Research Report- Volunteer infant feeding and care counselors: a health education intervention to improve mother and child health and reduce mortality in rural Malawi

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Abstract

The aim of this report is to describe a health education intervention involving volunteer infant feeding and care counselors being implemented in Mchinji district, Malawi.

The intervention was established in January 2004 and involves 72 volunteer infant feeding and care counselors, supervised by 24 government Health Surveillance Assistants, covering 355 villages in Mchinji district. It aims to change the knowledge, attitudes and behaviour of women to promote exclusive breastfeeding and other infant care practices. The main target population are women of child bearing age who are visited at five key points during pregnancy and after birth. Where possible, their partners are also involved. The visits cover exclusive breastfeeding and other important neonatal and infant care practices. Volunteers are provided with an intervention manual and picture book. Resource inputs are low and include training allowances and equipment for counselors and supervisors, and a salary, equipment and materials for a coordinator.

It is hypothesized that the counselors will encourage informational and attitudinal change to enhance motivation and risk reduction skills and self-efficacy to promote exclusive breastfeeding and other infant care practices and reduce infant mortality. The impact is being evaluated through a cluster randomised controlled trial and results will be reported in 2012.

Introduction

Malawi has high rates of neonatal and infant mortality and morbidity[1]. Since 1990, the country has made progress towards achieving the target of Millennium Development Goal (MDG) four, reducing under-five mortality by two-thirds, and of MDG five, reducing maternal mortality by half by 2015, but like other countries in sub-Saharan Africa, the progress has been insufficient[2]. Evidence suggests that to achieve the target Malawi would benefit from implementing interventions that improve breastfeeding practices and thus reduce rates of childhood infections and mother-to-child-transmission of HIV (MTCT)[3,4]. A number of studies have shown the potential of breastfeeding counselors in improving breastfeeding practices and other infant care and care-seeking practices in Mexico, Bangladesh, India, Madagascar, Ghana and Zambia[5,6,7,8].

This report describes the design of a similar health education intervention being implemented through volunteer counselors in Mchinji district, Malawi, by MaiMwana Project. The project is also evaluating the effectiveness of the intervention through a cluster randomised controlled trial[9]. Hickson's ASTOR format has been adopted to frame the description of the intervention in terms of aims, setting target group, objectives and resources[10].

What is the aim of the intervention?

The volunteer infant feeding and care counseling intervention aims to improve mother and child health and reduce infant mortality in Mchinji District by providing health education and support to promote appropriate maternal and child care and care-seeking behaviours.

Where is the intervention being implemented?

The intervention is being implemented in 24 community clusters in Mchinji district, Malawi (Figure 1). The total population of Malawi in 2008 was 13,077,160[11]. It ranks 160 out of 182 countries in the Human Development Index[12], has a Gross National Product of $690 per capita, 73.9% of the population live below the poverty line of less than $1.25 per day and 90.4% live below the poverty line of $2 per day[13,14]. Life expectancy at birth for both men and women is 48 years[14]. The HIV prevalence rate in Malawi is 10.8% in rural areas[15]. Some key maternal and child health indicators are presented in Table 1. Mchinji district is one of nine administrative districts in the Central Region of Malawi (Figure 1). It covers an area of 3356 square kilometres and has a population of 456,516 of which 80% is rural[11].

Half of the district population (49.4%) is aged between 15 and 64[11]. Most are Christian (93.6) and the other main religious group is Muslim, but these only account for 2.9% of the population[11]. Just over a quarter of the population aged over five years have attended primary school (26.1%) but only 1.7% have attended secondary school and 0.1% higher education[11]. Some key maternal and child health indicators for Mchinji district are presented in Table 1. Mchinji has one district hospital (a first referral and secondary health facility), four rural community hospitals (one government and three managed by the Christian Hospital Association of Malawi), one maternity unit, six health centres that provide maternity care, two dispensaries and two private clinics that offer antenatal care. There are around 750 people per hospital bed.

The volunteer counseling intervention is being implemented within a factorial cluster randomised controlled trial designed to assess its impact on infant mortality[9]. A second intervention is being implemented simultaneously, using women's groups to mobilise communities to take control of their health[16]. At baseline the total district population, excluding the population of Mchinji Boma, was divided into 48 equal sized clusters and from these a total study population of 146,623 from 692 villages and 28,028 households was selected. 12 of these clusters are receiving women's groups as the only intervention; 12 are receiving volunteer counseling as the only intervention; 12 clusters are receiving both the women's group intervention and volunteer counseling; and the final 12 are not receiving either intervention (Figure 1). The study received ethical approval from the Malawi National Health Sciences Research Committee in January 2003 and the ethics committee of UCL Institute of Child Health and Great Ormond Street Hospital. It was registered on 29th August 2008 as ISRCTN06477126.

