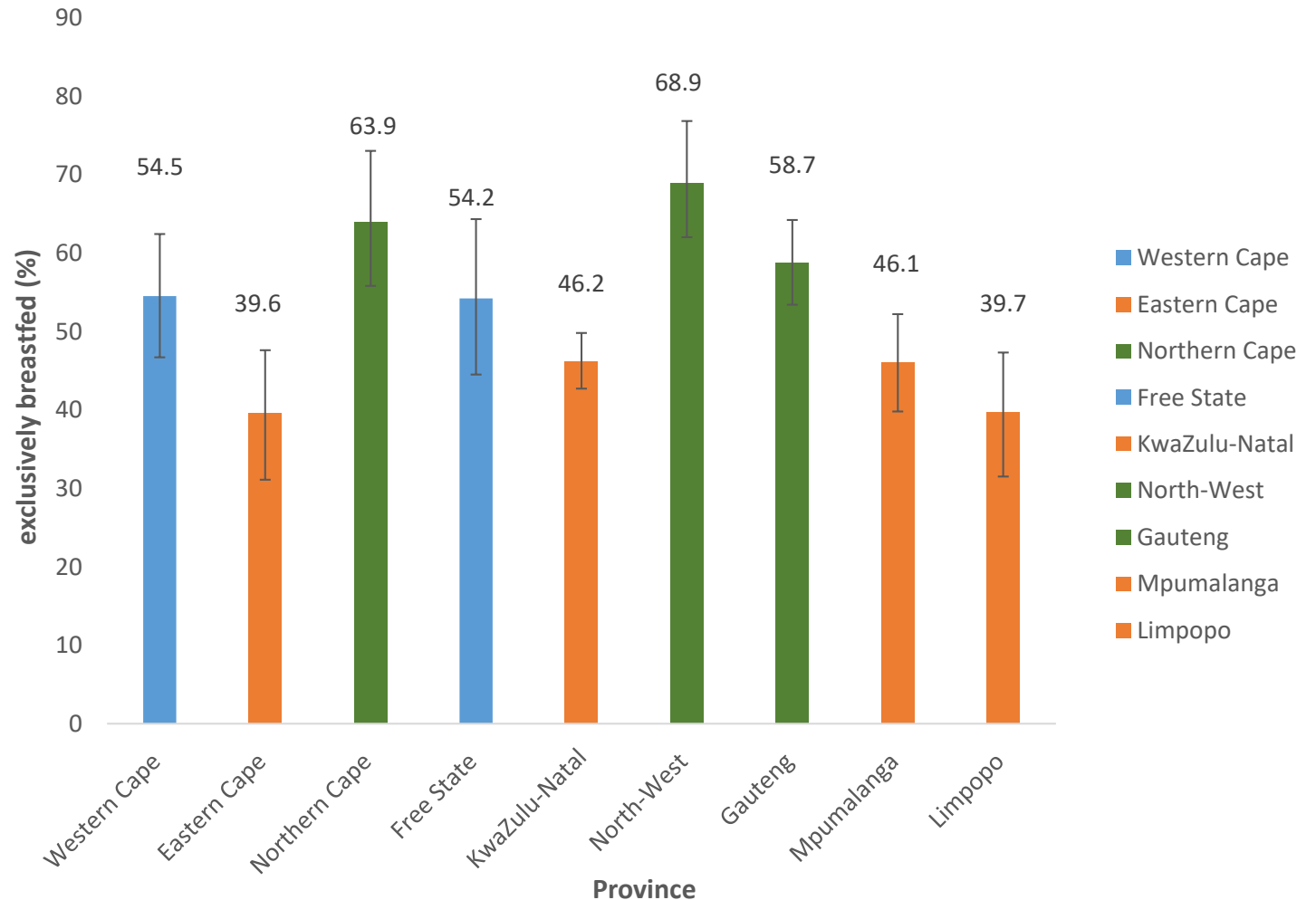
- Highest % EBF

Gauteng (58.7%),  
Northern Cape (63.9%)  
North-West (68.9%)



- Lowest % EBF

Eastern Cape (39.6%),  
Limpopo (39.7%),  
Mpumalanga (46.1%)  
KwaZulu-Natal (46.2%)



**Figure 1: Proportion (%) of mothers who reported EBF by province**



# Results: *Univariate analyses of factors associated with EBF*

## More likely to EBF:

Mothers living in urban areas (OR 1.6, 95% CI 1.29- 1.86, <0.001 and rural farming areas (OR 1.3, 95% CI 0.98-1.81, p=0.051) were more likely to EBF compared to women living in rural informal areas.

