

Impact evaluation of a mobile health intervention to improve reproductive and child health in South Africa: a cluster randomized controlled trial

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Background

MomConnect, an m-health programme of the South African National Department of Health, aims to strengthen maternal and child health outcomes.

Pregnant women receive gestational age-appropriate messaging via mobile phones and can send pregnancy and parenting questions to the MomConnect Helpdesk

Several studies have evaluated the MomConnect programme, but none have assessed the impact.



Aims and objectives

The study **aimed** to evaluate the effectiveness of the MomConnect programme to increase family planning and breastfeeding among post-partum women in South Africa, and specifically:

- To assess if MomConnect increases uptake of family planning services at 8-10 weeks post-partum
- To assess if MomConnect leads to higher levels of breastfeeding at 8-10 weeks post-partum



Methods

Setting: Primary health care facilities located in three districts across Gauteng and North-West Provinces in South Africa

Design: A cluster randomized trial; clusters were defined as primary health care (PHC) facilities and were randomized to receive either:

New and existing messaging from MomConnect (I)

No messaging from MomConnect (C)

Sample size: 40 PHC facilities in total (20 per arm) and approx. 25 pregnant women per clinic.



Methods (2)

Intervention: new and existing messaging from MomConnect via SMS or WhatsApp

- ✓ **Existing messaging:** breastfeeding information and encouraging new mothers to exclusively breastfeed for six months postpartum
- ✓ **New messaging:** nine additional messages on family planning which promoted family planning at 6 weeks post partum

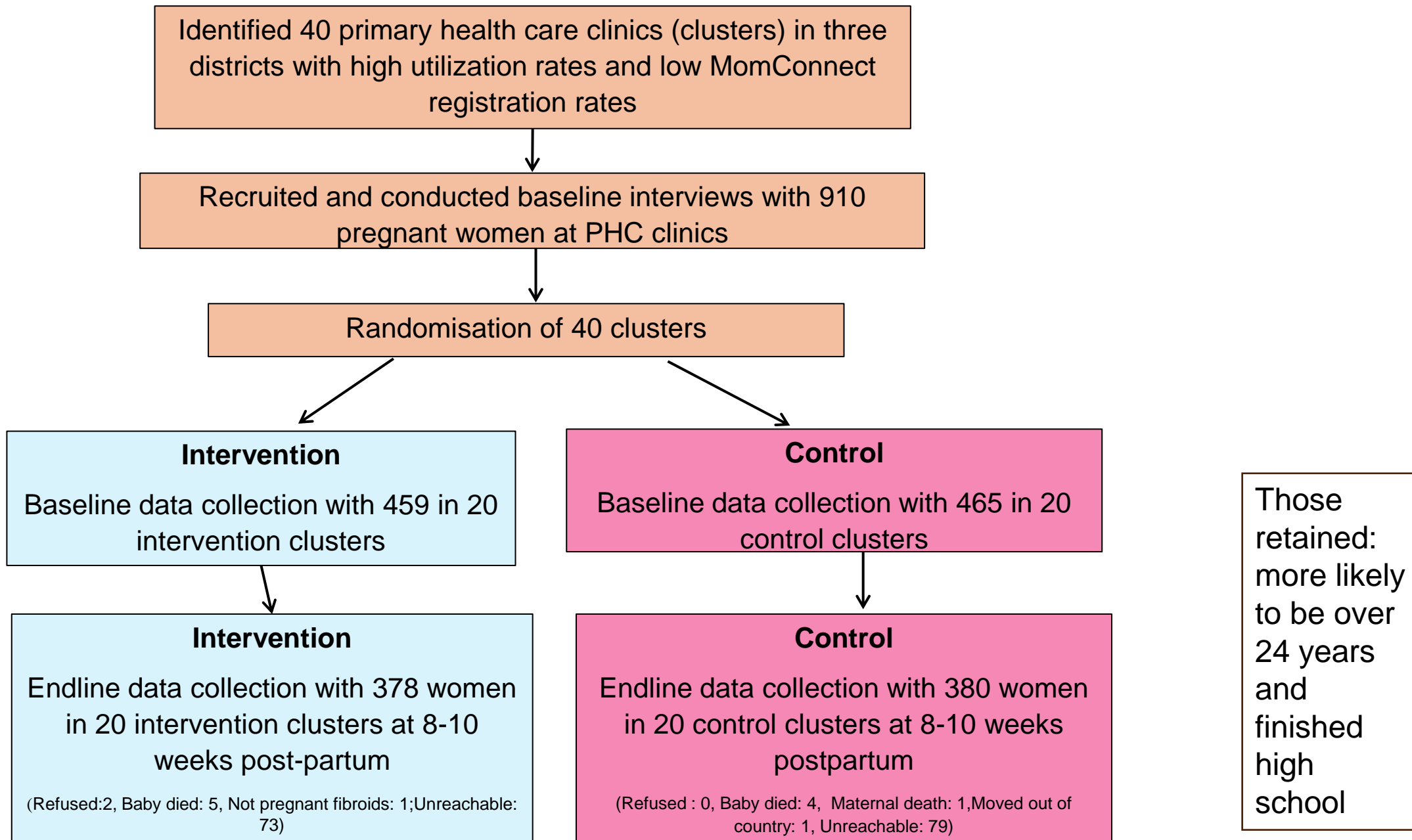
Data collection: Interviewer administered questionnaire completed after recruitment and 8-10 weeks post partum via telephonic interview.