At baseline, within the 24 volunteer counseling clusters there

were 355 villages. Within these villages there are a total of 72,745 people of which 21,048 were women of childbearing age (aged between 15 and 49 years of age). Some key maternal and child health indicators for the volunteer counseling clusters are presented in Table 1.

Who is intended to change as a result of the intervention?

The intervention targets the 21,048 women of childbearing age living in the 24 rural clusters receiving the volunteer counseling intervention. Where possible, their partners were also targeted as a secondary population.

What activities does the intervention consist of?

Counseling visits

From January 2005, the volunteer counselors began to identify pregnant women in their communities and make a home visit at five key points during pregnancy and after birth. In each visit the counselors discussed and supported women on a range of exclusive breastfeeding and other important neonatal and infant care practices (Figure 2).

Tools

To facilitate the five counseling visits the volunteer counselors were provided with manuals and a picture book. The manuals covered the background to the intervention and some basic breastfeeding theory, the roles and responsibilities of counselors and supervisors, the technical content of the intervention, the intervention process including the content of each visit in detail and the management and monitoring of the intervention. The picture book consists of 10 pages of pictures illustrating important concepts relating to breastfeeding, hygiene and nutrition.

What resources are required to implement the intervention?

Volunteer counselors

To ensure policy relevance and enhance potential for sustainability, the intervention was kept as low cost as possible and was implemented by 72 unpaid volunteer counselors. These counselors were identified by local communities and trained. Each intervention cluster had between two and four counselors, depending on its geographical distribution. Since the start of the intervention, 12 volunteers have been replaced. The volunteer counselors were female and aged between 23 and 50 years. They were all from local communities, had breastfed previously and were able to read and write in Chichewa. To enable them to carry out their role, they received an initial training for five days and also came together on a quarterly basis to share experiences and learning, and on an annual basis for a five-day refresher training. Although they were unpaid, the volunteers received incentives and allowances to help them with their work and also to maintain their interest and motivation. In terms of incentives, they received a bicycle (major maintenance was the responsibility of MaiMwana Project), an umbrella, a bag, and eight bars of soap every month. In terms of allowances, they received MK 1000 (USD 4) per day when attending initial and annual training sessions and MK 2500 (USD 10) for attending quarterly meetings.

Supervisors

A key aspect of the intervention is that it is closely integrated with the District Health Office in Mchinji. The 72 volunteer counselors are supervised by 24 governmentemployed Health Surveillance Assistants (HSAs). The HSAs were recruited with the assistance of the District Environmental Health Officer and worked in catchment areas that overlapped with those of the counselors that they supervised. In addition to their government work, each HSA supervises between two and four volunteers and meets with them at least once per quarter to document progress, achievements and address challenges. The HSAs attended a separate five-day initial training in which they were trained on the content of the counseling visits, supervision skills and report writing. They also attend the quarterly review meetings and annual refresher trainings with the volunteer counselors. The HSAs were employed and paid by the government, but also received some allowances from MaiMwana Project to supervise the volunteer counselors. These were MK4000 (USD 16) when attending initial and annual training sessions and MK2000 (USD 8) for lunch during quarterly supervision.

Coordinator

One member of MaiMwana staff was employed full-time to coordinate the intervention. The coordinator is responsible for supervising the volunteer counselors and HSAs, collating reports and budgeting. She receives a salary of approximately MK 140,000 per month (USD 560) , the shared use of a vehicle, a T-shirt, fuel, stationery, a computer and office rent.

Conclusion

The intervention described in this paper seeks to increase rates of exclusive breastfeeding and reduce infant mortality in Mchinji District, Malawi, through volunteer delivered infant feeding and care counseling. The intervention has been introduced in a large rural population in the district and has been running since January 2005 (Figure 3).

It is hypothesised that through the intervention women learn new infant feeding and care behaviours by modeling the behaviour and by learning from the experiences of volunteer counselors experienced in breastfeeding and infant care. By focusing on informational and attitudinal change the intervention is expected to enhance motivation and reinforce risk reduction skills and self-efficacy. As a result, it is through counseling that behavior change is triggered and which may help to increase exclusive breastfeeding rates and reduce infant mortality. The impact of the groups on mortality and behaviour will be published in 2012.

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Competing interests

The authors declare that they have no competing interests.