Mothers who self-reported having sought antenatal care were nearly three times more likely to EBF than those who did not seek antenatal care (OR 2.8, 95% CI 2.17- 3.54, p<0.001).

## Less likely to be EBF:

HIV positive babies were 60% less likely to be EBF (OR 0.4, 95% CI 0.16-0.89, p=0.026) compared to HIV negative babies

**Table 2: Univariate analyses of factors associated with EBF**

Variable	OR	95% CI	p value
<b>Locality</b>			
Urban	1.6	1.29- 1.86	<0.001
Rural (farms)	1.3	0.98-1.81	0.051
Rural informal (tribal/traditional areas)	<i>ref</i>		
<b>Mother sought antenatal care</b>			
Yes	2.8	2.17- 3.54	<0.001
No	<i>ref</i>		
<b>Baby's HIV status</b>			
Positive	0.4	0.16-0.89	0.026
Negative	<i>ref</i>		

# Results: Model 1 *Multivariate analyses of factors associated with EBF*

Model 1 adjusted for mother's age, locality and having accessed antenatal care (n=2113)

## Characteristics of mothers more likely to EBF

- young women aged 15-19 years  
(AOR 1.6, 95 % CI 1.04-2.44, p=0.033)
- living in urban areas  
(AOR 1.6, 95% CI 1.29- 1.86, <0.001)
- living in rural farming areas  
(AOR 1.3, 95% CI 0.98-1.81, p=0.05)
- sought antenatal care  
(AOR 2.8, 95% CI 2.17- 3.54, p<0.001).