Analysis: intention to treat cluster level analysis, controlling for district and comparing cluster level proportion between Intervention and control clusters.

Per protocol: controlled for confounders



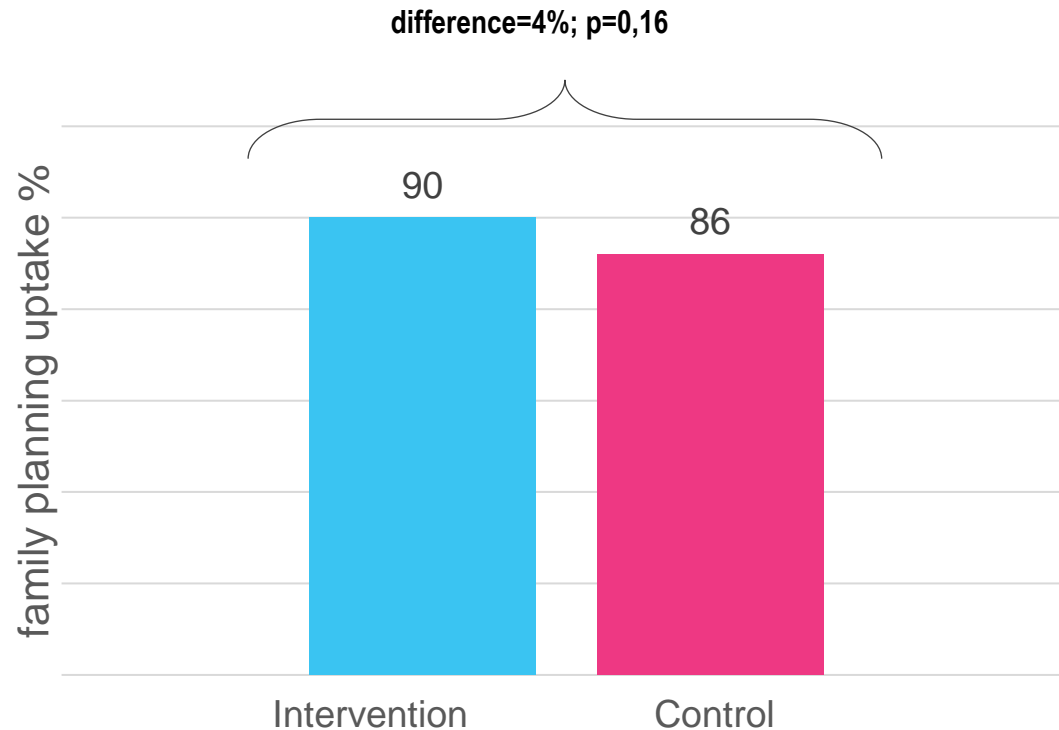
PRISMA DIAGRAM



Baseline characteristics

Socio-demographic and reproductive characteristics		Control (%)	Intervention(%)	p-value
Age groups (years)	18-24	36.3	30.7	0.399
	25-29	23.5	27.8	
	30-34	24.2	25.4	
	35-39	14.3	14.0	
	40 years or older	1.7	1.9	
Employment-worked for money in past 12 months	Each month	21.5	20.9	0.283
	Most months	7.2	8.6	
	Never worked	64.3	60.3	
	Once in a while	7.0	10.2	
	Primary school	3.1	3.9	
Education	Some high School	52.8	45.0	0.065
	Completed high school	44.1	50.9	
	Currently married/ living together	23.5	23.1	
Relationship status	Living together, not married	33.3	27.2	0.068
	No current relationship	2.6	1.5	
	Not living together	40.6	48.1	
	1	46.1	51.8	
Number of children	2	33.1	29.6	0.341
	3 or more	20.8	18.6	