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Figure 1: Map of Mchinji District including cluster intervention allocation

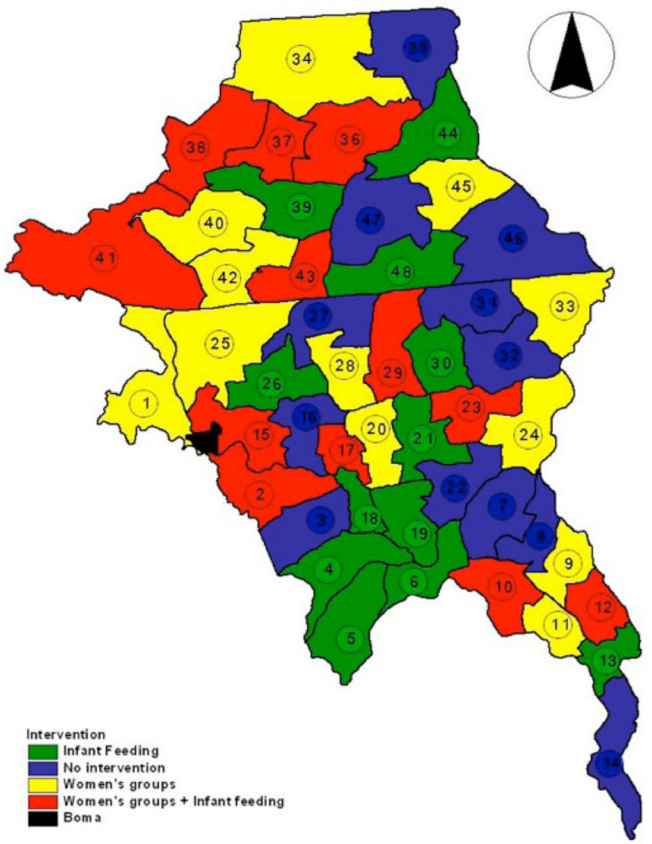

Figure 2: Volunteer infant feeding and care counseling home visit schedule

Visit 1	Visit 2	Visit 3	Visit 4	Visit 5
Pregnancy	After birth			
3rd trimester	1st week (where possible within first three days_	1 month	3 months	5 months
1. Introductions 2. Discussion of previous breastfeeding experiences 3. Discussion of importance of: *Early breastfeeding *Exclusive breastfeeding *Colostrum *Avoidance of pre-lacteal feeding 4. Encouragement to engage in: *PMTCT activities *Birth-preparedness *Family planning	1. Discussion of importance of: 2. Teaching and support *Good attachment & positioning *Identification fo danger signs 3. Discussion of importance of *Exclusive breastfeeding *Vaccinations *Warmth *Hygiene 4. Encouragement to engage in *Family planning	1. Reinforcement of content from previous meeting 2. Discussion of importance of: *Breastfeeding cessation at 6m	1. Reinforcement of content from previous meeting	1. Reinforcement of content from previous meeting 2. Discussion of importance of: *Appropriate weaning foods for children after 6m

Figure 3: A counseling visit

Table 1: Comparison of Malawi, Mchinji District and intervention clusters in relation to key socio-economic, demographic and health indicators

	Malawi	Published statistics	MaiMwana Project data at baseline[4]	Volunteer counseling clusters from MaiMwana Project data at baseline[5]
PREGNANCY AND BIRTH				
Antenatal care (ANC) at least once percentage	97.2[1]	98.5[1]	91.6	93.3
Facility delivery percentage	53.8[1]	57.7[1]	39.9	42.5
Postnatal care (PNC) within 42 days percentage	32.7[1]	41.3[1]	28.3	32.8
Crude birth rate (CBR) per 1000 population	43.9[1]		38.8	38.3
Total fertility rate (TFR) per woman	6.3[1]	5.7[1]		
MORTALITY				
Perinatal Mortality Rate (PMR) per 1000 births	40[2]		42	39
Neonatal Mortality Rate (NMR) per 1000 live births	31[2]	24[3]	28	22
Post-neonatal Mortality Rate per 1000 live births	44[3]	41[3]		
Infant Mortality Rate (IMR) per 1000 live births	81[3]	65[3]	50	50
Child Mortality Rate per 100,000 live births	64[3]	73[3]		
Under-5 Mortality Rate per 100,000 live births	140[3]	133[3]		
Maternal Mortality Ratio (MMR) per 100,000 live births	807[3]		486	649

1 Malawi Population and Housing Census 2008 (15).
2 Malawi Demographic and Health Survey, 2008 (14).
3 Multiple Indicator Cluster Survey, 2006 (1).
4 Lewycka, 2011 (17).
5 MaiMwana Project, unpublished data.