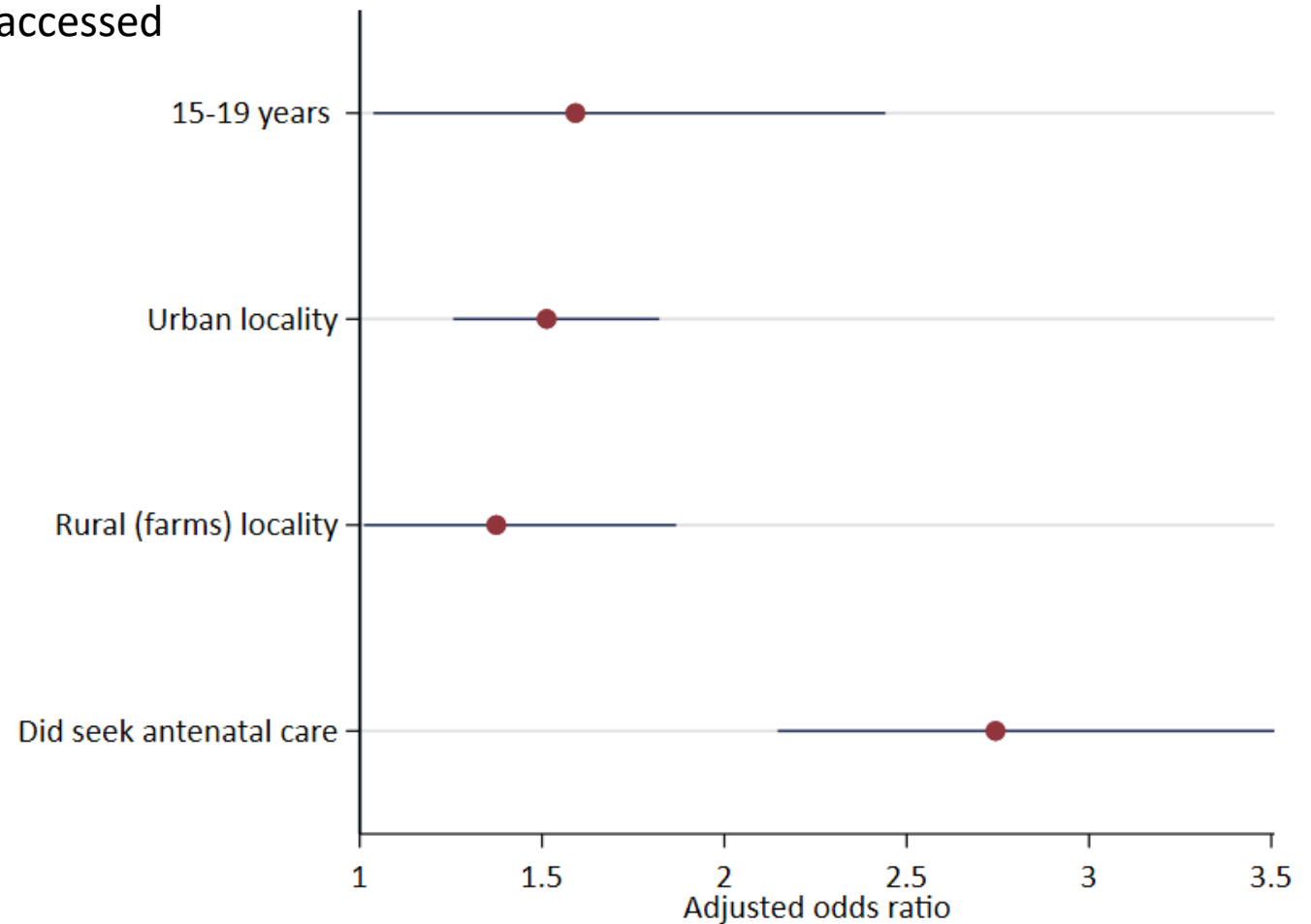


Figure 1: Factors significantly associated with EBF

# Results: Model 2 *Multivariate analyses of factors associated with EBF*

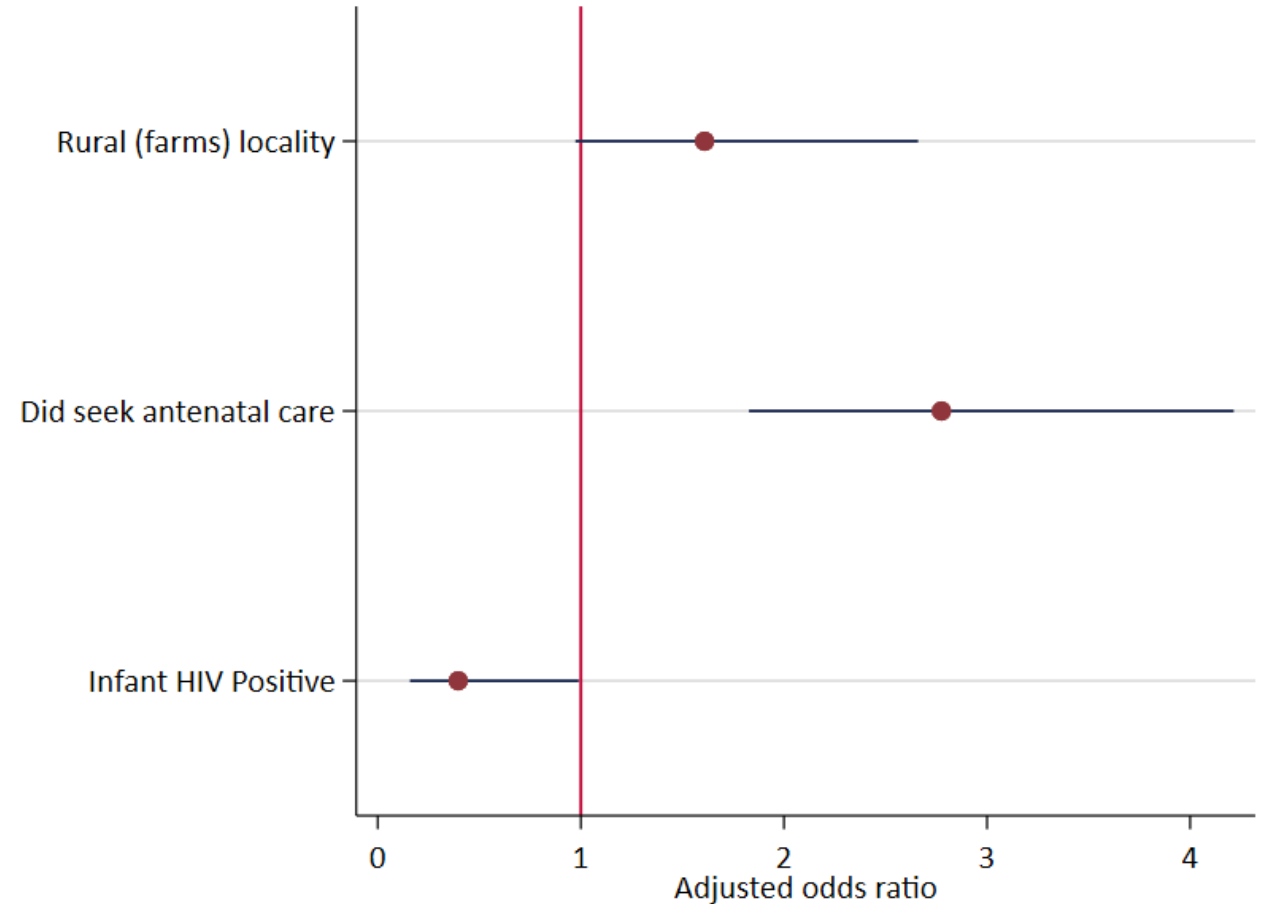
Model 2 adjusted for mother's age, locality, having accessed antenatal care and baby's HIV status (n=784)