Impact of MomConnect on family planning 8-10 weeks post-partum

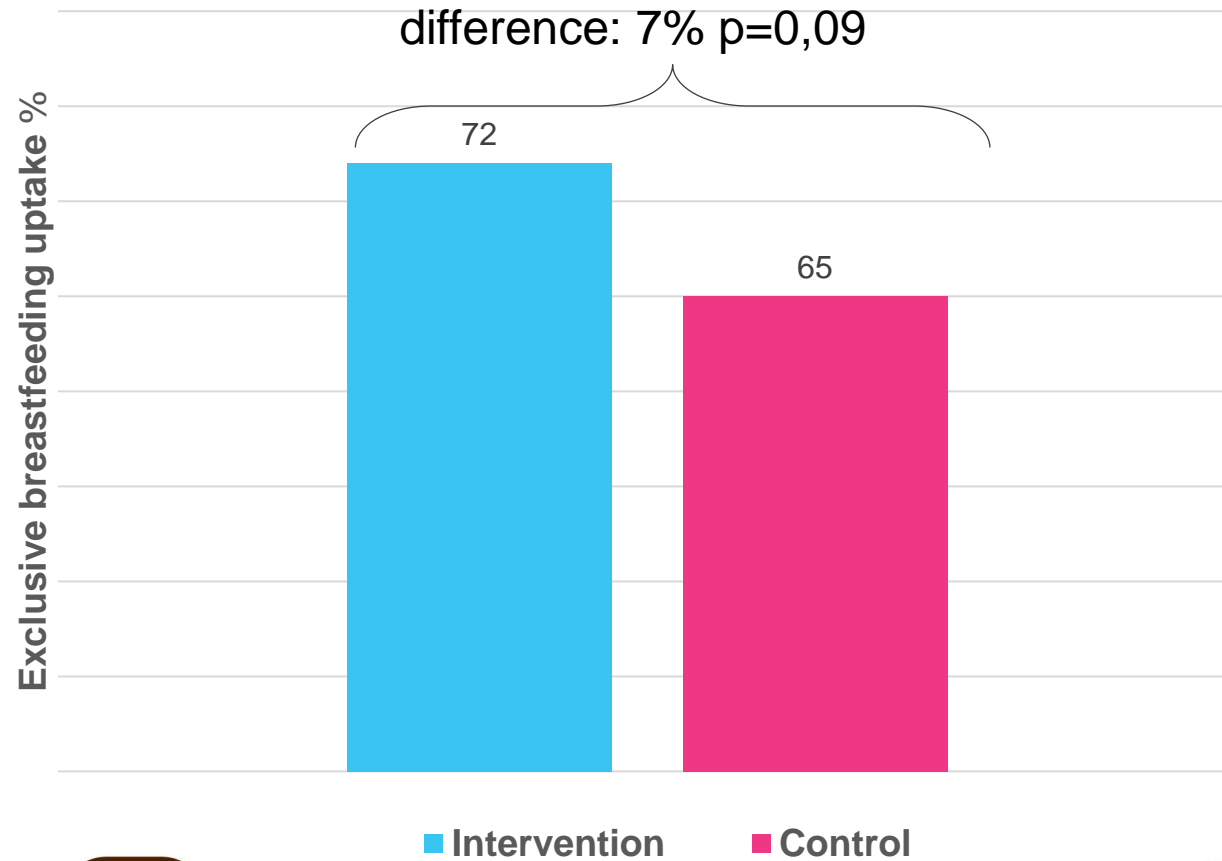


Self reported exposure to MC and FP uptake		
Odds ratio	95% CI	p-value
1,75	(1,06; 2,88)	0,027

Controlled for age, relationship status, education, district



Impact of MomConnect on exclusive breastfeeding at 8-10 weeks post-partum



Limitations

Delivery of intervention

- Messages on smartphone required opting in
- Data and phone access required to receive the intervention

Methods

- CRT for existing programme - diffusion and access to intervention in control groups for BF
- Outcomes, and exposure for per protocol, self-reported: possible reporter bias
- Sample size calculation didn't account for high levels of postpartum family planning



Conclusions

- Exclusive breastfeeding and postpartum family planning is high in across diverse districts
- Mixed findings suggest that MomConnect had an effect on family planning, when exposure was self-reported, association was significant. Lack of statistical significance in the ITT may be due to insufficient sample size and/not all women receiving the messaging.
- Reminders to open and read messages may be needed; importance of phone access if registered with MomConnect needs to be emphasised
- Although changes measured were small, large numbers affected since implemented nationally