## Characteristics of mothers more likely to EBF

Mothers who self-reported they had accessed any form of antenatal care were still three times more likely to EBF (AOR 2.8, 95% CI 1.83- 4.21,  $p < 0.001$ ).

## Characteristics of mothers less likely to EBF

HIV positive babies (AOR 0.4, 95% CI 0.16-0.99,  $p = 0.047$ )



**Figure 2: Factors significantly associated with EBF**

- HIV testing coverage was lowest among children and infants  $\leq$  two years of age (Simbayi et al., 2017).

# Discussion

- **Differences by localities:**

higher EBF practices found in urban and rural formal (farms) areas consistent with previous work (Shisana *et al.*, 2008) suggests the need to target breastfeeding promotion activities in rural informal areas

- **Younger mothers (aged 15-19 years):**

more likely to EBF compared to older mothers differs from other studies;  
could be related to these young women not having to return to work or school

# Discussion

- **Mothers using antenatal care is a strong driver for EBF:**

SADHS (2019) reported very high antenatal care coverage (94%; n=3036) suggesting that exposure to the infant feeding information mothers receive there plays a positive role in uptake of EBF

- **HIV positive infants less likely to be EBF:**

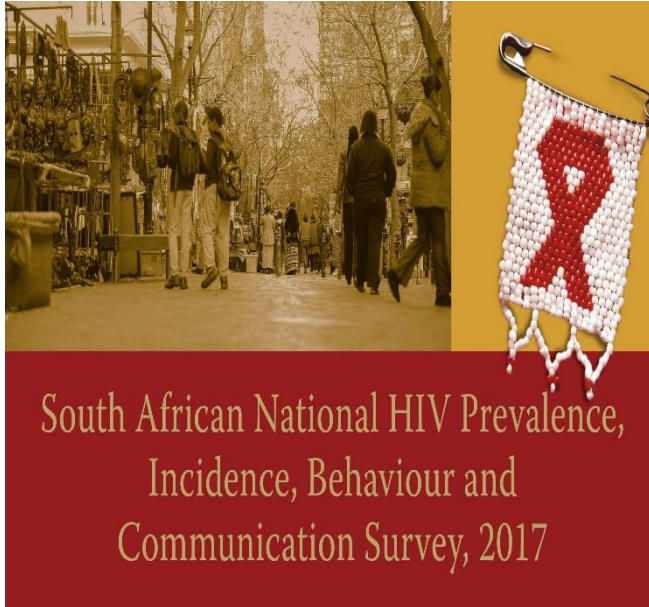
- consistent with other work in KZN where HIV positive mothers were less likely to breastfeed (Horwood *et al.*, BMC Public Health, 2018)
- researchers have suggested that these drivers include stigma and disclosure of HIV; confusion and coercion; and infant's being ill (Sibeko *et al.*, Public Health Nutrition, 2009)
- an area for continued intervention to improve EBF rates



# Limitations

- EBF data are based on mother's self reports.
- These may be subject to mothers' understanding of EBF; their recall bias and perceptions of stigma associated with breastfeeding or not breastfeeding.

# Acknowledgements



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